R-Riches
Property Consultants Ltd.

盈卓物業
顧問有限公司

Our Ref.: DD 38 Lot 115 & VL
Your Ref.: TPB/A/NE-MUP/214

The Secretary,
Town Planning Board,
15/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong

By Email

16 April 2025

Dear Sir,

1st Further Information

Proposed Temporary Warehouse with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Residential (Group D)" and "Agriculture" Zones, Various Lots in D.D. 38 and Adjoining Government Land, Sha Tau Kok, New Territories

(S.16 Planning Application No. A/NE-MUP/214)

We write to submit further information in response to departmental comments of the captioned application.

Should you require more information regarding the application, please contact our Mr. Danny NG at / or the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

For and on behalf of
R-riches Property Consultants Limited

Christian CHIM
Town Planner

cc DPO/STN, PlanD (Attn.: Mr. William WONG email: wstwong@pland.gov.hk)
(Attn.: Mr. Brian CHAN email: bchchan@pland.gov.hk)

Response-to-Comment

Proposed Temporary Warehouse with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Residential (Group D)" and "Agriculture" Zones, Various Lots in D.D. 38 and Adjoining Government Land, Sha Tau Kok, New Territories

(Application No. A/NE-MUP/214)

(i) A RtC Table:

Departmental Comments		Applicant's Responses
1. Comments of the Geotechnical Engineering Office, Civil Engineering and Development Department		
(a)	The subject site is overlooked by steep natural terrain and meets the alert criteria for a natural terrain hazard study (NTHS). Furthermore, Registered Slope No. 3NW-D/C41, which is steeper than 30 degrees with height greater than 6 m, is found within 6 m of the subject site.	Noted. The GPRR in support of the application is enclosed at **Annex 1**.
(b)	If the applicant wishes to proceed with the proposed development, the applicant is required to submit a Geotechnical Planning Review Report (GPRR) in support of the Planning Application. The GPRR should include a preliminary geotechnical review of slopes and natural terrain hazards, assess the geotechnical feasibility of the proposed development, including an outline of any further studies that may be required and where necessary, indicate the recommended extent of the NTHS study area and a commitment to undertake the NTHS and to carry out any necessary mitigation measures as part of the proposed development.	

Annex 1

Geotechnical Planning Review Report

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associate Filling of Land in "Residential (Group D)" and "Agriculture" Zones, Various Lots in D.D. 38 and Adjoining Government Land, Sha Tau Kok, New Territories

Geotechnical Planning Review Report

April 2025

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

Table of Contents

List of Table

List of Figure

List of Appendix

1 Introduction

1.1 Background

1.1.1 The applicant seeks planning permission from the Town Planning Board (the Board) to use various lots in D.D. 38 and adjoining Government Land (GL), Sha Tau Kok, New Territories (the Site) for 'Proposed Temporary Warehouse (Excluding Dangerous Goods Godown (D.G.G.)) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land'.

1.1.2 This Geotechnical Planning Review Report is prepared base on desk study and available documentary to support the aforementioned planning application in geotechnical aspect.

1.2 Objectives of this Report

1.2.1 The main objectives of this report are as followings:-

- Describe the geology of the Application Site.
- Indicate the location of existing features within and surrounding the Application Site and the land status.
- Review of how the Proposed Development have effects on the manmade slopes or retaining walls.
- Assess on the geotechnical feasibility of the Proposed Development.

2 Site Description

2.1 Site information and Topography

2.1.1 The development site situates beside Sha Tau Kok Road – Wo Hang. It has an area of about 11,698m^2. The site location plan and aerial photo view are shown in **Figure 1** and **Figure 2** respectively.

2.1.2 In general, the site is a flat ground with level various from approx. +28.6 mPD to + 30.7 mPD, gently falling from south to north. The site topography is relatively flat with a natural hillside near the southeast boundary

2.1.3 The hillside is covered in dense vegetation and the site area is mostly open area comprising paved area or shallow vegetation.

2.2 Existing Man-made Features

2.2.1 There is no registered man-made feature located within the Application Site. There are 6 registered slopes in vicinity of the Application Site. The locations of these 6 features are shown in **Figure 3**. Records of the slopes are retrieved from the SIS System of GEO and SIMAR of Lands Department, they are summarized in **Table 2.1**.

Table 2.1 - Existing Geotechnical Feature adjoining to the Application Site

Feature No.	Location	Max. Height (m)	Length (m)	Angle (°)	Material	Consequence-to-life	Maintenance Parties
Adjoining to the Application Site							
3NW-D/C 37	Loi Tung Village, Sha Tau Kok Road - Wo Hang, New Territories	3	24	35	Vegetated: 40 Chunam: 60	3	Sub Div. 1: Private
							Sub Div. 2: Private
							Sub Div. 3: LandsD
							Sub Div. 4: Private
3NW-D/C 40	North East of Loi Tung Village, off Sha Tau Kok, Wo Hang, North	5	45	80	Vegetated: 100	3	Sub Div. 1: Private
							Sub Div. 2: Private
							Sub Div. 3: LandsD
							Sub Div. 4: Private
							Sub Div. 5: Private
3NW-D/C 41	Open storage area, north east of Loi Tung Village, off Sha Tau Kok Road - Wo Hang, North	15	150	35	Vegetated: 100	3	Sub Div. 1: Lands D
							Sub Div. 2: Private
							Sub Div. 3: LICENCE N8797
							Sub Div. 4: Lands D
3NW-D/C 50	East of Loi Tung East Village House #10D, Sha Tau Kok	5	45	50	Vegetated: 100	3	Lands D
3NW-D/C 51	East of the Loi Tung East Village, Sha Tau Kok	5	105	50	Vegetated: 100	3	Sub Div. 1: Lands D
							Sub Div. 2: Private

3NW-D/C 52	East of the Loi Tung East Village, Sha Tau Kok	4.2	130	45	Vegetated: 100	3	Lands D

2.2.2 A Copy of the SIMAR reports and Slope Information System records are attached in **Appendix A** and **B** respectively. The locations of the above features are presented in **Figure 3**.

3 Review of Desk Study Information

3.1 Site Geology

3.1.1 The geology of the Study Area is shown on 1:20000 scale HGM20 Series Solid and Superficial Geology Map Sheet 3, Published by the GEO, HKSAR. The Application Site is generally underlain by debris flow deposits. A part print of geological map is presented in **Figure 4**.

3.2 Schedule Area

3.2.1 The Site is located outside the Schedule Area No. 2 (North-western New Territories) and Schedule Area 3 (The Railway Protection Zone). Plan of the Schedule Areas are enclosed in **Appendix C**.

3.3 Existing Ground Investigation Data

3.3.1 There is no existing ground investigation (GI) information within the site. The nearest identified GI (BH20) is located approximately 50m away from the northwest of the site which is carried out by DrilTech Ground Engineering Ltd in January 2005.

3.3.2 The location and information of the borehole is enclosed in **Appendix D**.

Table 3.1 - Summary of GIU Report

GIU Report no.	Title of the Report	Done by	Date
41501	CE6/2002 (DS) Drainage Improvement in Northern NT - Package C Investigation, Design & Construction (Man Uk Ping)	DrilTech Ground Engineering Limited	2005

3.3.3 The borehole record indicated the site is coved with approx. 1m thick layer of FILL and follow by approx. 2.1m thick ALLUVIUM from 1m depth below ground level. Then it is underlain by approx. 6.6m of TUFF. The BH encounter grade III bedrock at level +16.02 mPD.

3.4 Groundwater Condition

3.4.1 Piezometer was installed in BH20. According to the water level monitoring record, the highest and lowest groundwater level recorded are +23.54 mPD and +23.52 mPD respectively, where ground level of the development site is about +29mPD.

3.5 Landslide History

3.5.1 According to the GEO's Enhanced Natural Terrain Landslide Inventory (ENTLI) data, there is neither recent nor relict relevant natural terrain landslide identified for the Application Site.

3.5.2 Other landslides as recorded in ENTLI are indicated in **Figure 5** for reference.

3.6 Boulder Field Inventory

3.6.1 The boulder inventory is a territory-wide catalogue of boulder fields on natural slopes in Hong Kong based on an interpretation of the 1963/64 low level aerial photographs (Emery, K. A.,1998). Boulder fields were identified and four boulder attributes including percentage area covered, boulder type, boulder size and boulder shape were mapped.

3.6.2 The boulder field inventory map and summary for the adjoining boulder polygons are shown in **Figure 6**. 2 boulder polygons are identified (S3_20 and S3_U) covering the Application Site and the southern natural terrain. For the coverage of the 2 polygons, no boulder was observed on the ground surface.

3.7 Historical Landslide Catchment

3.7.1 There is no relevant Historical Landslide Catchments (HLC) (MFJV, 2007), identified adjoining to the Application Site. The HLC of nearby Area are shown in **Figure 7** for reference.

4 Proposed Works

4.1 Site formation works

4.1.1 The Application Site is proposed to be entirely filled with concrete of not more than 0.2m depth to facilitate a flat surface for maneuvering of vehicle and site formation of structures. No new slopes/ retaining walls is required to support the minor site formation works.

4.2 Temporary Structures

4.2.1 The proposed Application Site is applying for temporary warehouse for a period of 3 years, it comprises of 6 numbers of temporary structures, 4 one-storey and 2 two-storey low rise structures. The proposed development layout plan is shown in **Appendix E**.

4.2.2 In view of loadings from low-rise temporary structures is comparatively general, no foundation is proposed for the temporary structures. Excavation for drainage, sewerage and utilities works are minimal, no deep Excavation and Lateral Support (ELS) is anticipated.

5 Works effect on Existing Features

5.1.1 There is no existing feature within the Application Site.

5.1.2 In view of the above minor site formation works and low-rise temporary structures, effect on adjoining existing features is minimal.

5.1.3 Slope stability and integrity of the existing features, 3NW-D/C 41 and 3NW-D/C 51, that are within 6m from the proposed temporary structures shall be assessed in detail under a separate submission. After detail assessment in detail design stage, feature upgrading works such as site formation/slope stabilization are to be proposed if required.

5.1.4 Two features, 3NW-D/C 41 and 3NW-D/C 51, may need to raise the consequence-to-life subject to the usage of proposed structures.

6 Screening

6.1.1 There is no natural terrain within the Application Site, however, the site is overlooked by natural terrain at south-eastern. With reference to GEO Report No.138 (2nd edition), the Application Site does not meet the "In-principle Objection Criteria" and satisfies the "Alert Criteria" and the preliminary findings are summarized as below:

Angular Elevation ≥ 20°	Within 50m of ground sloping	Alert Criteria met?
Yes	Yes	Yes

6.1.2 The preliminary NTHS Area and section have been development and shown in **Figure 8**. A detailed natural terrain hazard study will be carried out in detailed design stage. Implementation of the mitigation measures if necessary (such as rigid barrier, flexible barrier etc.) will be conducted at construction stage. Therefore, the application site is considered geotechnically feasible from the NTH point of view.

7 Conclusion

7.1.1 A geotechnical planning review has been conducted for Application Site. The physical conditions as well as the geological conditions of the Application Site have been reviewed and discussed.

7.1.2 3NW-D/C 41 and 3NW-D/C 51 beside the proposed development will be assessed to ensure they are complying with current geotechnical standards, if necessary, upgrading works will be carried out in detailed design.

7.1.3 For natural terrain hazard issues, the Site does not fall into "In-principle Objection Criteria" but falls within the "Alert Criteria. Natural Terrain Hazard Study (NTHS) is required. Base on past record there is no builder identified and relevant landslide.

7.1.4 In conclusion, the proposed development at the Application Site is not anticipated to case adverse geotechnical impact to the nearby area and considered geotechnically feasible.

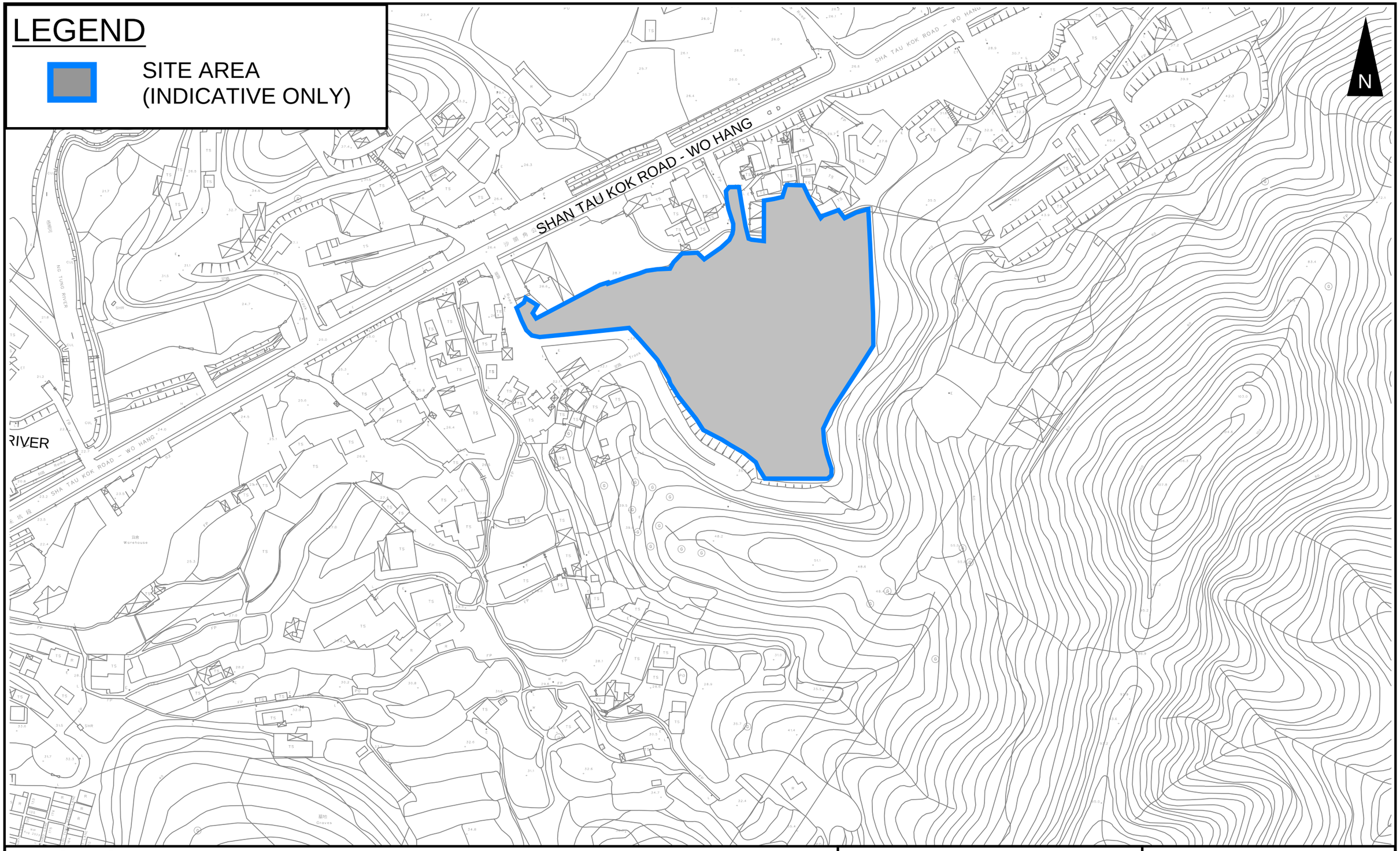
- End of Text -

-

FIGURES

LEGEND

SITE AREA
(INDICATIVE ONLY)



PROJECT:

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associate Filling of Land in “Residential (Group D)” and “Agriculture” Zones

LOCATION:

Various Lots in D.D. 38 and Adjoining Government Land, Sha Tau Kok, New Territories

TITLE
SITE LOCATION PLAN

FIGURE NUMBER
FIGURE 1

VER	DESCRIPTION	DATE

PROJECT: Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associate Filling of Land in “Residential (Group D)” and “Agriculture” Zones	TITLE AERIAL PHOTO	FIGURE NUMBER FIGURE 2
LOCATION: Various Lots in D.D. 38 and Adjoining Government Land, Sha Tau Kok, New Territories		

VER	DESCRIPTION	DATE

EXISTING FEATURES

N

SHA TAU KOK ROAD - WO HANG

3NW-D/C 46
3NW-D/C 38
3NE-C/C 201
3NE-C/C 12
3NE-C/R 9
3NE-C/CR 244
3NW-D/C 45
3NW-D/C 44
3NW-D/C 39
3NE-C/C 193
3NW-D/C 32
3NW-D/C 305
3NW-D/CR 31
3NW-D/R 16
3NW-D/C 33
3NW-D/CR 330
3NE-C/F 23
3NW-D/C 43
3NW-D/C 40
3NW-D/CR 34
3NW-D/C 42
3NW-D/C 30
3NW-D/C 37
3NW-D/C 50
3NW-D/C 41
3NW-D/C 51
3NW-D/C 329
3NW-D/C 52
3NW-D/C 57
3NW-D/CR 58
3NW-D/C 53
3NW-D/C 54
3NW-D/C 320
3NW-D/C 55

30
50
100
墓地

0 20 40 80 120 160
Meters

The Government of the Hong Kong SAR.

Man-made Features

- Cut slopes
- Disturbed terrain
- Fill slopes
- NT defence measures
- NT stabilisation measures
- Retaining walls

Slope Features

FIGURE NUMBER
FIGURE 3

Division

Scale 1:2,000

Date 04/04/2025

CEDD
GEOTECHNICAL ENGINEERING OFFICE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

[Title]

Geological Map

N

3NE-C/C 204
3NE-C/C 208
3NW-D/C 48
Qpd
3NE-C/C 209
3NE-C/C 189
3NW-D/C 47
JSM
3NE-C/C 187
3NE-C/R 11
3NE-C/C 207
3NE-C/F 6
JSM
3NE-C/C 190
3NW-D/C 46
3NW-D/C 38
3NE-C/C 201
3NE-C/C 200
JSM
Qpd
3NE-C/C 12
3NE-C/R 3
3NE-C/CR 244
3NW-D/C 45
3NW-D/C 44
3NW-D/C 39
40
3NE-C/C 193
3NW-D/C 305
3NW-D/C 32
3NE-C/F 23
3NW-D/C 43
3NW-D/R 16
3NW-D/C 40
3NW-D/CR 34
3NW-D/C 42
3NW-D/C 30
3NW-D/C 37
3NW-D/C 50
3NW-D/C 41
3NW-D/C 329
3NW-D/C 51
3NW-D/C 52
3NW-D/C 57
JSM
3NW-D/C 53
3NW-D/C 54
3NW-D/C 49
3NW-D/C 55
JTM
Qpd
60

0 35 70 140 210 280
Meters

Man-made Features

- Cut slopes
- Disturbed terrain
- Fill slopes
- NT defence measures
- NT stabilisation measures
- Retaining walls
- Slope Features

Superficial Geology

- elm - Marine mud
- HHH - Undivided; mainly dark grey marine mud
- ms - Marine sand
- msb - Sand banks
- mss - Sand sheets; channel infill
- PCK - Undivided; clay, silt, sand and gravel
- Qa - Alluvium
- Qam - Estuarine deposits
- Qams - Estuarine mud and sand
- Qat - Terraced alluvium
- Qb - Beach deposits - Sand
- Qbb - Beach deposits - Cobbles and boulders
- Qbr - Beach deposits - Beach rock
- Qbs - Back shore deposits - Sand or gravel
- QCK - Alluvium; some estuarine and marine deposits
- Qct - Channel and transgressive deposits
- Qd - Debris flow deposits
- Qdl - Slide deposits
- Qdt - Mixed debris flow and talus deposits
- QHH - Marine mud
- Qi - Estuarine deposits
- Qmm - Marine mud
- Qms - Marine sand
- Qpa - Terraced alluvium
- Qpd - Debris flow deposits
- Qrb - Raised beach deposits - Sand
- QSW - Estuarine and marine deposits
- Qt - Talus (rockfall) deposits
- tbm - Marine mud

FIGURE NUMBER
FIGURE 4

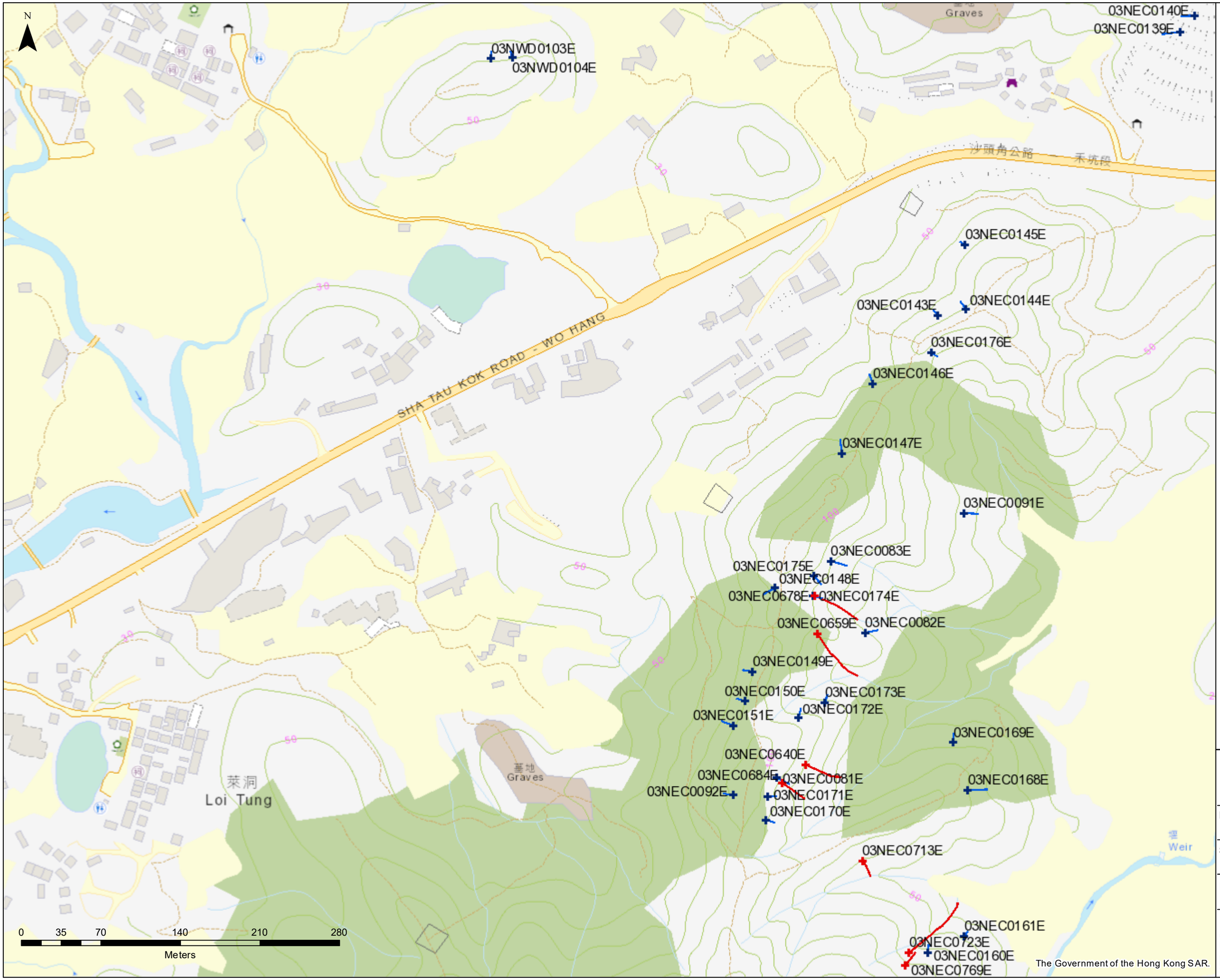
Division

Scale 1:3,000

Date 04/04/2025

CEDD
GEOTECHNICAL ENGINEERING OFFICE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

[Title]



ENTLI Crown (2019)

Recent

Relict

ENTLI Trail (2019)

Recent

Relict

FIGURE NUMBER
FIGURE 5

Division

Scale 1:3,000

Date 08/04/2025

GEOTECHNICAL ENGINEERING OFFICE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

LEGEND

SITE AREA
(INDICATIVE ONLY)

N

POLYGON NO.
S3_U

POLYGON NO.
S3_20

Sha Tau Kok Road - Wo Hang

Sha Tau Kok Road - Wo Hang

Summary of Boulder Field Inventory

Polygon No.	Attribute 1	Attribute 2	Attribute 3				Attribute 4
			Class 1 (%)	Class 2 (%)	Class 3 (%)	Class 4 (%)	
S3_20	V	-	-	-	-	-	-
S3_U	-	-	-	-	-	-	-

Attribute 1 - Percentage Area Covered
Class 1: <10% of the surface area of the map unit covered by boulders
Class 2: 10-20% of the surface area of the map unit covered by boulders
Class 3: 20-50% of the surface area of the map unit covered by boulders
Class 4: 50-75% of the surface area of the map unit covered by boulders
Class 5: >75% of the surface area of the map unit covered by boulders

Attribute 2 - Boulder Type
Class 1: Corestone or Tor
Class 2: Colluvial Boulder Field
Class 3: Cliff or Rock Outcrop
Class 4: Scree or Talus Deposit

Attribute 3 - Boulder Size
Class 1: Boulders <1m in size
Class 2: Boulders 1-2m in size
Class 3: Boulders 2-5m in size
Class 4: Boulders >5m in size

Attribute 4 - Boulder Shape
Class 1: Rounded in Shape
Class 2: Angular in Shape

The descriptors were:
N: No boulders observed on the ground surface
C: Land surface obscured by cloud
V: Land surface obscured by vegetation
T: Land surface obscured by terrain shadow
S: Land surface obscured by village housing
B: Beach deposits
X: Position of individual boulder(s) outcropping through vegetation
Z: Area not covered by low level aerial photography

Categories of land modification identified were:
U: Urban development

PROJECT:
Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associate Filling of Land in “Residential (Group D)” and “Agriculture” Zones

TITLE
BOULDER INVENTORY MAP

FIGURE NUMBER
FIGURE 6

LOCATION:
Various Lots in D.D. 38 and Adjoining Government Land, Sha Tau Kok, New Territories

VER	DESCRIPTION	DATE

Historical Landslide Catchment (2016)

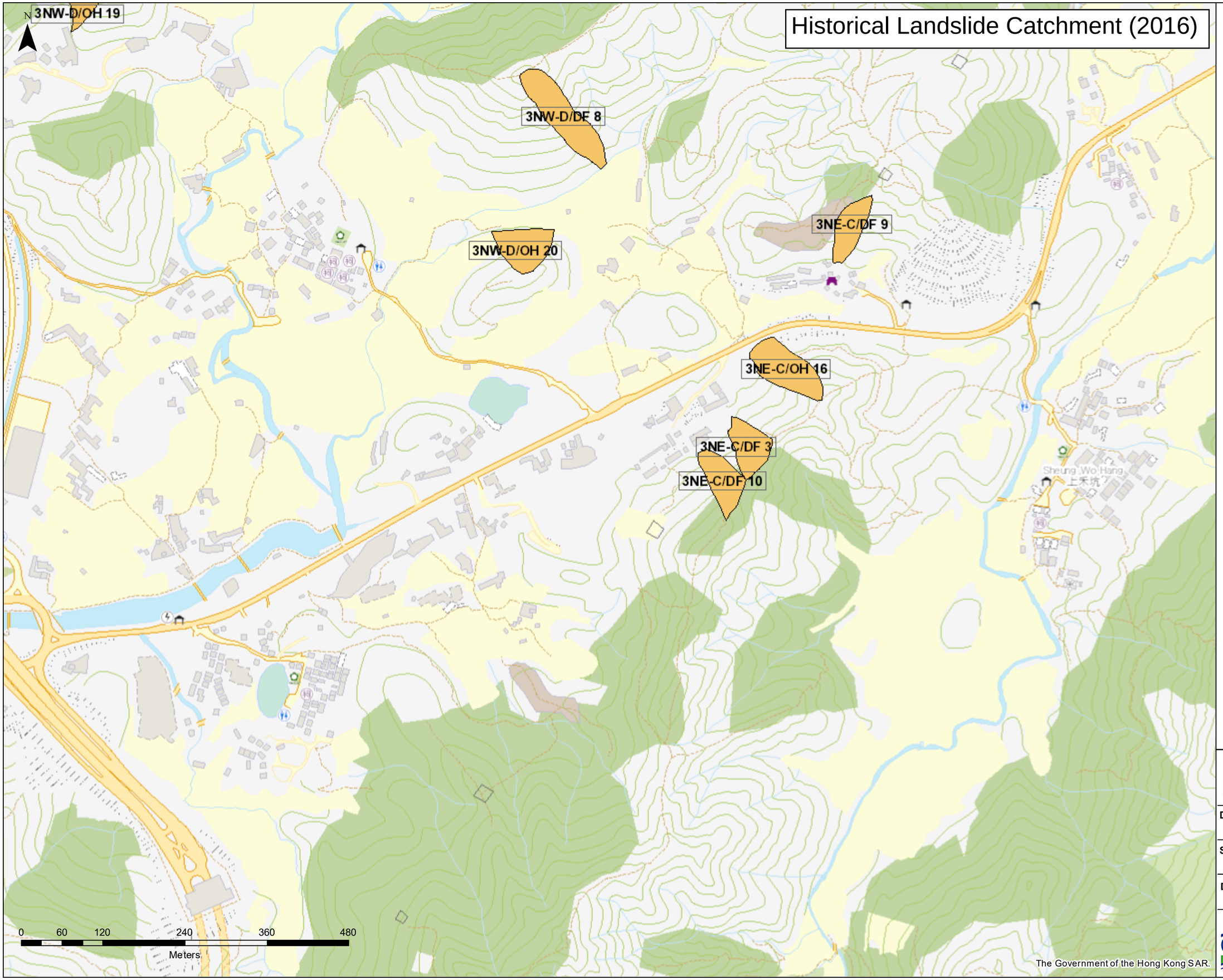


FIGURE NUMBER
FIGURE 7

Division

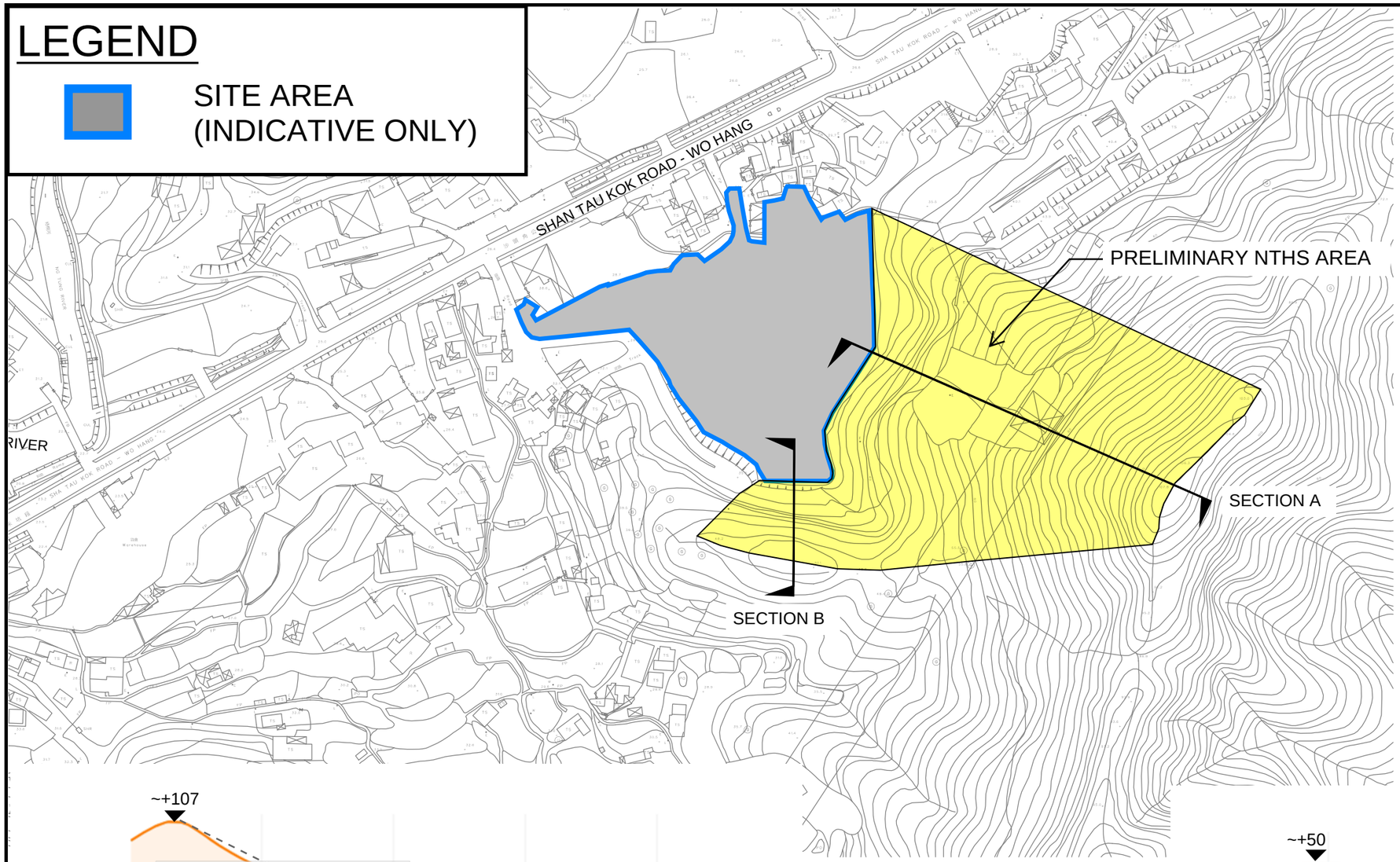
Scale 1:5,000

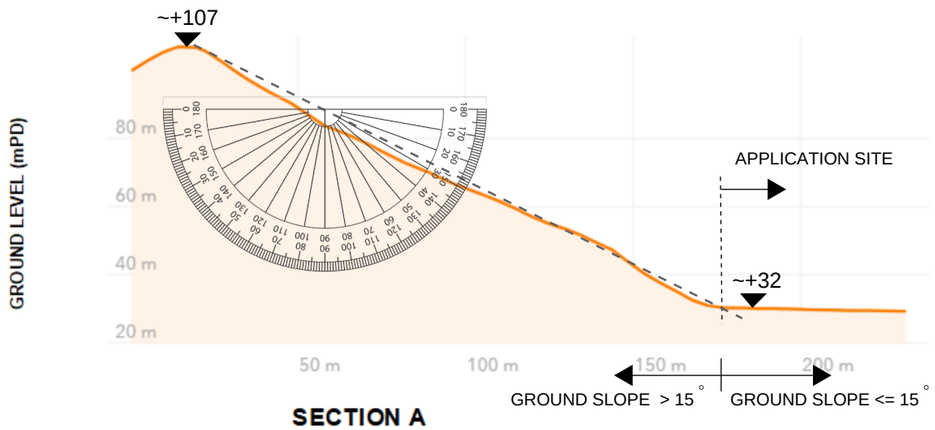
Date 09/04/2025

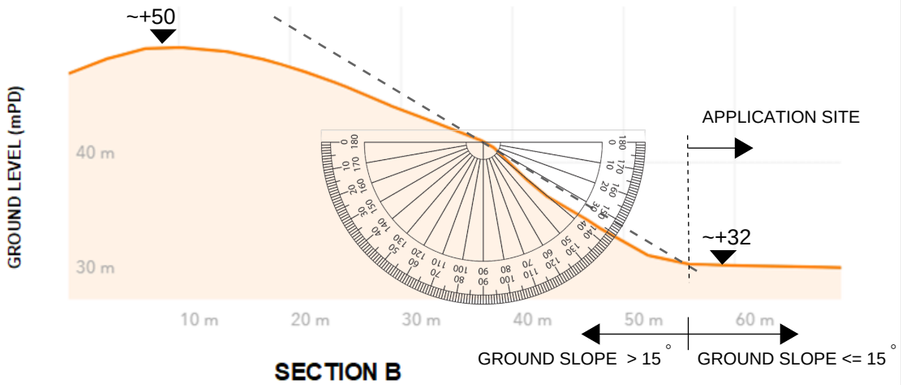
CEDD
GEOTECHNICAL ENGINEERING OFFICE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

LEGEND

SITE AREA
(INDICATIVE ONLY)







PROJECT:

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associate Filling of Land in “Residential (Group D)” and “Agriculture” Zones

LOCATION:

Various Lots in D.D. 38 and Adjoining Government Land, Sha Tau Kok, New Territories

TITLE
PRELIMINARY NTHS AREA AND SECTIONS

FIGURE NUMBER
FIGURE 8

VER	DESCRIPTION	DATE

Appendix A – SIMAR Report

Slope Maintenance Responsibility Report (3NW-D/C37)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C37**		**Sub-Division**	1
	Location	WITHIN DD38 LOTS109, 110,112 & GOVERNMENT LAND		
	Responsible Lot/Party	DD38 LOT109	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

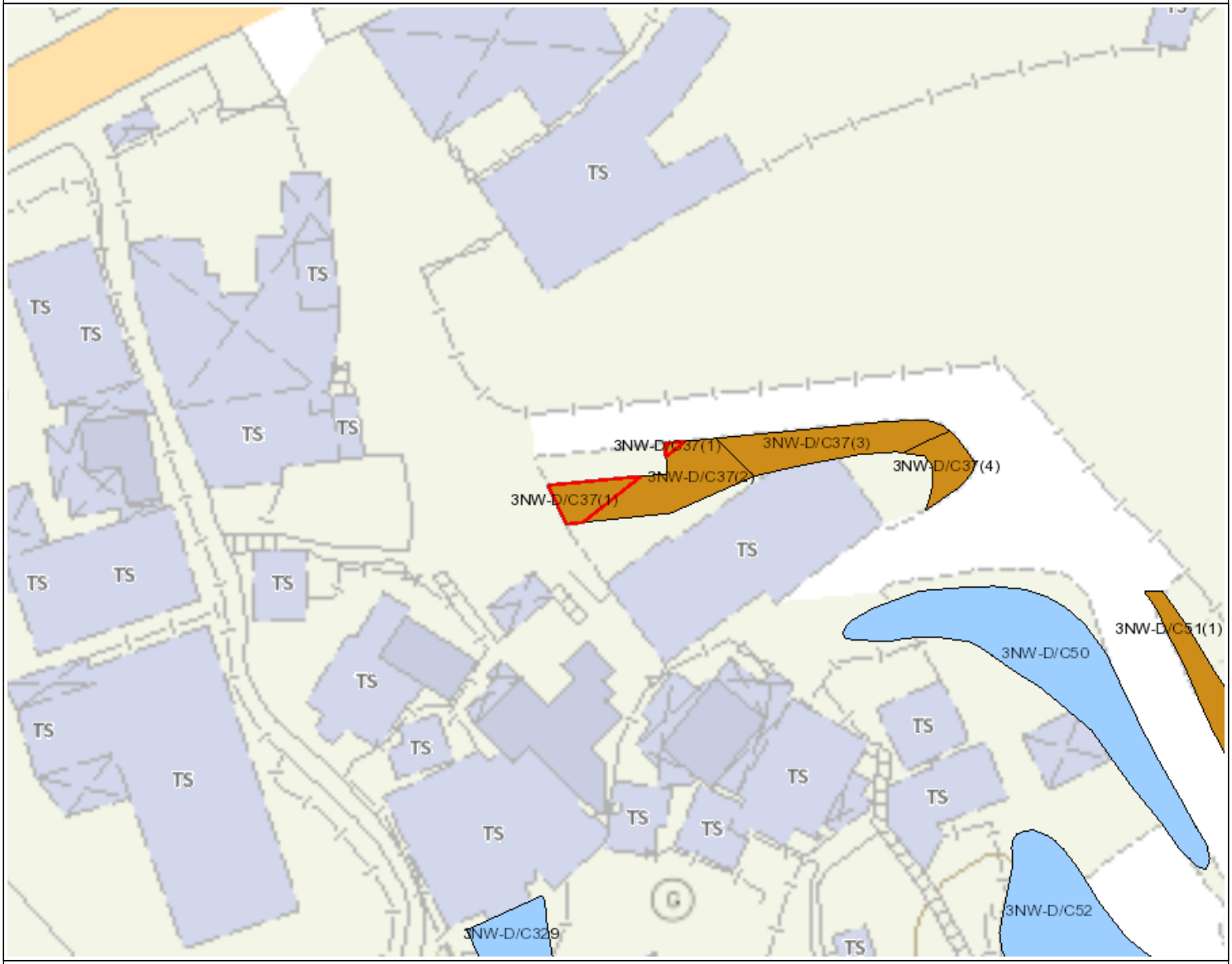
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C37)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C37**		**Sub-Division**	2
	Location	WITHIN DD38 LOTS109, 110,112 & GOVERNMENT LAND		
	Responsible Lot/Party	DD38 LOT110	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

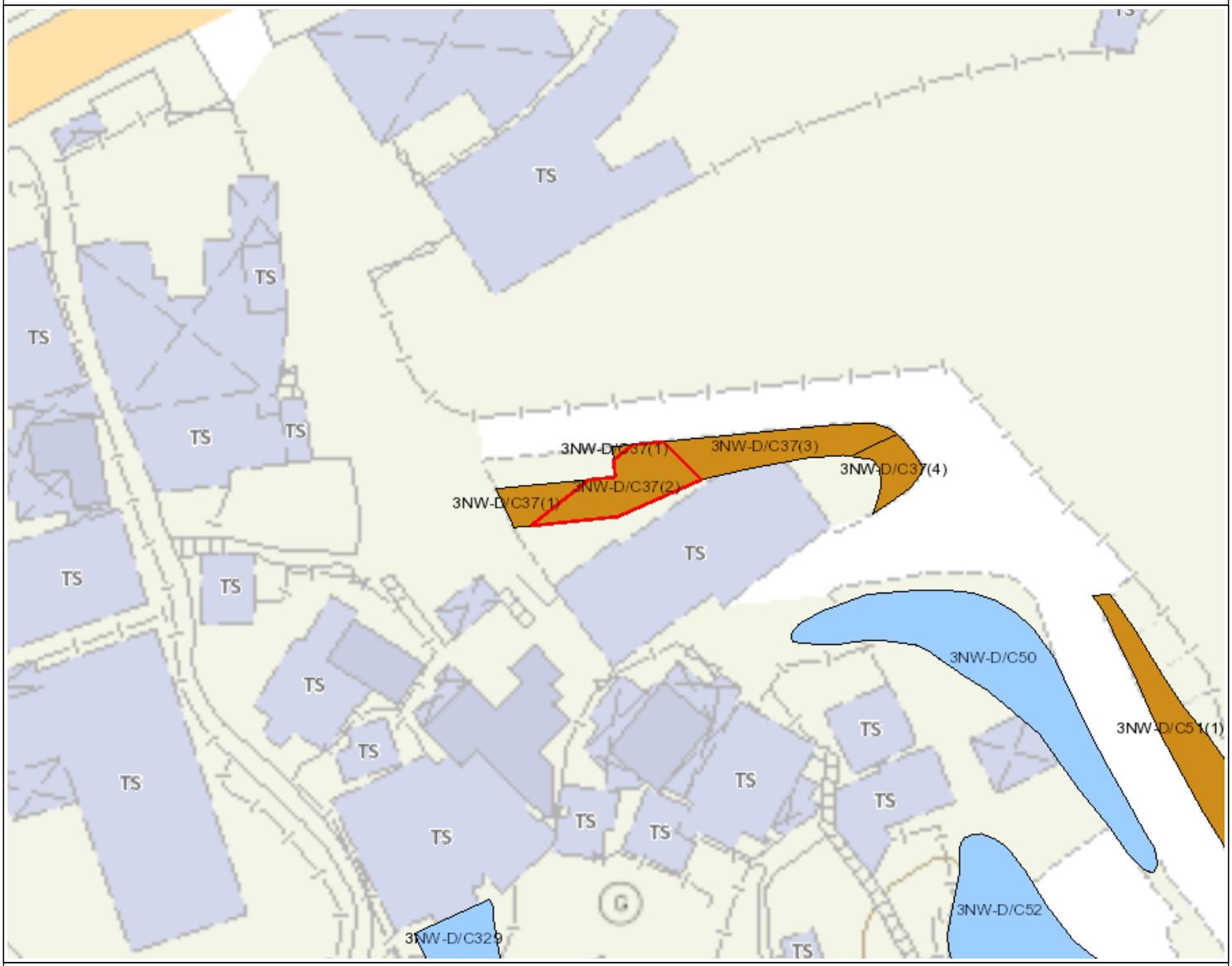
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C37)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C37**		**Sub-Division**	3
	Location	WITHIN DD38 LOTS109, 110,112 & GOVERNMENT LAND		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

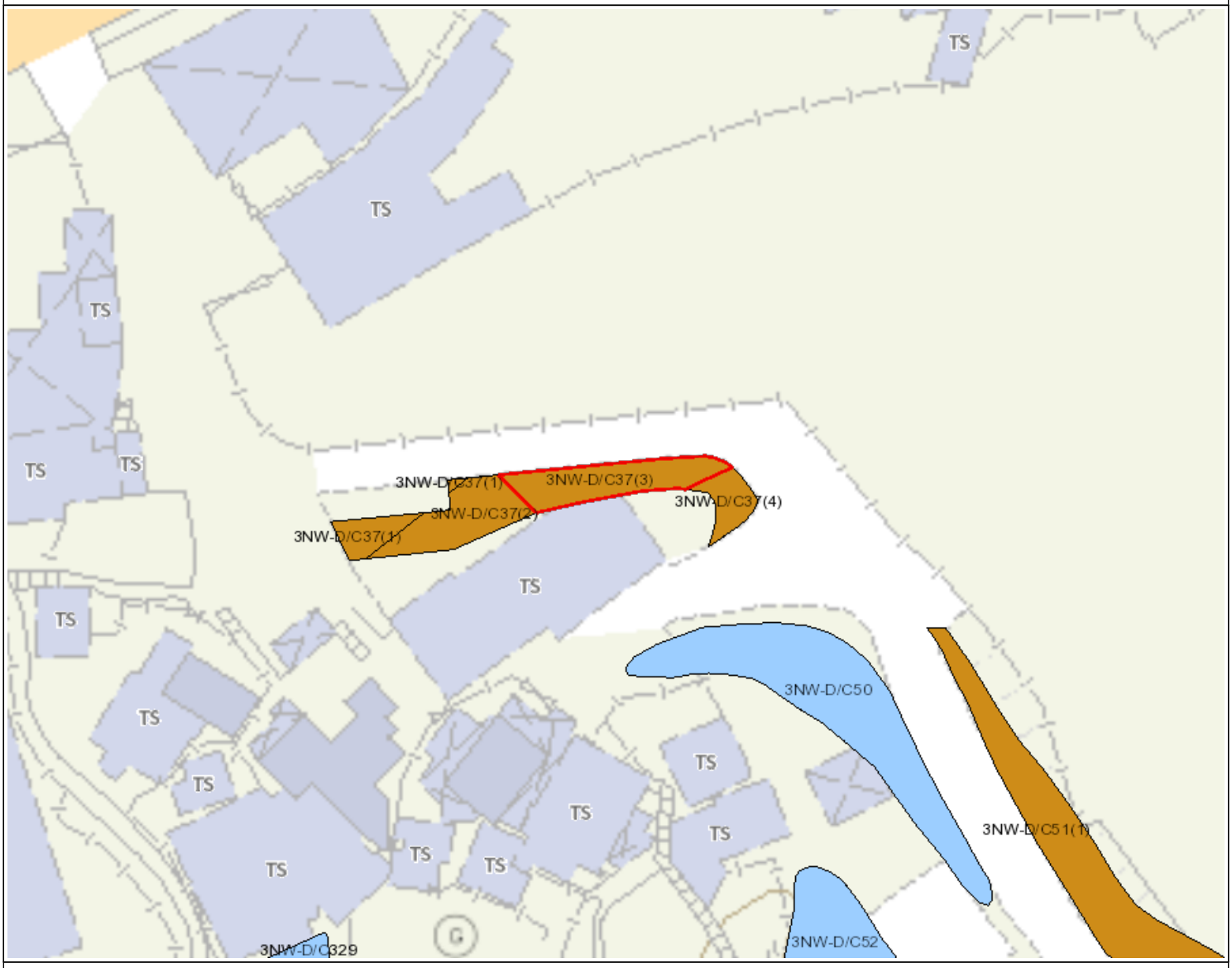
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C37)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C37**		**Sub-Division**	4
	Location	WITHIN DD38 LOTS109, 110,112 & GOVERNMENT LAND		
	Responsible Lot/Party	DD38 LOT112	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

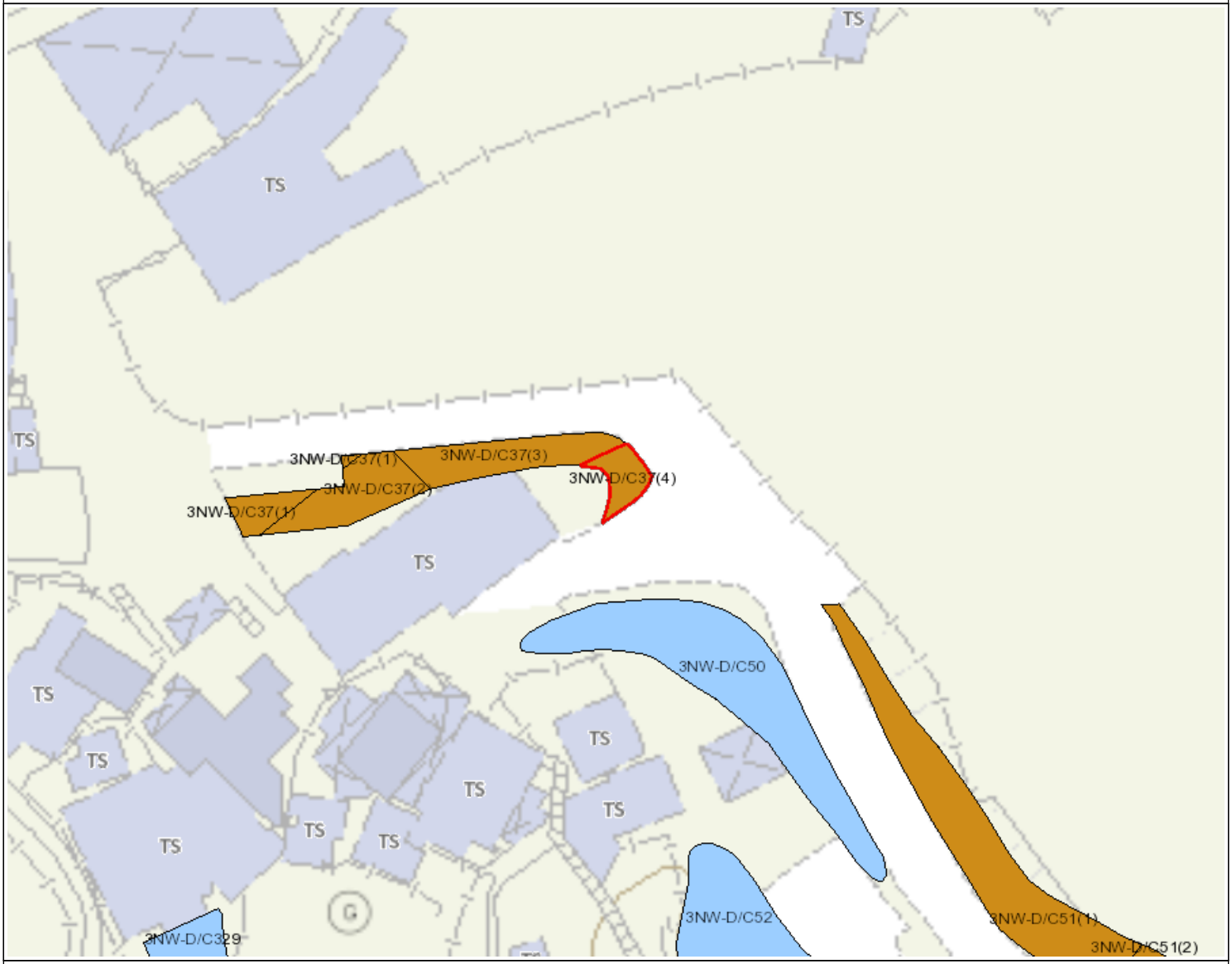
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C40)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C40**		**Sub-Division**	1
	Location	PARTLY WITHIN DD81 LOTS23, 24, 10, 19 & PARTLY ON GL		
	Responsible Lot/Party	DD81 Lot24	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

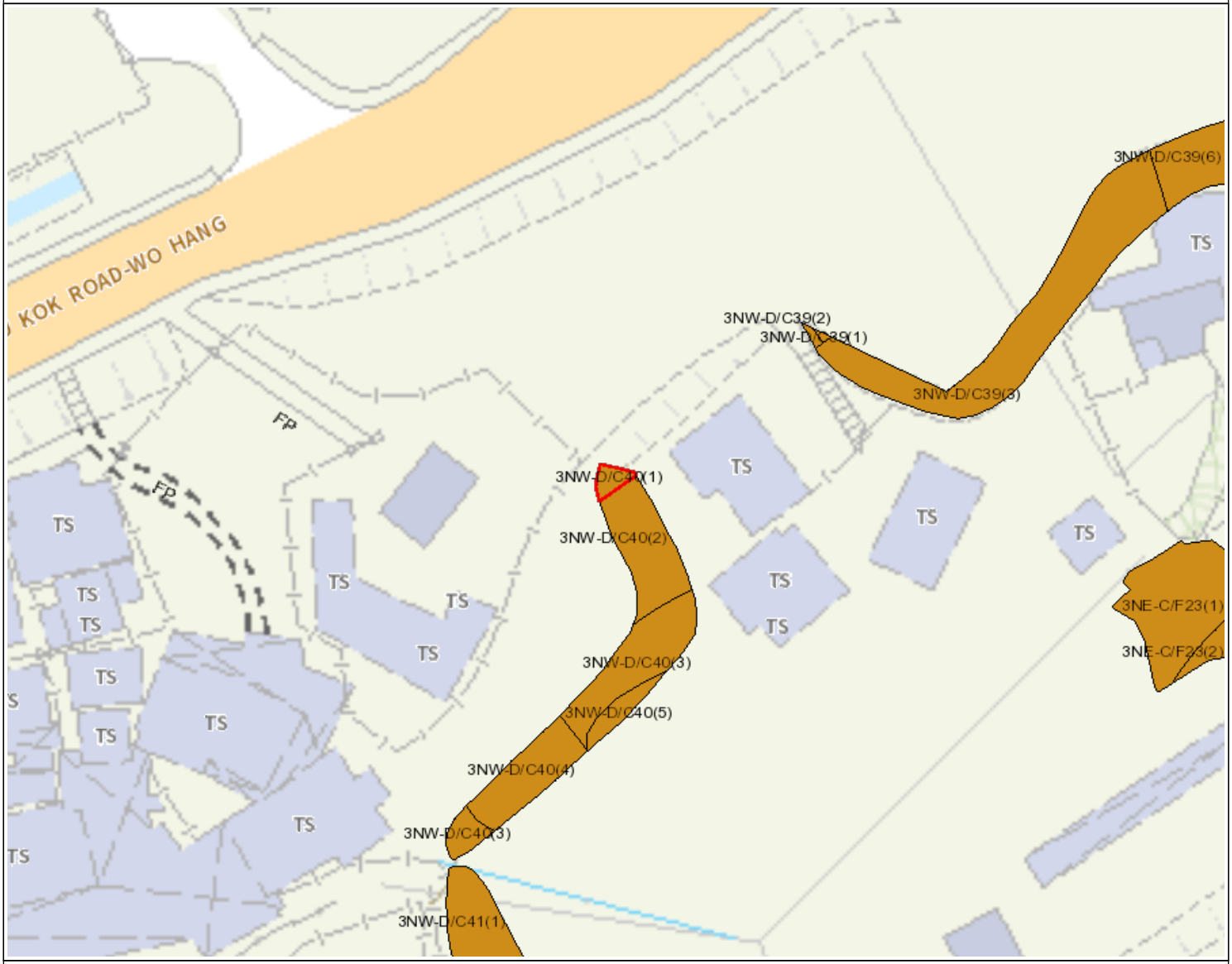
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C40)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C40**		**Sub-Division**	2
	Location	PARTLY WITHIN DD81 LOTS23, 24, 10, 19 & PARTLY ON GL		
	Responsible Lot/Party	DD81 Lot23	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

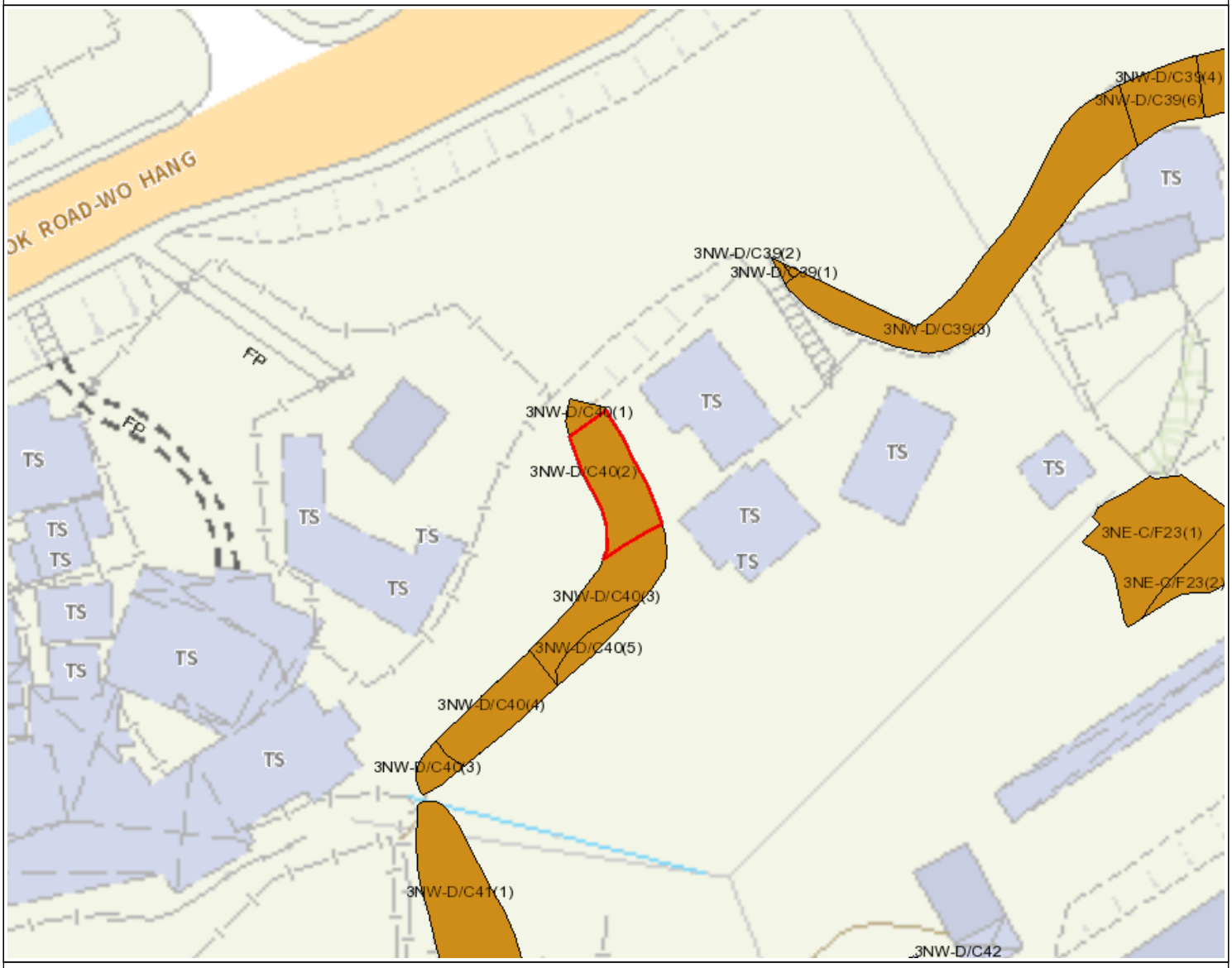
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C40)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C40**		**Sub-Division**	3
	Location	PARTLY WITHIN DD81 LOTS23, 24, 10, 19 & PARTLY ON GL		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

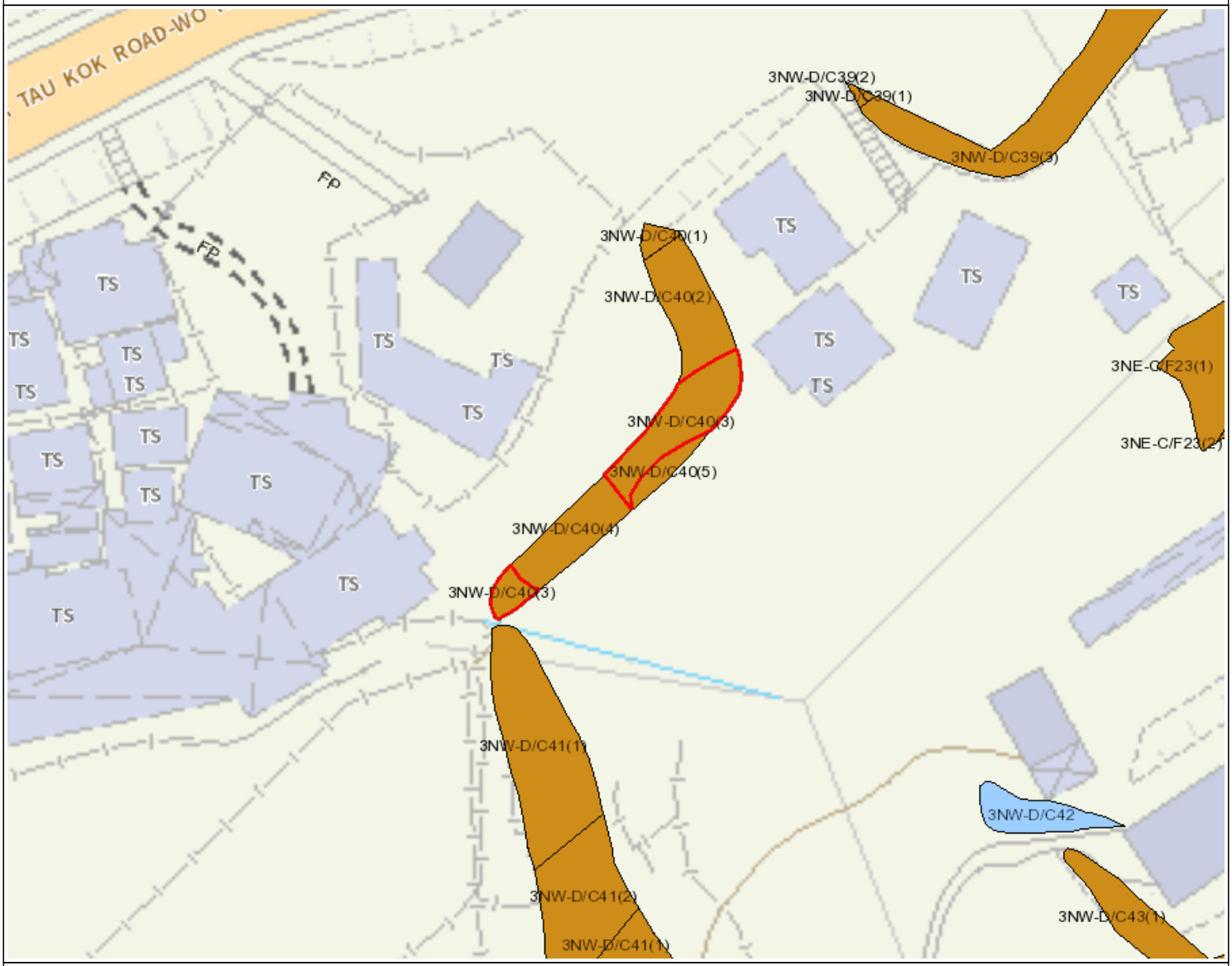
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C40)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C40**		**Sub-Division**	4
	Location	PARTLY WITHIN DD81 LOTS23, 24, 10, 19 & PARTLY ON GL		
	Responsible Lot/Party	DD81 Lot10	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

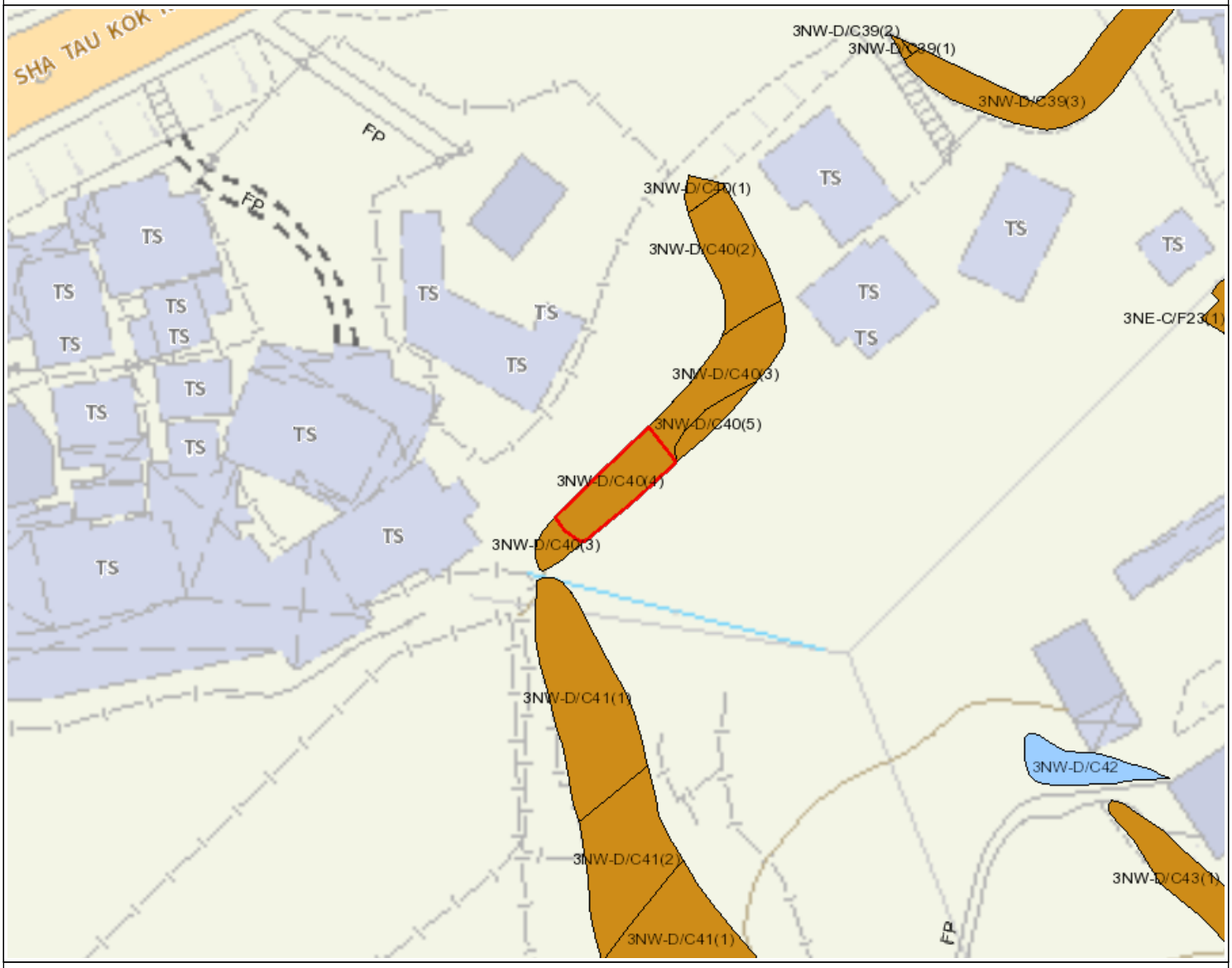
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C40)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C40**		**Sub-Division**	5
	Location	PARTLY WITHIN DD81 LOTS23, 24, 10, 19 & PARTLY ON GL		
	Responsible Lot/Party	DD81 Lot19	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

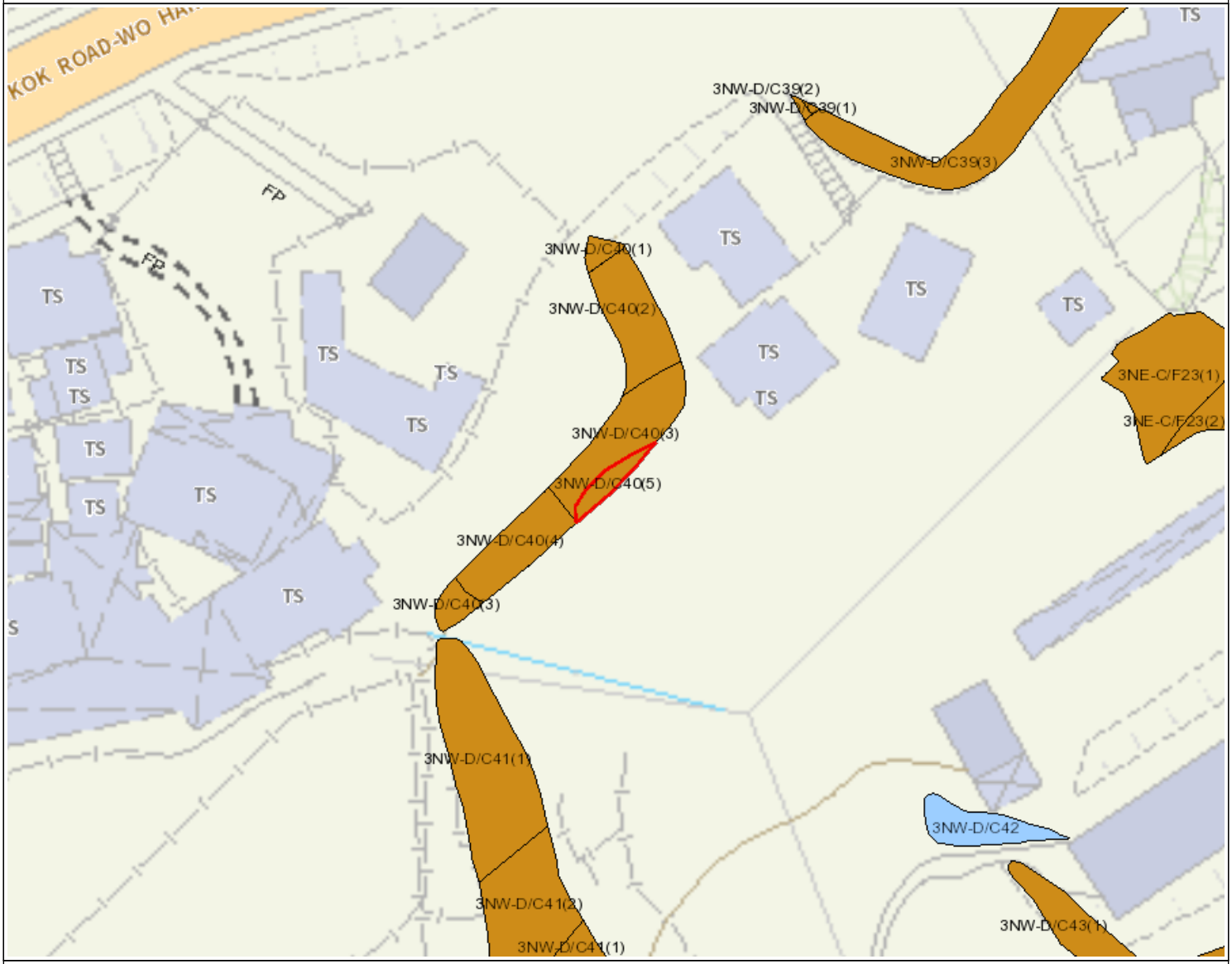
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C41)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C41**		**Sub-Division**	1
	Location	WITHIN LICENCE N8797 & LOT NO. 135 IN DD38 AND ADJOINING GOVERNMENT LAND IN DD38 & 81		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

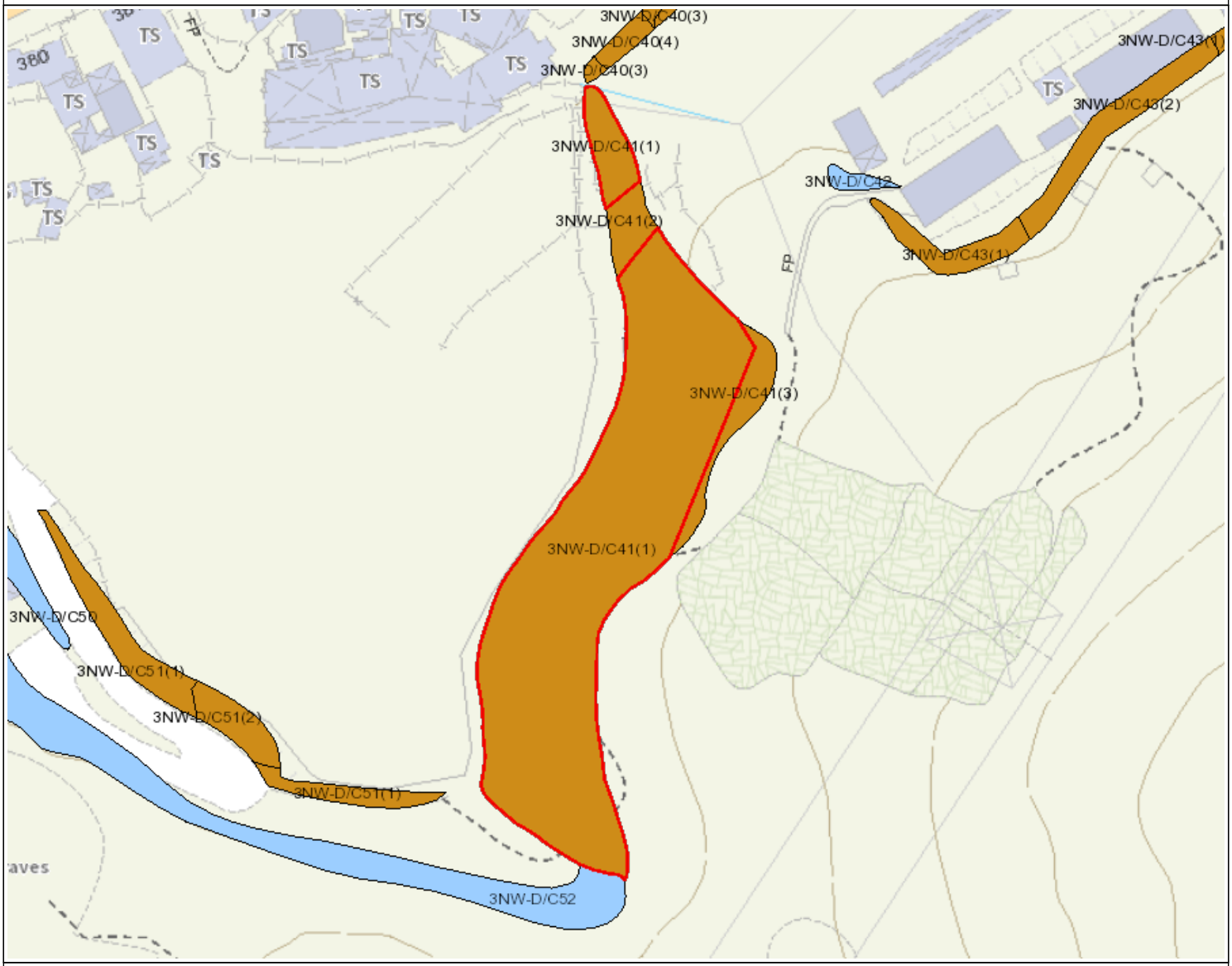
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C41)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C41**		**Sub-Division**	2
	Location	WITHIN LICENCE N8797 & LOT NO. 135 IN DD38 AND ADJOINING GOVERNMENT LAND IN DD38 & 81		
	Responsible Lot/Party	DD38 LOT135	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

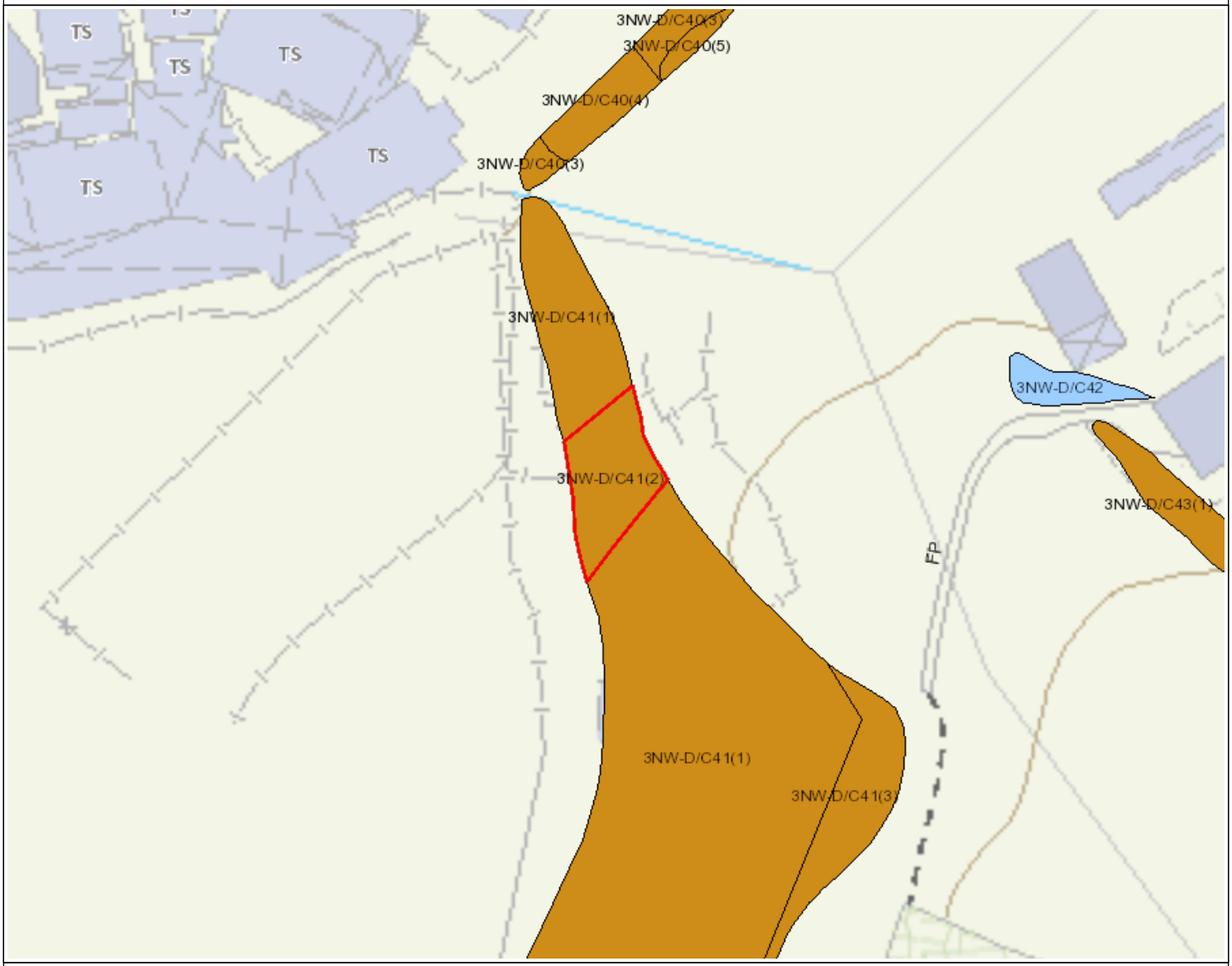
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C41)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C41**		**Sub-Division**	3
	Location	WITHIN LICENCE N8797 & LOT NO. 135 IN DD38 AND ADJOINING GOVERNMENT LAND IN DD38 & 81		
	Responsible Lot/Party	LICENCE N8797	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

2	**3NW-D/C41**		**Sub-Division**	3
	Location	WITHIN LICENCE N8797 & LOT NO. 135 IN DD38 AND ADJOINING GOVERNMENT LAND IN DD38 & 81		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

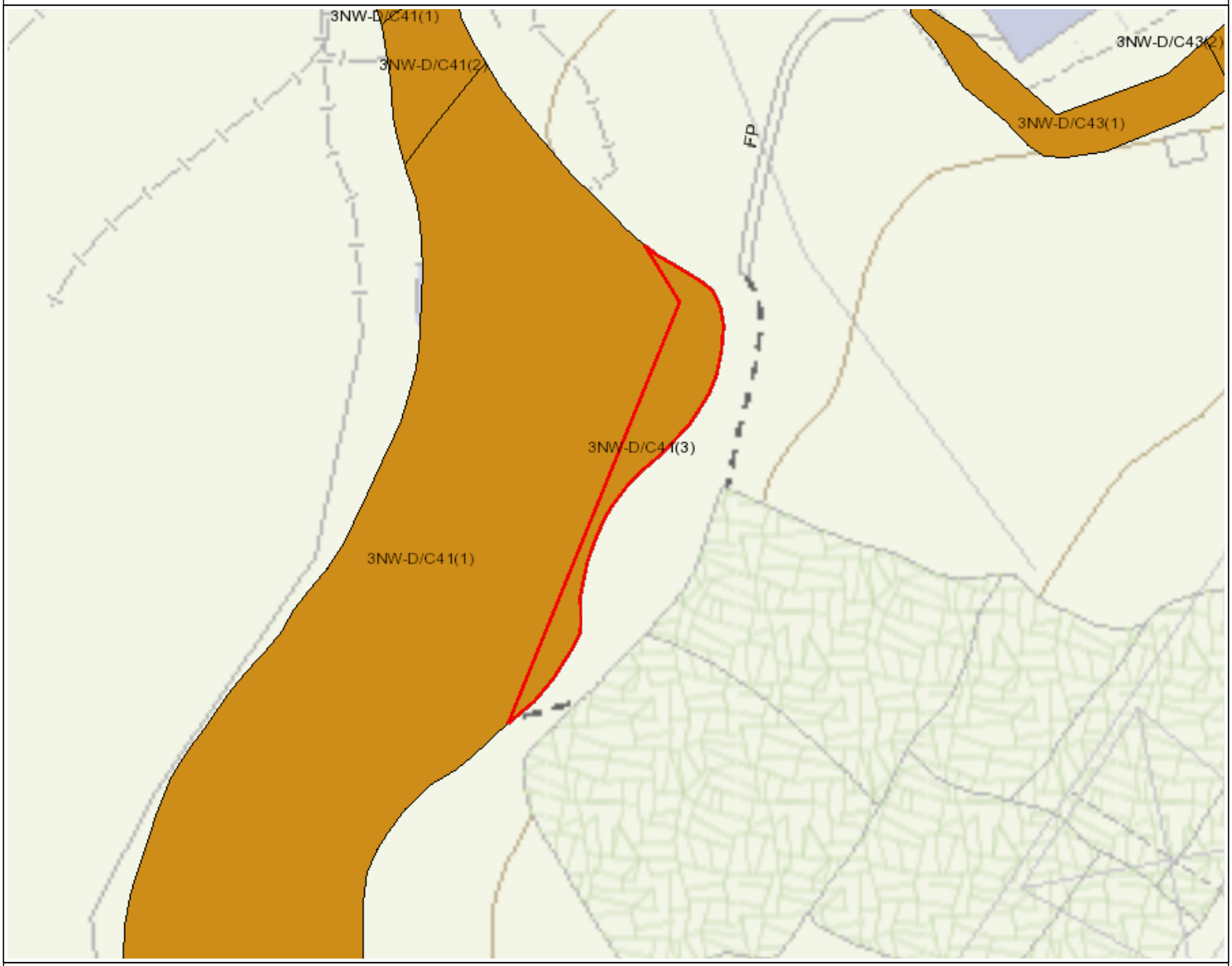
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C50)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C50**		**Sub-Division**	Not Applicable
	Location	TO THE W OF DD38 LOT121		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

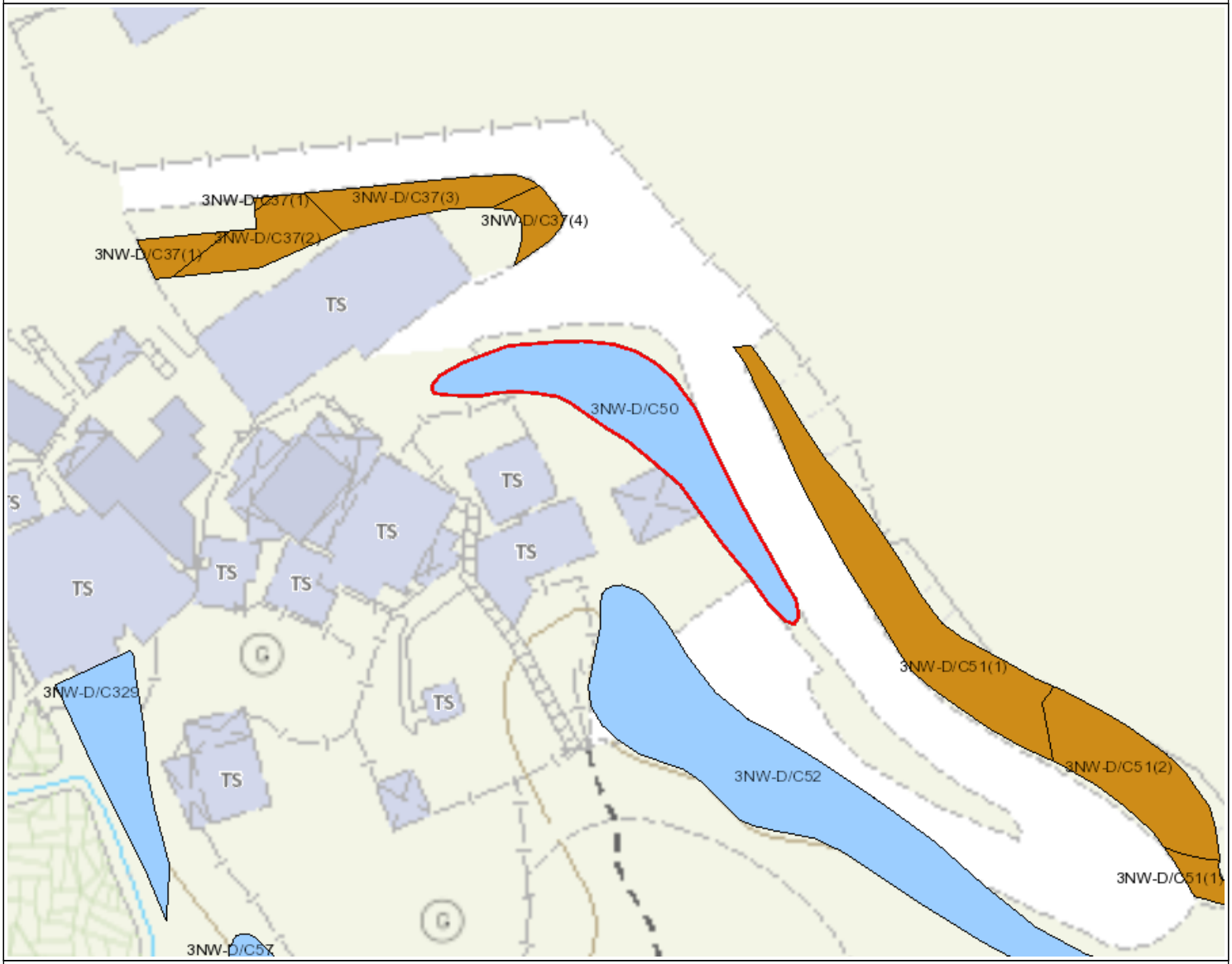
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C51)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C51**		**Sub-Division**	1
	Location	SLOPE FALLS IN GL, DD38 LOT127 NEAR SPOT LEVEL 35.6		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

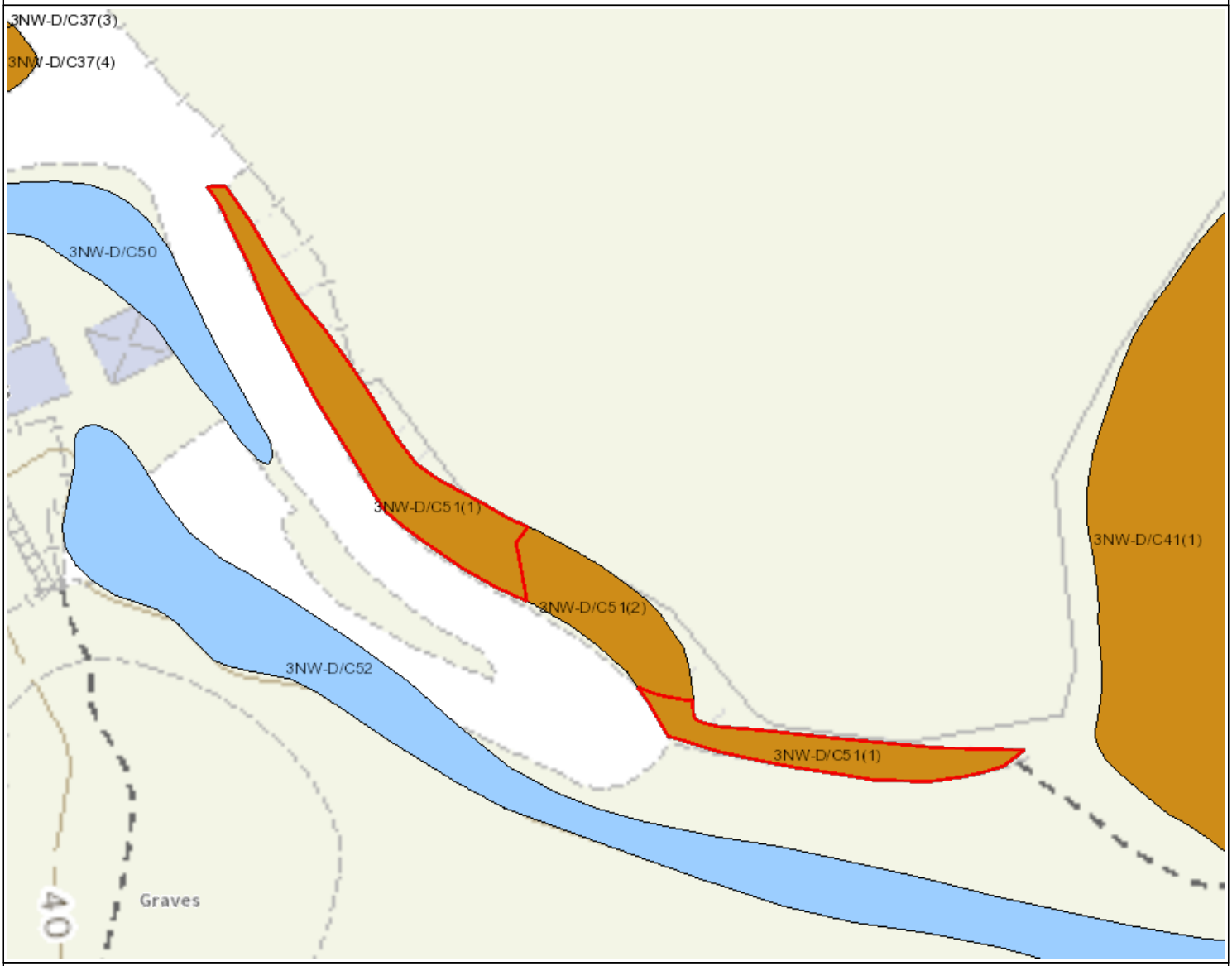
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C51)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C51**		**Sub-Division**	2
	Location	SLOPE FALLS IN GL, DD38 LOT127 NEAR SPOT LEVEL 35.6		
	Responsible Lot/Party	DD38 Lot127	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

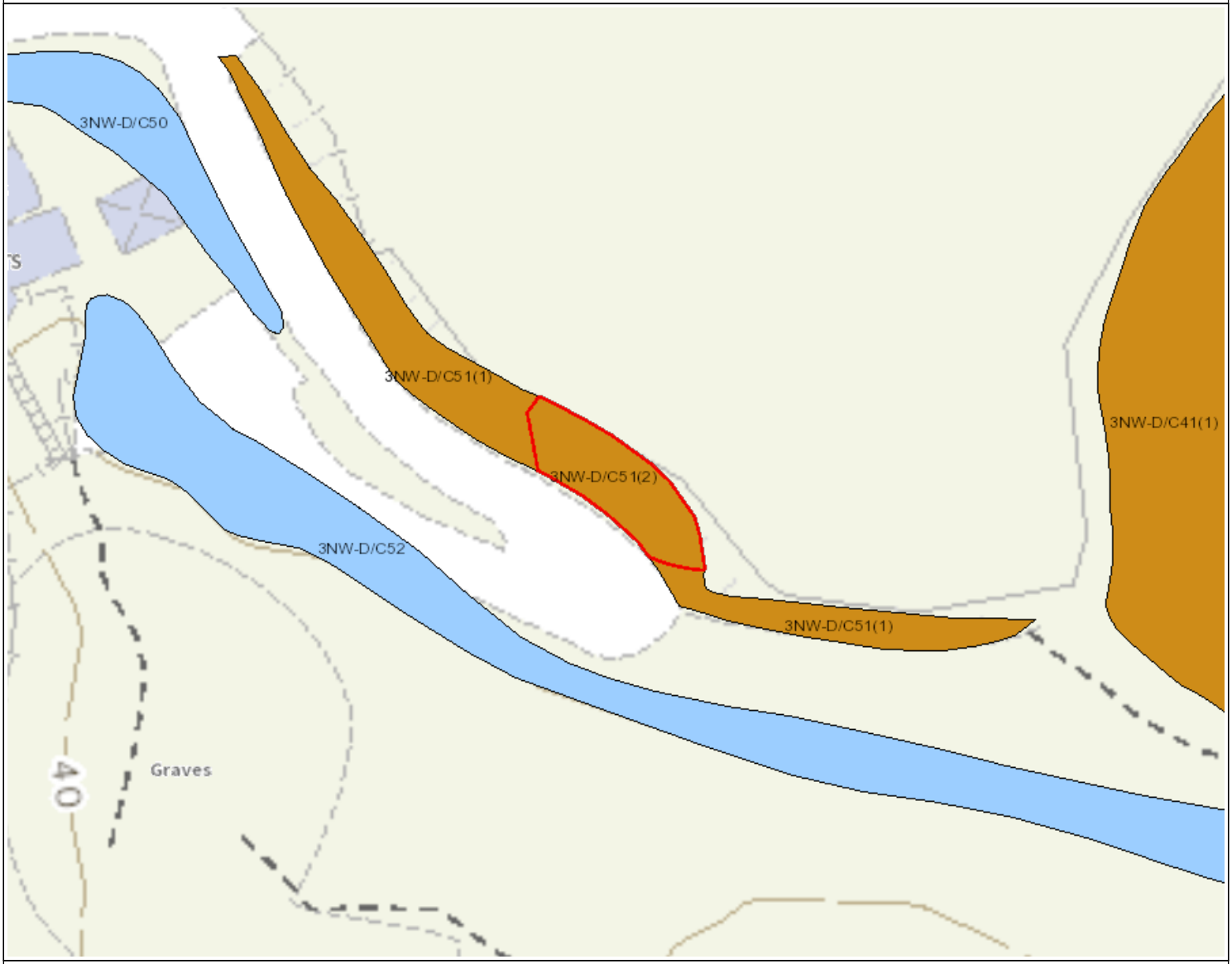
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Slope Maintenance Responsibility Report (3NW-D/C52)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**3NW-D/C52**		**Sub-Division**	Not Applicable
	Location	TO THE S OF DD38 LOT127		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

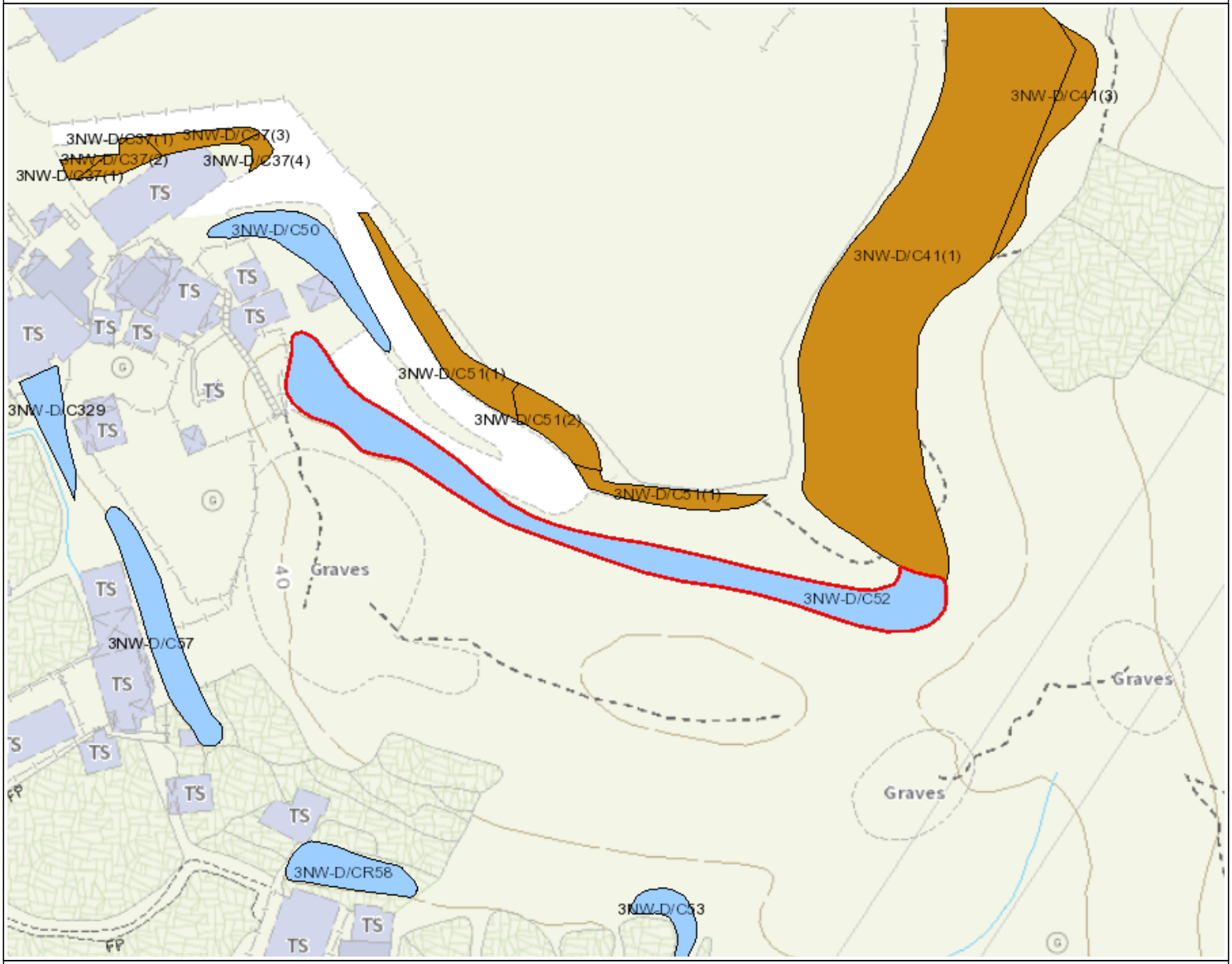
- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 08/04/2025

Appendix B – SIS Records

BASIC INFORMATION

Location:	Loi Tung Village, Sha Tau Kok Road - Wo Hang, New Territories.
Registration Date:	08-07-1999
Ranking Score (NPRS):	0 (LPMit)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	EI(Lands D)
Approximate Coordinates:	Easting : 837297 Northing : 842613

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Densely-used open area/facilities
Distance of Facility from Crest (m):	0
Facility at Toe:	Road/footpath with very low traffic density
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	2
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 3 Length (m): 24 Average Angle (deg): 35
(1) Max. Height (m): 3 Length (m): 16 Average Angle (deg): 35

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD38 LOT109 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 19-09-2008
(2) Sub Div.: 2 Mixed Feature Party: DD38 LOT110 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 19-09-2008
(3) Sub Div.: 3 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 19-09-2008
(4) Sub Div.: 4 Mixed Feature Party: DD38 LOT112 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 19-09-2008

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	19-11-2010
Data Source:	EI(Lands D)
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 40 Chunam: 60 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): 50 Spacing (m): 1.2
Slope Part (2)
Surface Protection (%): Bare: 0 Vegetated: 40 Chunam: 60 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	3NW25B9
Map Sheet Reference (1:1000):	3NW-25B
Aerial Photos:	CN10451 (1995), CN10452 (1995)
Nearest Rainguage Station (Station Number):	Cheung Chi House, Cheung Wah Estate(N05)
Data Collected On:	19-11-2010
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1978 After: 1974
Related Reports/Files or Documents:	File/Report: PWDC Ref. No.: GC 4/1/2-3 f 19 pt.VI File/Report: PWDC Ref. No.: GC 4/1/2-3 f 19 pt.VI
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None

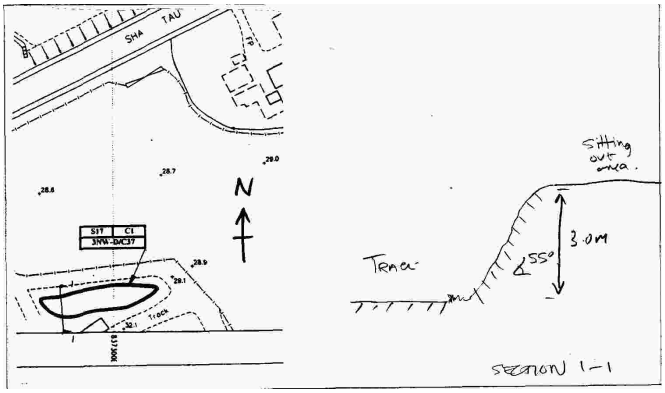
LPMIS: Agreement No.: CE10/2007 Report No.: S2R132/2008

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 19/02/2025)

STAGE 1 STUDY REPORT

Inspected On: 13-08-1998
Weather: Mainly Fine
District: ME



Section No: 1-1
Height(m): H1 : 3 , H2 : 0
Type of Toe Facility: Road/footpath with very low traffic density
Distance from Toe(m): 0
Type of Crest Facility: Densely-used open area/facilities
Distance from Crest(m): 0
Consequence Category: 3
Engineering Judgement: U
Section No: 2-2
Type of Toe Facility: N/A
Distance from Toe(m): 0
Type of Crest Facility: N/A
Distance from Crest(m): 0
Consequence Category: 3
Engineering Judgement: U
Sign of Seepage: Slope : No signs of seepage
Wall : N/A
Criterion A satisfied: N
Sign of Distress: Slope : Reasonable (near crest, mid-portion, at toe)
Wall : N/A
Criterion D satisfied: N
Non-routine maintenance required: N
Note: N/A

Masonry wall/Masonry facing:	N
Note:	N/A
Consequence category (for critical section):	3
Observations:	N/A
Emergency Action Required:	N
Action By:	N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	N
Action By:	N/A

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

eLPMIS

LPM/LPMit Details Report

LPM Study Feature No.:	3NW-D/C 37
Location:	LOI TUNG VILLAGE, SHA TAU KOK ROAD - WO HANG, NEW TERRITORIES
District Council:	North
Maintenance Responsibility (At the Time of Selection):	Mixed
Responsible Party for Maintenance of Government Portion:	Lands D
Private Lot No.:	DD38 LOT109,DD38 LOT110,DD38 LOT112

LPM/LPMit Study

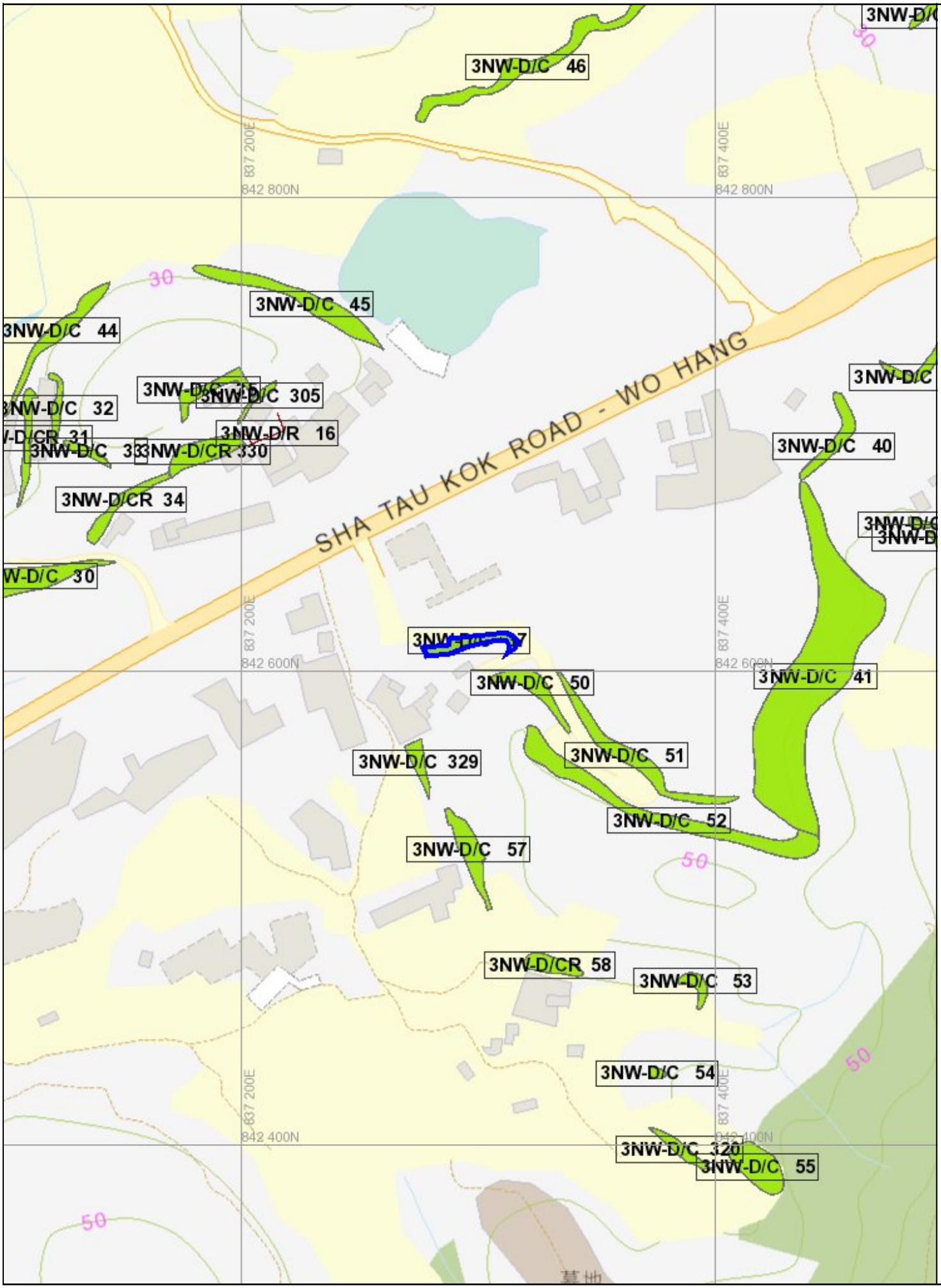
Agreement No.:	CE10/2007
Study Type:	Stage 2 Study
Consultant:	C M Wong & Associates Ltd.
GEO Managing Section / Engineer:	SS / SS3
Study Status:	Study completed
Design Approach:	N/A
Option Assessment Accepted:	N/A
Study Report No.:	S2R132/2008
Programme / Actual Commencement:	06-06-2008

Programme / Actual Completion:	26-02-2010
Report Recommendation (For Stage 2 Study):	Advisory Letter
District Check Status:	Checked
Checking Certificate No.:	N/A
GEO Engineer's Remarks:	N/A

LPM/LPMit Works

Works Contract No.:	N/A
GEO Managing Section / Engineer:	N/A / N/A
Contractor:	N/A
Progress Status:	N/A
Reason of Study Termination / Works Deletion (If Necessary):	N/A
Forecast Commencement Date:	N/A
Forecast Completion Date:	N/A
Completion Cert. Issued:	N/A
Site Handed Over to Maintenance Department on:	N/A
Estimated Cost for Upgrading (HK$M):	N/A
Maintenance Manual No.:	N/A
Actual Works:	N/A
No. of Tree Felled:	N/A
No. of Tree Planted (Incl. Transplant):	N/A
% Bare of Slope Surfacing:	N/A
% Vegetated of Slope Surfacing:	N/A
% Shotcrete of Slope Surfacing:	N/A
Other Hard Surface of Slope Surfacing:	N/A

PHOTO


3NW-D/C 46
3NW-D/C 45
3NW-D/C 44
3NW-D/C 32
3NW-D/C 305
3NW-D/R 16
3NW-D/C 33
3NW-D/CR 330
3NW-D/CR 34
3NW-D/C 30
SHA TAU KOK ROAD - WO HANG
3NW-D/C 40
3NW-D/C 50
3NW-D/C 41
3NW-D/C 329
3NW-D/C 51
3NW-D/C 52
3NW-D/C 57
3NW-D/CR 58
3NW-D/C 53
3NW-D/C 54
3NW-D/C 320
3NW-D/C 55
837 200E
837 400E
842 800N
842 600N
842 400N
30
50

BASIC INFORMATION

Location:	North East of Loi Tung Village, off Sha Tau Kok, Wo Hang, North
Registration Date:	24-10-1997
Ranking Score (NPRS):	0 (LPMit)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	EI(Lands D)
Approximate Coordinates:	Easting : 837452 Northing : 842697

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Remote area or abandoned facilities
Distance of Facility from Crest (m):	0
Facility at Toe:	Lightly-used open area/facilities
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	3
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 45 Average Angle (deg): 80

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD81 Lot24 Agent: N/A Land Cat.: 1,5b(vi),7 Reason Code: 1 MR Endorsement Date: 02-04-1998
(2) Sub Div.: 2 Mixed Feature Party: DD81 Lot23 Agent: N/A Land Cat.: 1,5b(vi),7 Reason Code: 1 MR Endorsement Date: 02-04-1998
(3) Sub Div.: 3 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 1,5b(vi),7 Reason Code: 62,90 MR Endorsement Date: 02-04-1998
(4) Sub Div.: 4 Mixed Feature Party: DD81 Lot10 Agent: N/A Land Cat.: 1,5b(vi),7 Reason Code: 1 MR Endorsement Date: 02-04-1998
(5) Sub Div.: 5 Mixed Feature Party: DD81 Lot19 Agent: N/A Land Cat.: 1,5b(vi),7 Reason Code: 1 MR Endorsement Date: 02-04-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	15-04-2010
Data Source:	EI(Lands D)
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	3NW25B9
Map Sheet Reference (1:1000):	3NW-25B
Aerial Photos:	CN10450 (1995), CN10451 (1995)
Nearest Rainguage Station (Station Number):	Cheung Chi House, Cheung Wah Estate(N05)
Data Collected On:	15-04-2010
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1964 After: N/A
Related Reports/Files or Documents:	File/Report: PWDC Ref. No.: GC 4/1/2-3 f (19) Part VI File/Report: PWDC Ref. No.: GC 4/1/2-3 f (19) Part VI
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	Agreement No.: CE33/2004 Report No.: S2R161/2006

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 19/02/2025)

STAGE 1 STUDY REPORT

Inspected On:	
Weather:	
District:	ME
Section No:	1-1
Height(m):	
Type of Toe Facility:	Lightly-used open area/facilities
Distance from Toe(m):	0
Type of Crest Facility:	Remote area or abandoned facilities
Distance from Crest(m):	0
Consequence Category:	
Engineering Judgement:	
Section No:	2-2
Type of Toe Facility:	
Distance from Toe(m):	
Type of Crest Facility:	
Distance from Crest(m):	
Consequence Category:	
Engineering Judgement:	
Sign of Seepage:	
Criterion A satisfied:	
Sign of Distress:	
Criterion D satisfied:	
Non-routine maintenance required:	
Note:	
Masonry wall/Masonry facing:	
Note:	
Consequence category (for critical section):	
Observations:	N/A
Emergency Action Required:	
Action By:	N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	
Action By:	N/A

OTHER EXTERNAL ACTION

Check / repair Services:

Action By: N/A

Non-routine Maintenance:

Action By: N/A

eLPMIS

LPM/LPMit Details Report

LPM Study Feature No.:	3NW-D/C 40
Location:	NORTH EAST OF LOI TUNG VILLAGE, OFF SHA TAU KOK, WO HANG
District Council:	North
Maintenance Responsibility (At the Time of Selection):	Mixed
Responsible Party for Maintenance of Government Portion:	Lands D
Private Lot No.:	DD81 Lot24, DD81 Lot23, DD81 Lot10, DD81 Lot19

LPM/LPMit Study

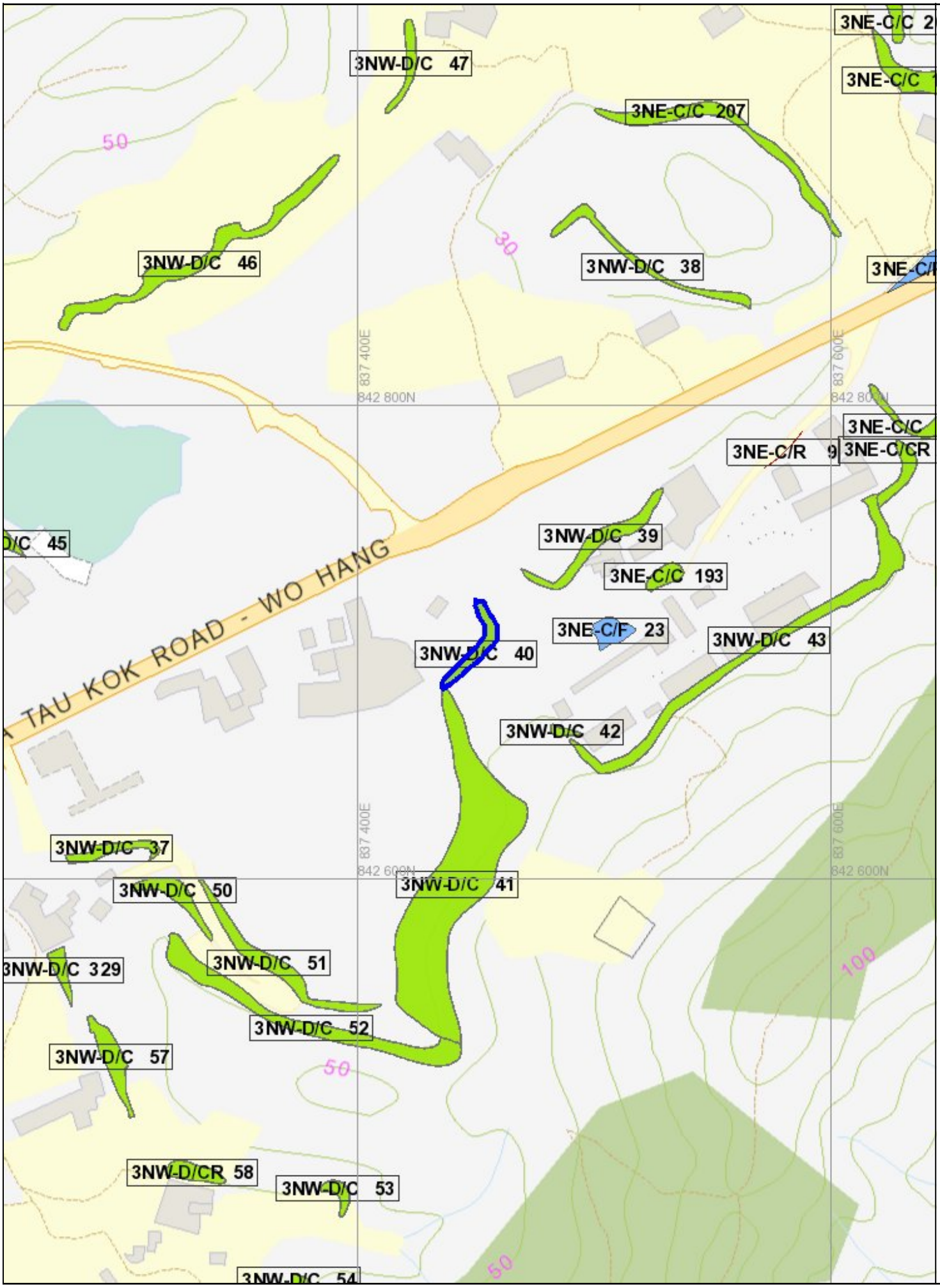
Agreement No.:	CE33/2004
Study Type:	Stage 2 Study
Consultant:	Maunsell Geotechnical Services Ltd.
GEO Managing Section / Engineer:	SS / SS1
Study Status:	Study completed
Design Approach:	N/A
Option Assessment Accepted:	N/A
Study Report No.:	S2R161/2006
Programme / Actual Commencement:	07-07-2006
Programme / Actual Completion:	16-11-2007
Report Recommendation (For Stage 2 Study):	No action required
District Check Status:	Checked
Checking Certificate No.:	N/A
GEO Engineer's Remarks:	N/A

LPM/LPMit Works

Works Contract No.:	N/A
GEO Managing Section / Engineer:	N/A / N/A
Contractor:	N/A
Progress Status:	N/A
Reason of Study Termination / Works Deletion (If Necessary):	N/A
Forecast Commencement Date:	N/A
Forecast Completion Date:	N/A

Completion Cert. Issued:	N/A
Site Handed Over to Maintenance Department on:	N/A
Estimated Cost for Upgrading (HK$M):	N/A
Maintenance Manual No.:	N/A
Actual Works:	N/A
No. of Tree Felled:	N/A
No. of Tree Planted (Incl. Transplant):	N/A
% Bare of Slope Surfacing:	N/A
% Vegetated of Slope Surfacing:	N/A
% Shotcrete of Slope Surfacing:	N/A
Other Hard Surface of Slope Surfacing:	N/A

PHOTO


3NE-C/C 2
3NW-D/C 47
3NE-C/C
3NE-C/C 207
50
30
3NW-D/C 46
3NW-D/C 38
3NE-C/
837 400E
842 800N
837 600E
842 800N
3NE-C/C
3NE-C/R 9
3NE-C/CR
3NW-D/C 39
D/C 45
3NE-C/C 193
TAU KOK ROAD - WO HANG
3NE-C/F 23
3NW-D/C 43
3NW-D/C 40
3NW-D/C 42
3NW-D/C 37
837 400E
842 600N
837 600E
842 600N
3NW-D/C 50
3NW-D/C 41
3NW-D/C 329
3NW-D/C 51
100
3NW-D/C 52
3NW-D/C 57
50
3NW-D/CR 58
3NW-D/C 53
50
3NW-D/C 54

BASIC INFORMATION

Location:	Open storage area, north east of Loi Tung Village, off Sha Tau Kok Road - Wo Hang, North
Registration Date:	24-10-1997
Ranking Score (NPRS):	0 (Notional)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	EI(Lands D)
Approximate Coordinates:	Easting : 837457 Northing : 842627

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Road/footpath with very low traffic density
Distance of Facility from Crest (m):	3
Facility at Toe:	Non-dangerous goods storage site
Distance of Facility from Toe (m):	3
Consequence-to-life Category:	3
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 15 Length (m): 150 Average Angle (deg): 35

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 06-05-2010
(2) Sub Div.: 2 Mixed Feature Party: DD38 LOT135 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 06-05-2010
(3) Sub Div.: 3 Mixed Feature Party: LICENCE N8797 Agent: N/A Land Cat.: 1,5b(vi) Reason Code: 4 MR Endorsement Date: 06-05-2010
(4) Sub Div.: 3 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 1,5b(vi) Reason Code: 59 MR Endorsement Date: 06-05-2010

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	11-05-2001
Data Source:	EI(Lands D)
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

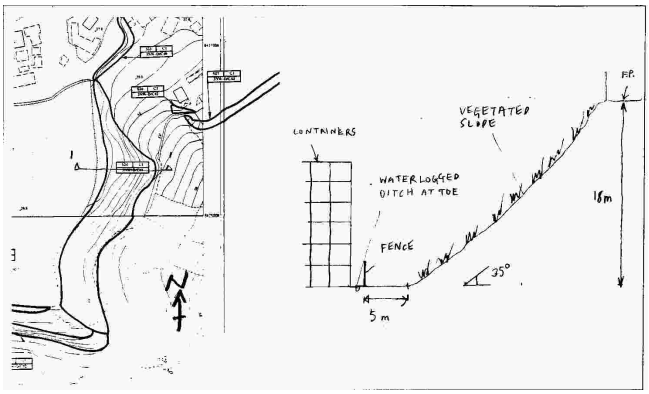
GIU Cell Ref.:	3NW25B9
Map Sheet Reference (1:1000):	3NW-25B
Aerial Photos:	CN10450 (1995), CN10451 (1995)
Nearest Rainguage Station (Station Number):	Cheung Chi House, Cheung Wah Estate(N05)
Data Collected On:	11-05-2001
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1964
Related Reports/Files or Documents:	File/Report: PWDC Ref. No.: GC 4/1/2-3 f (19) pt VI File/Report: PWDC Ref. No.: GC 4/1/2-3 f (19) pt VI
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 19/02/2025)

STAGE 1 STUDY REPORT

Inspected On:	30-05-1997
Weather:	Some Rain
District:	ME



Section No:	1-1
Height(m):	H1 : 18 , H2 : 0
Type of Toe Facility:	Non-dangerous goods storage site
Distance from Toe(m):	3
Type of Crest Facility:	Road/footpath with very low traffic density
Distance from Crest(m):	3
Consequence Category:	3
Engineering Judgement:	P
Section No:	2-2
Type of Toe Facility:	N/A
Distance from Toe(m):	0
Type of Crest Facility:	N/A
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	P
Sign of Seepage:	Slope : Signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : Reasonable (at toe) Wall : N/A
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	N
Note:	N/A
Consequence category (for critical section):	3

Observations:	N/A
Emergency Action Required:	N
Action By:	N/A

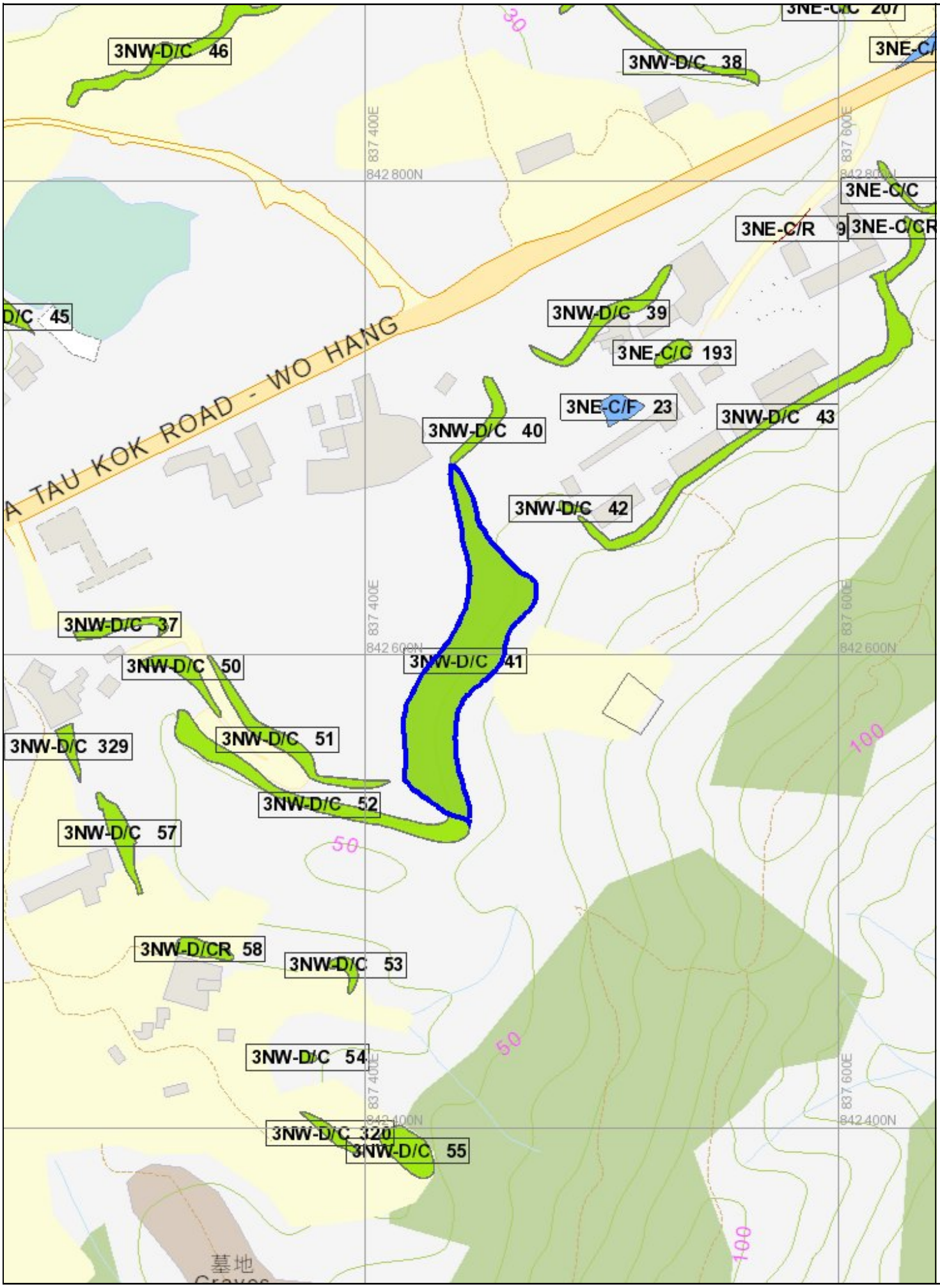
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	Y
Action By:	Mixed

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO


3NW-D/C 46
3NW-D/C 38
3NE-C/C 207
3NE-C/C
3NE-C/R 9
3NE-C/CR
D/C 45
3NW-D/C 39
3NE-C/C 193
3NE-C/F 23
3NW-D/C 43
3NW-D/C 40
3NW-D/C 42
A TAU KOK ROAD - WO HANG
3NW-D/C 37
3NW-D/C 50
3NW-D/C 41
3NW-D/C 329
3NW-D/C 51
3NW-D/C 52
3NW-D/C 57
3NW-D/CR 58
3NW-D/C 53
3NW-D/C 54
3NW-D/C 320
3NW-D/C 55
837 400E
842 800N
837 600E
842 600N
842 400N
30
50
100
墓地

BASIC INFORMATION

Location:	East of Loi Tung East Village House #10D, Sha Tau Kok.
Registration Date:	24-10-1997
Ranking Score (NPRS):	0 (Notional)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	EI
Approximate Coordinates:	Easting : 837324 Northing : 842594

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	District open space
Distance of Facility from Crest (m):	0
Facility at Toe:	Road/footpath with low traffic density
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	3
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 45 Average Angle (deg): 50

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 0 Government Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 02-04-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	11-05-2001
Data Source:	EI
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: Other geology
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

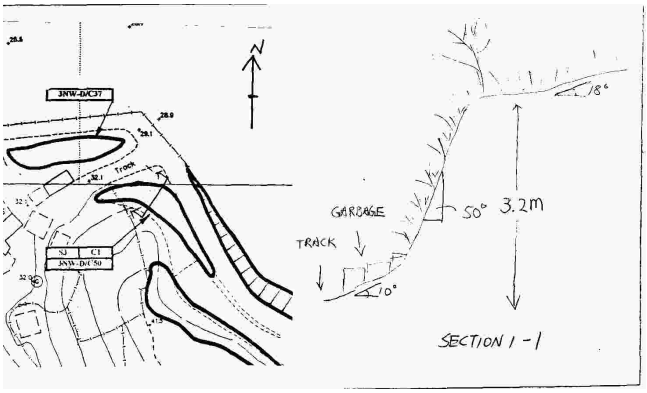
GIU Cell Ref.:	3NW25D3
Map Sheet Reference (1:1000):	3NW-25D
Aerial Photos:	CN10451 (1995), CN10452 (1995)
Nearest Rainguage Station (Station Number):	Cheung Chi House, Cheung Wah Estate(N05)
Data Collected On:	11-05-2001
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1963 After: N/A Modification: Modified Before: 1978 After: 1974
Related Reports/Files or Documents:	File/Report: PWDC Ref. No.: GC 4/1/2-3 f 19 pt VI File/Report: PWDC Ref. No.: GC 4/1/2-3 f 19 pt VI
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 19/02/2025)

STAGE 1 STUDY REPORT

Inspected On:	05-06-1997
Weather:	Some Rain
District:	ME



Section No:	1-1
Height(m):	H1 : 3 , H2 : 0
Type of Toe Facility:	Road/footpath with low traffic density
Distance from Toe(m):	0
Type of Crest Facility:	District open space
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	U
Section No:	2-2
Type of Toe Facility:	N/A
Distance from Toe(m):	0
Type of Crest Facility:	N/A
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	U
Sign of Seepage:	Slope : No signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : Reasonable (near crest) Wall : N/A
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	N
Note:	N/A
Consequence category (for critical section):	3
Observations:	N/A
Emergency Action Required:	N
Action By:	N/A

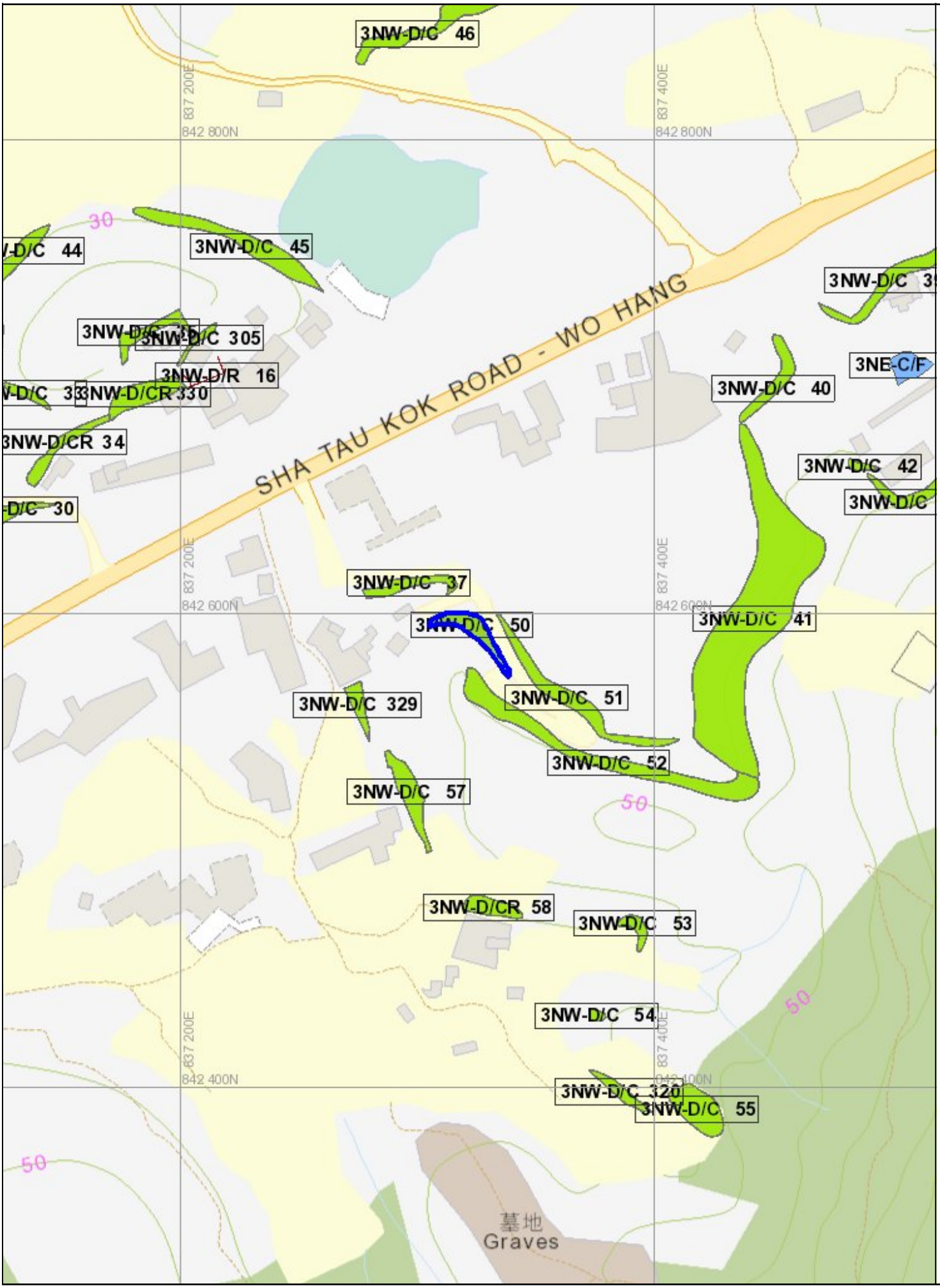
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	N
Action By:	N/A

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO


3NW-D/C 46
3NW-D/C 45
3NW-D/C 44
3NW-D/C 305
3NW-D/R 16
3NW-D/CR 330
3NW-D/CR 34
3NW-D/C 30
3NW-D/C 40
3NW-D/C 42
3NE-C/F
SHA TAU KOK ROAD - WO HANG
3NW-D/C 37
3NW-D/C 50
3NW-D/C 41
3NW-D/C 329
3NW-D/C 51
3NW-D/C 52
3NW-D/C 57
3NW-D/CR 58
3NW-D/C 53
3NW-D/C 54
3NW-D/C 320
3NW-D/C 55
837 200E
837 400E
842 800N
842 600N
842 400N
30
50
墓地
Graves

BASIC INFORMATION

Location:	East of the Loi Tung East Village, Sha Tau Kok
Registration Date:	24-10-1997
Ranking Score (NPRS):	0 (Notional)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	EI(Lands D)
Approximate Coordinates:	Easting : 837363 Northing : 842564

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Road/footpath with very low traffic density
Distance of Facility from Crest (m):	0
Facility at Toe:	Non-dangerous goods storage site
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	3
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 105 Average Angle (deg): 50

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 03-11-1998
(2) Sub Div.: 2 Mixed Feature Party: DD38 Lot127 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 03-11-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	11-05-2001
Data Source:	EI(Lands D)
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: Other geology
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

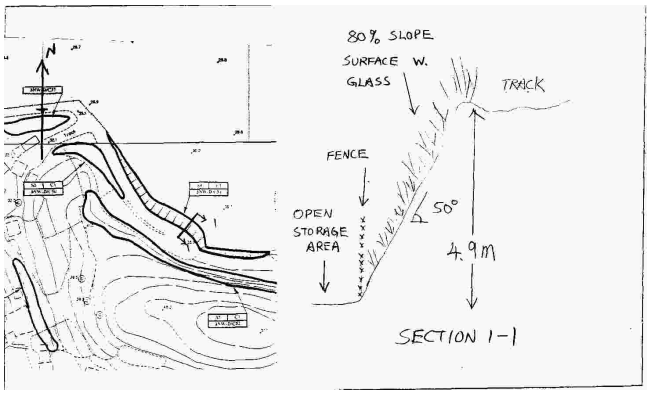
GIU Cell Ref.:	3NW25D3
Map Sheet Reference (1:1000):	3NW-25D
Aerial Photos:	CN10451 (1995), CN10452 (1995)
Nearest Rainguage Station (Station Number):	Cheung Chi House, Cheung Wah Estate(N05)
Data Collected On:	11-05-2001
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1963 After: N/A Modification: Modified Before: 1978 After: 1974
Related Reports/Files or Documents:	File/Report: PWDC Ref. No.: GC 4/1/2-3 f 19 pt VI File/Report: PWDC Ref. No.: GC 4/1/2-3 f 19 pt VI
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 19/02/2025)

STAGE 1 STUDY REPORT

Inspected On:	05-06-1997
Weather:	Some Rain
District:	ME



Section No:	1-1
Height(m):	H1 : 5 , H2 : 0
Type of Toe Facility:	Non-dangerous goods storage site
Distance from Toe(m):	0
Type of Crest Facility:	Road/footpath with very low traffic density
Distance from Crest(m):	0
Consequence Category:	2
Engineering Judgement:	P
Section No:	2-2
Type of Toe Facility:	N/A
Distance from Toe(m):	0
Type of Crest Facility:	N/A
Distance from Crest(m):	0
Consequence Category:	2
Engineering Judgement:	P
Sign of Seepage:	Slope : No signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : N/A Wall : N/A
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	N
Note:	N/A
Consequence category (for critical section):	2
Observations:	N/A
Emergency Action Required:	N
Action By:	N/A

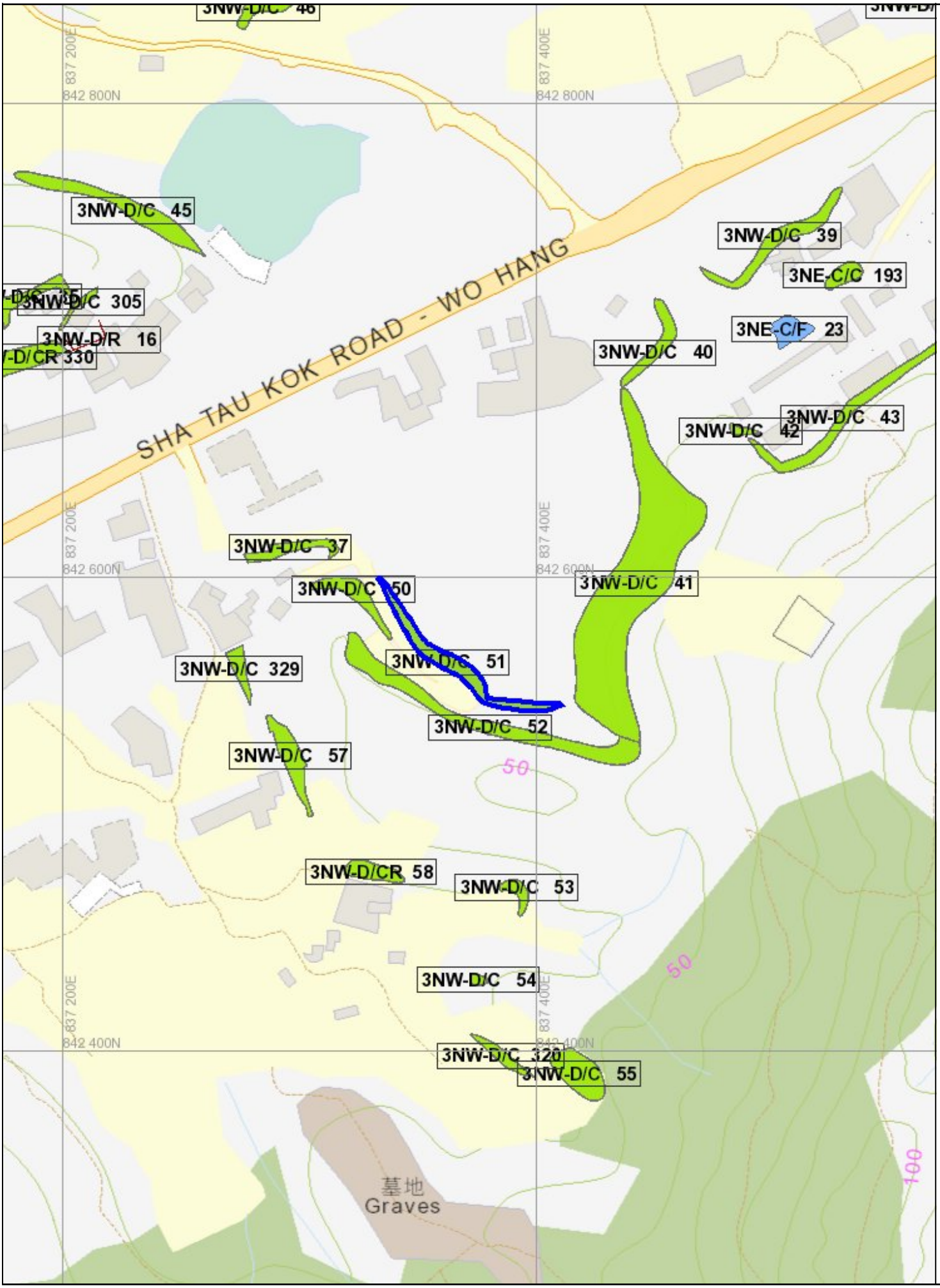
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	Y
Action By:	Mixed

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO


3NW-D/C 46
837 200E
837 400E
842 800N
3NW-D/C 45
3NW-D/C 39
3NE-C/C 193
3NW-D/C 305
3NW-D/R 16
3NW-D/CR 330
3NE-C/F 23
3NW-D/C 40
SHA TAU KOK ROAD - WO HANG
3NW-D/C 43
3NW-D/C 42
842 600N
3NW-D/C 37
3NW-D/C 50
3NW-D/C 41
3NW-D/C 329
3NW-D/C 51
3NW-D/C 52
3NW-D/C 57
50
3NW-D/CR 58
3NW-D/C 53
3NW-D/C 54
842 400N
3NW-D/C 320
3NW-D/C 55
墓地
Graves
100

BASIC INFORMATION

Location:	East of the Loi Tung East Village, Sha Tau Kok.
Registration Date:	24-10-1997
Ranking Score (NPRS):	0 (Notional)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	EI
Approximate Coordinates:	Easting : 837375 Northing : 842538

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Remote area or abandoned facilities
Distance of Facility from Crest (m):	0
Facility at Toe:	Road/footpath with very low traffic density
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	3
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 4.2 Length (m): 130 Average Angle (deg): 45

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 0 Government Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 02-04-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	11-05-2001
Data Source:	EI
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: Other geology
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

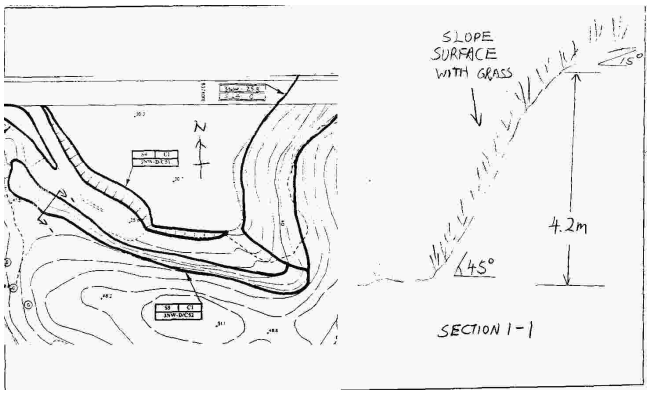
GIU Cell Ref.:	3NW25D3
Map Sheet Reference (1:1000):	3NW-25D
Aerial Photos:	28359 (1979), 28360 (1979)
Nearest Rainguage Station (Station Number):	Cheung Chi House, Cheung Wah Estate(N05)
Data Collected On:	11-05-2001
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1963 After: N/A
Related Reports/Files or Documents:	File/Report: PWDC Ref. No.: GC 4/1/2-3 f 19 pt VI File/Report: PWDC Ref. No.: GC 4/1/2-3 f 19 pt VI
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 19/02/2025)

STAGE 1 STUDY REPORT

Inspected On:	05-06-1997
Weather:	Some Rain
District:	ME



Section No:	1-1
Height(m):	H1 : 4 , H2 : 0
Type of Toe Facility:	Road/footpath with very low traffic density
Distance from Toe(m):	0
Type of Crest Facility:	Remote area or abandoned facilities
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	U
Section No:	2-2
Type of Toe Facility:	N/A
Distance from Toe(m):	0
Type of Crest Facility:	N/A
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	U
Sign of Seepage:	Slope : No signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : N/A Wall : N/A
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	N
Note:	N/A
Consequence category (for critical section):	3
Observations:	N/A
Emergency Action Required:	N
Action By:	N/A

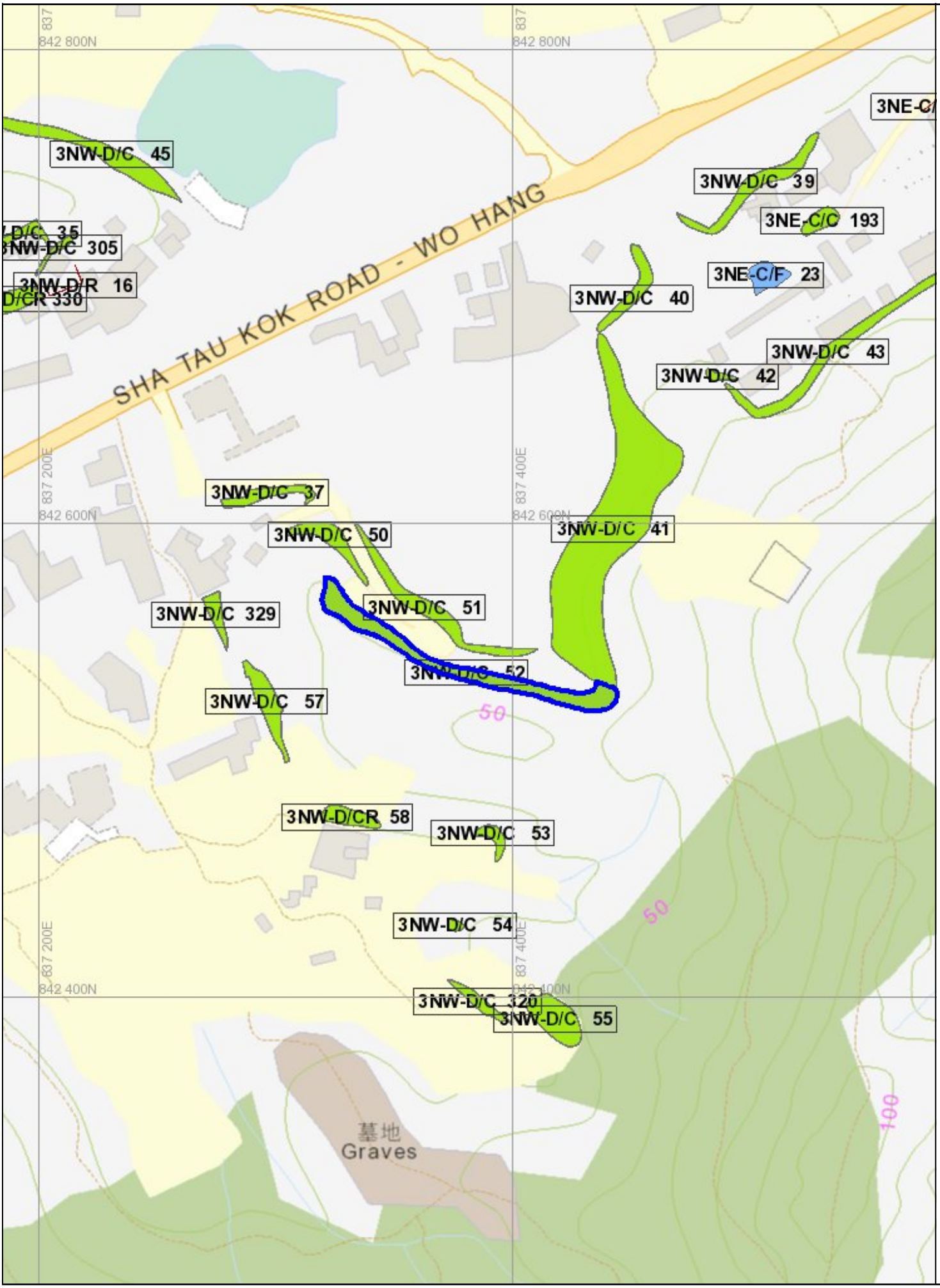
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	N
Action By:	N/A

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO


SHA TAU KOK ROAD - WO HANG
3NW-D/C 45
3NW-D/C 39
3NE-C/C 193
3NE-C/F 23
3NW-D/C 40
3NW-D/C 43
3NW-D/C 42
3NW-D/C 37
3NW-D/C 50
3NW-D/C 41
3NW-D/C 51
3NW-D/C 329
3NW-D/C 57
3NW-D/CR 58
3NW-D/C 53
3NW-D/C 54
3NW-D/C 320
3NW-D/C 55
3NW-D/R 16
3NW-D/C 305
3NE-C/
837 800N
837 200E
837 400E
842 600N
842 400N
50
100
墓地
Graves

Appendix C – Schedule Area Plan

HONG KONG 1:20 000

香港 1:20 000

后 海 灣
HAU HOI WAN
(DEEP BAY)

TSWTL 28

BOUNDARY OF AREA NUMBER 2 OF THE SCHEDULED AREAS

BOUNDARY OF AREA NUMBER 2 OF THE SCHEDULED AREAS

Signed: _____
(G. Barnes)
Secretary for Planning, Environment and Lands

Dated: 8th of June 1990

	initial	name	date
drawn		C. C. MAK	30-10-1989
checked		P. J. STRANGE	30-10-1989

drawing title

AREA NUMBER 2 OF THE SCHEDULED AREAS

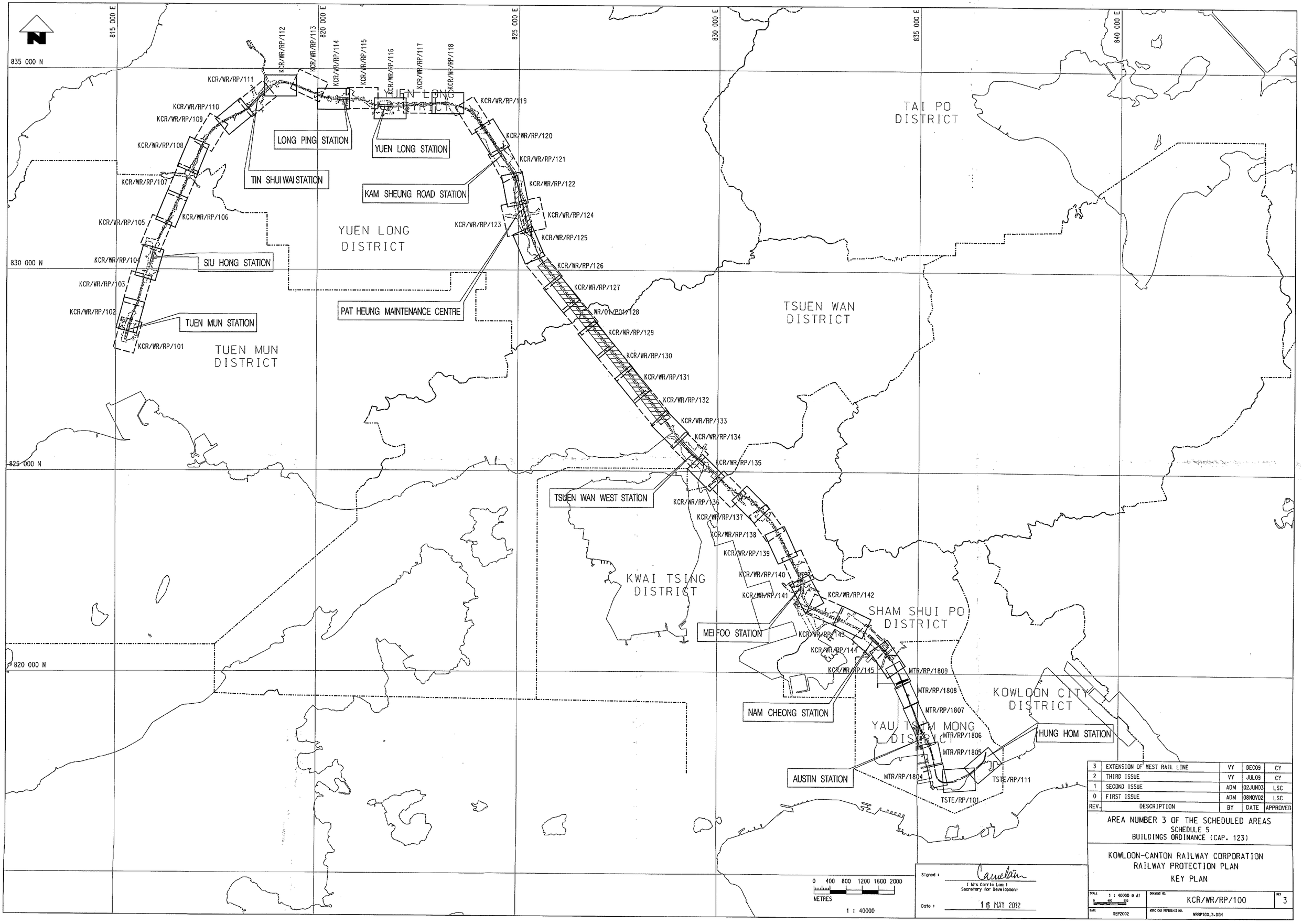
drawing no.
GS-SP/714-1

scale
1:20 000

office
PLANNING DIVISION
GEOTECHNICAL CONTROL OFFICE

CIVIL ENGINEERING SERVICES DEPARTMENT
HONG KONG

大帽山郊野公園
TAI MO SHAN COUNTRY PARK



REV.	DESCRIPTION	BY	DATE	APPROVED
3	EXTENSION OF WEST RAIL LINE	VY	DEC09	CY
2	THIRD ISSUE	VY	JUL09	CY
1	SECOND ISSUE	ADM	02JUN03	LSC
0	FIRST ISSUE	ADM	08NOV02	LSC

AREA NUMBER 3 OF THE SCHEDULED AREAS
SCHEDULE 5
BUILDINGS ORDINANCE (CAP. 123)

KOWLOON-CANTON RAILWAY CORPORATION
RAILWAY PROTECTION PLAN
KEY PLAN

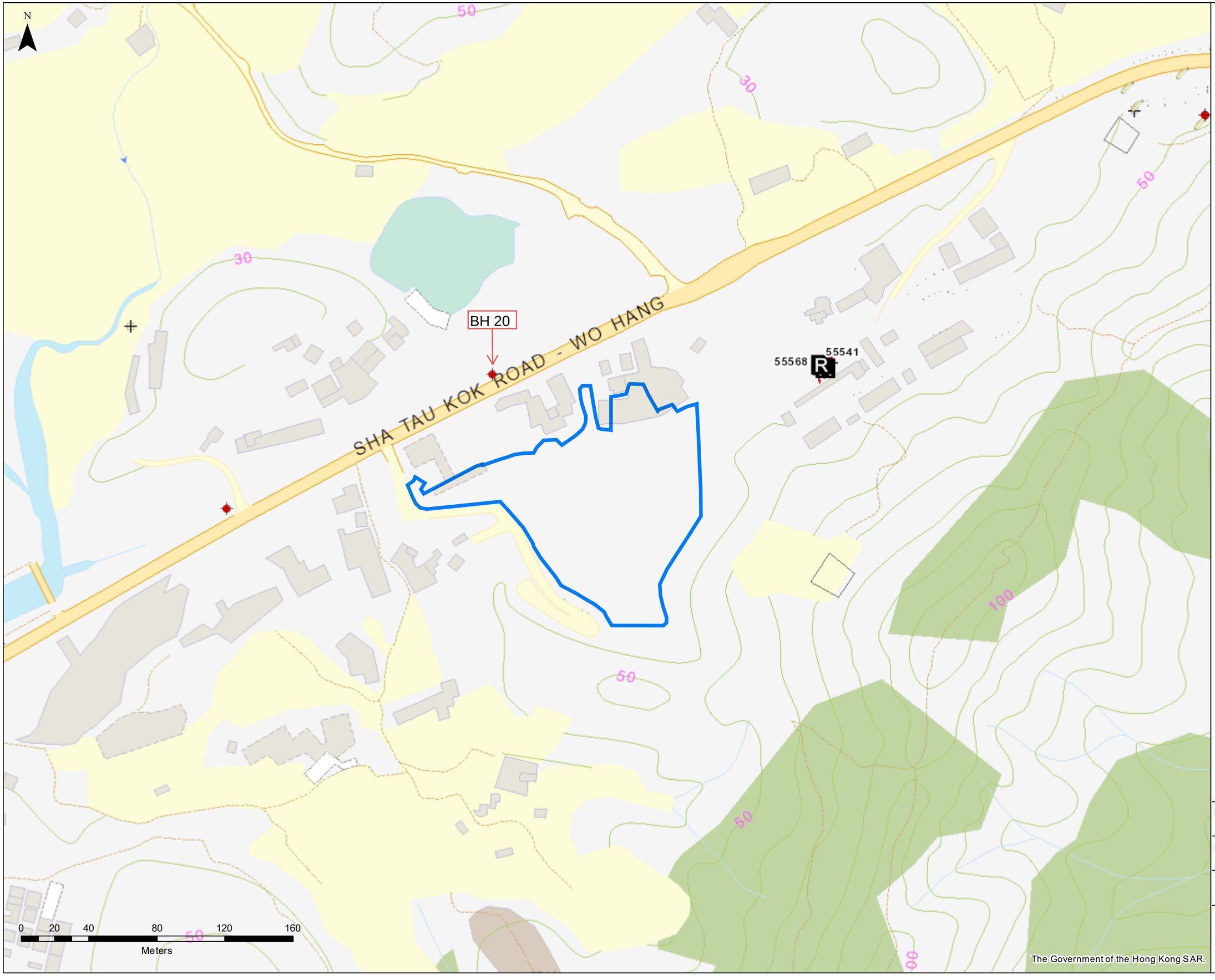
Signed : Carrielam
(Mrs Carrie Lam)
Secretary for Development

Date : 16 MAY 2012

SCALE 1 : 40000 @ A1
DRAWING NO. KCR/WR/RP/100
REV 3
DATE SEP2002
MTRC CAD REFERENCE NO. WRRP1CO_3.DGN

Appendix D – Existing GI Record

[Title]



GIU Report

GI Location

<all other values>

Slope striping

Cone Penetration Test

GCO Probe

Grab Samples

Impression Packer Test

Trial pit

PR

Rock joint survey

Trial trench

Division

Scale 1:2,000

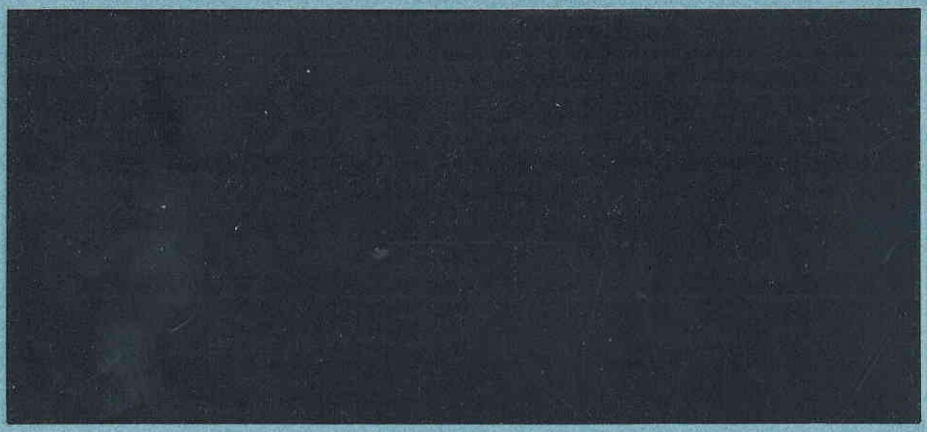
Date 04/04/2025

GEOTECHNICAL ENGINEERING OFFICE

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

DRILTECH

DrilTech Ground Engineering Ltd.
鑽達地質工程有限公司



DRiLTECH

CONTRACT NO. GE/2003/19
GROUND INVESTIGATION – NEW TERRITORIES EAST
(TERM CONTRACT)

WORKS ORDER NO. GE/2003/19.29
Agreement No. CE 6/2002 (DS)
Drainage Improvement in Northern NT – Package C
Investigation, Design and Construction (Man Uk Ping)

Ground Investigation

FINAL FIELD WORK REPORT

Checked in accordance with Contract No. GE/2003/19 requirements and accepted.
Signed _____ Date 14/4/05

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
GEOTECHNICAL INFORMATION UNIT

Report No.	41501
AREA Ref.	

Report Type	Coll. Indicator
☑ Ground Investigation Report	☑ Open Section
☐ Geophysics Report	☐ Govt Section
☐ Groundwater Report	☐ Others
☐ Laboratory Test Report	
☐ Site Specific Non-GEO Report	
☐ Miscellaneous Report	

With ( ) 3½" diskeltes(s)

Certified as Checked

Clement Lun
Geotechnical Engineer

Certified as Complete by

K C Sung
Contractor's Representative

CONTRACTOR
DRiLTECH Ground Engineering Ltd.
Blk A & B, 9/F., Hong Kong Spinners Industrial Bldg.
Phase VI,
481 – 483 Castle Peak Road,
Kowloon.

CLIENT
Geotechnical Engineering Office,
Civil Engineering and Development Department,
25/F, No. 410,
Kwun Tong Road, Kowloon

24th March 2005

DrilTech Ground Engineering Ltd.
BLK A & B, HONG KONG SPINNERS IND. BLDG, PHASE VI,481-483 CASTLE PEAK RD, KLN, HONG KONG
TEL: 2371 0008 FAX: 2744 1037 E-Mail: driltech@driltech.com.hk WEBSITE: driltech.com.hk

CONTRACT DATA SUMMARY

Project Name & No. *Ground Investigation -* *New Territories East* *(Term Contract)*	**Site Name** *Works Order No. GE/2003/19.29* *Agreement No. CE 6/2002 (DS)* *Drainage Improvement in Northern NT - Package C* *Investigation, Design and Construction* *(Man Uk Ping) Ground Investigation*	**Date:** *07-Jan-05* to *29-Mar-05* **Official Only** **G.E.O. Data Bank No.**
G.I. Contractor *DrilTech Ground Engineering Ltd.*	**Client** *Geotechnical Engineering Office* *Civil Engineering and Development Department*	
Contract No. *GE/2003/19*	**Consulting Engineer** *Black & Veatch Hong Kong Ltd*	**File Ref.**

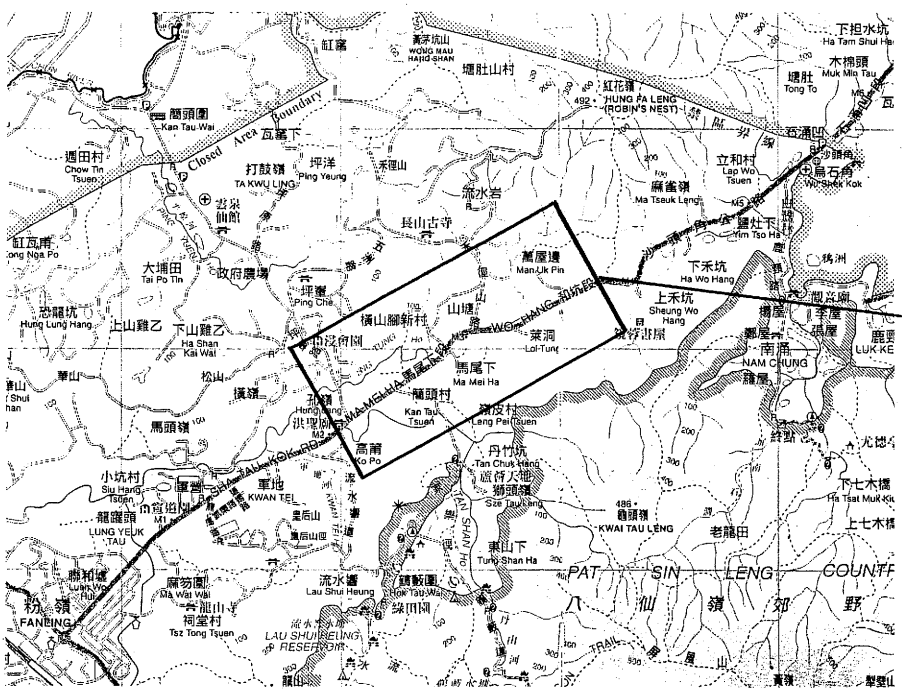
FIELD WORK SUMMARY

Drillholes:	**No.**	*11*	**Method:**	*Rotary*			**Date:**	*10-Jan-05* to *24-Mar-05*
Trial Pits:	**No.**	*3*	**Trial Trenches:**	**No.**	*Nil*			
Coreholes:	**No.**	*Nil*	**Strippings:**	**No.**	*Nil*		**Probes:**	**No.** *Nil*
Piezometers:	**No.**	*7*	**Standpipes:**	**No.**	*2*		**Piezometer Buckets:**	**No.** *18*
Insitu Tests:	**No.**	*75*	**Types:**	*Response Test (9), Constant Head Tests (2), SPT (62)* *Impression Packer Tests (2), Falling Head Test (1)*				
Geophysics:	**No.**	*Nil*	**Types:**	*Nil*				

LABORATORY TESTING SUMMARY

No. of each type of test:					Date: to
SOIL	Physical Properties	LL	PL	PSD	MC
		SG			
	Strength Tests	Cum.	NOT APPLICABLE		Shear Box
	Compaction & CBR Tests	Stand		r	CBR
	Oedometer & Perm. Tests	Cv	k		
	Others	Split Mazier			
ROCK		Pt Load	UC	Shear Box	US Vel.

LOCATION PLAN Scale 1: 71,400 Derived from : 2001 Hong Kong Guidebook



	G.I.	Laboratory	Geotechnical Engineering Office
Contractor	*DrilTech Ground Engineering Ltd.*	---	**Civil Engineering and Development Department**
Works Order No.	*GE/2003/19.29*	---	

DRiLTECH

CONTRACT NO. GE/2003/19
GROUND INVESTIGATION - NEW TERRITORIES EAST
(TERM CONTRACT)

WORKS ORDER NO. GE/2003/19.29
Agreement No. CE 6/2002 (DS)
Drainage Improvement in Northern NT - Package C
Investigation, Design and Construction (Man Uk Ping)

Ground Investigation

FINAL FIELD WORK REPORT

CONTENTS

DRiLTECH

CONTRACT NO. GE/2003/19
GROUND INVESTIGATION - NEW TERRITORIES EAST
(TERM CONTRACT)

WORKS ORDER NO. GE/2003/19.29
Agreement No. CE 6/2002 (DS)
Drainage Improvement in Northern NT - Package C
Investigation, Design and Construction (Man Uk Ping)

Ground Investigation

FINAL FIELD WORK REPORT

1. Introduction

DRiLTECH Ground Engineering Ltd. was awarded a 2-year Term Contract by the Geotechnical Engineering Office, Civil Engineering and Development Department of the Government of Hong Kong Special Administrative Region in November 2003 to carry out ground investigation works in the Eastern New Territories.

This report presents the results of ground investigation for the Agreement No. CE 6/2002 (DS) Drainage Improvement in Northern NT - Package C Investigation, Design and Construction (Man Uk Ping), under the Works Order No.GE/2003/19.29. The field work was carried out in a period between 10th January 2005 and 24th March 2005 under the supervision of Black & Veatch Hong Kong Ltd.

2. Site Location

The site is located along Sha Tau Kok Road-Wo Hang, Man Uk Ping, N.T. bounded within the following co-ordinates.

836 493E	842 970N
837 314E	842 970N
836 493E	842 144N
837 314E	842 144N

The locations of investigation stations are shown in the Drawing No. D269/1929/D001 in Appendix L.

3. Geology

According to the 1:20,000 scale, Sheet 3 of HGM20 Series Solid and Superficial Geology Map published by the Geotechnical Control Office (1991), the site is underlain by Terraced Alluvium, Debris Flow Deposit and bedrock of Undivided coarse ash Tuff and Undivided fine ash to coarse ash Tuffs, Tuff Breccia and Tuffite of Repulse Bay Volcanic Group, Upper Jurassic-Lower Cretaceous, Mesozoic.

3. Geology (Cont'd)

The results of investigation reveal that the site is composed of Fill, Alluvium and Saprolite. The thickness of the Fill stratum is ranged from 1.00m to 2.10m (except ST13 and ST14), whilst the Alluvium stratum is ranged 1.00m to 2.90m (except B25, ST13 and ST14). A thin layer of Colluvium was only found in ST13 with thickness of 0.95m.

Bedrock was encountered in drillholes B20, B21, B24, B25 and B28 with rockhead level ranged from +16.02mPD to -7.58mPD. The rockhead level for other drillholes can not be defined as drilling was terminated in the Saprolite stratum before reaching the rock head.

The drillhole results are further summarized in Table 2.

4. Field Works

Field works included sampling, field testing and field installation in eleven (11) drillholes (B20 to B28, ST13 and ST14) and three (3) trial pits (TP12 to TP14) were carried out at locations as shown in the Drawing No. D269/1929/D001 in Appendix L as specified in the Works Order. Piezometers and standpipes with piezometer (Halcrow) buckets were installed in designated drillholes to specified depths.

4.1 Drillholes

The field works at the drillholes were carried out using a hydraulic rotary drilling rig with water as flushing medium. SW, PW and HW casings equipped with tungsten carbide cutting shoes were used to advance the holes. The drillholes were terminated at specified depths.

Undisturbed Mazier samples were generally taken at 2.00m intervals using a standard Mazier triple tube retractable core barrel which was fitted with a detachable 74mm I.D., 1000mm long clear ABS plastic liner, except ST13 and ST14 in which continuous U100 samples were taken. A retractable cutting shoe projecting from the tungsten core bit was used to penetrate the materials being sampled and to protect the sample from being disturbed by the drilling fluid.

The recovered samples were sealed with wax and protected with rubber cap at both ends. Small-disturbed samples were taken from the cutting shoes and were kept in airtight jars as jar samples.

Rock core samples were taken using T2-101 core barrels.

The disturbed and undisturbed samples and rock core samples are reported at relevant depths in the Drillhole Record sheets in Appendix C. Record photographs of the jar samples and core samples are included in Appendix D.

DRILTECH

4.2 Field Tests

4.2.1 Standard Penetration Tests

Standard Penetration Tests with liner samples were taken at specified depths in the drillholes B20 to B28. The tests were conducted according to BS1377 (1990 Part 9 Method 3.3) with modifications suggested in the Geoguide 2 and the Contract Specification.

The numbers of blows to drive a standard split-spoon sampler for the first 150mm penetration (seating drive) in 75mm increments and those for each 75mm penetration for the subsequent 300mm penetration were recorded. The "N" value was taken as the sum of the numbers of blows for the last 300mm penetration. Where the full penetration for seating drive was not achieved after 50 blows, the number of blows and the penetration achieved was recorded and the test continued with test drive at that point. The test was generally terminated where the total number of blows in test drive reached 100 regardless whether the full penetration of 300mm was achieved. In this case, the numbers of blows and the penetration achieved were recorded. During the test, the water level in the drillhole was maintained at or above the observed ground water level. Disturbed samples were retrieved from the cutting shoes as jar samples.

Liner samples were taken with the SPTs by including a line sample tube in the split barrel sampler in each test.

The depths of tests and the "N" values are presented in the Drillhole Record sheets in Appendix C.

4.2.2 Constant Head Permeability Tests

Two (2) Constant Head Permeability Tests were carried in drillholes B23 and B24 at specified depths.

The test section was formed by surrounding a 40mm ID G.I. standpipe, which was perforated over the test section, with filter materials and sealed with bentonite pellets according to the figure 27 of Geoguide 2.

The water table in the standpipe after installation was allowed to equalize with the ambient groundwater level before commencement of the test. This water level was measured and recorded. Fresh water was then fed at a constant rate into the standpipe to raise the water level in the standpipe to about 0.3m below the top. This water level was maintained by adjusting the rate of inflowing water. The inflow rates to maintain the constant water level were recorded at the intervals as specified in the Specification. The test was terminated when the inflow rates differed less than 10% in an interval of 10 minates.

The test data and the test results are presented in Appendix E

4.2.3 Falling Head Permeability Test

A Falling Head Permeability Test was carried out in drillhole B21 between 7.70m and 8.70m below the existing ground level.

The test section was formed by surrounding a 40mm ID G.I. standpipe, which was perforated over the test section, with filter materials and sealed with bentonite pellets (Figure 27, Geoguide 2).

Before commencement of test, the ambient ground water level was allowed to equalize. For this test, the ground water level was below the test section and the water level in the standpipe was allowed to drop to the bottom of the pipe. The water level in the standpipe was then raised to the top by feeding clean water into the standpipe (the initial water head, h_o). The water level was then allowed to drop and the distance dropped (h_t) was measured and recorded at specified time intervals until the water level dropped to the bottom of the standpipe. The test was repeated once to ensure consistent results. The permeability of soil being test was estimated in accordance with the information given in the Figure 28 to 30 of Geoguide 2. The data and the results of the test are presented in Appendix F.

4.2.4 Impression Packer Surveys

Impression packer surveys were carried out in the drillhole B24 in designated sections.

The surveys were carried out using an expandable impression packer attached with thermoplastic films of 1.5m lengths. A down hole compass was installed in an instrument house at the lower end. The packer was lowered to the specified survey section and was inflated by compressed air such that the thermoplastic films were pressed onto the drilled hole wall and traced the discontinuities of rock in the section under survey. The orientation of the thermoplastic films was recorded by the down hole compass installed at the low end of the packer; the orientation of the compass was fixed by a chemical compound which was activated when the packer was inflated by the compressed air. The direction of North was transferred to the thermoplastic films as a reference line for determination of orientations of the discontinuities recorded on the films. The traced discontinuities on the thermoplastic films were then matched with the discontinuities on the rock cores and the reference line of North was transferred to the core samples. Based on the reference line established, the orientations of discontinuities on the rock cores were measured.

The results of measurement are presented in the Discontinuity Log in Appendix G.

4.2.5 Dynamic Probing (GCO Probe) Tests

Dynamic Probing Tests were carried out at specified locations and on the trial pit before excavation and after backfilling compaction using a GCO Probe. The features of the Probe are given in the Figure 36 of Geoguide 2.

A rod with diameter of approximately 12mm was driven into the ground by a hammer of 10kg in weight dropping freely from a height of 300mm. The rod was equipped at its lower end with a driving point, which was 25mm in diameter with a cylindrical portion of about 25mm long and a conical tip with an apex angle of approximately 45°.

The numbers of blows required for the hammer to drive the rod into the ground for each 100mm were recorded. The tests were carried out to specified depths or to the refusal where penetration for 100 blows was less than 100mm. Where refusal was encountered above the anticipated depth, one replacement probing test was attempted at an adjacent location.

The results of the probing tests are presented in Appendix H. The results of post compaction backfilling probing were submitted for approval of backfilling compaction and are not included again in this report.

4.3 Inspection Pits and Trial Pits

Trial pits and inspection pits were excavated manually using hand tools.

An inspection pit was excavated at each of the drillhole locations prior to drilling commencement to ensure that no underground utility would be damaged by the investigation works.

The trial pits were excavated to expose the underground materials for inspection and sampling. Undisturbed U100 sample and large disturbed samples were taken at specified locations and depths using hand tools. Small disturbed samples were taken at 0.50m intervals starting from the ground level.

The trial pits were inspected and logged and the results are reported in the Trial Pit Records in Appendix C. Record photographs taken on each side of the trial pits are presented in Appendix D.

The trial pits were subsequently backfilled with excavated materials and were compacted using portable tools.

4.4 Field Installations

4.4.1 Piezometers

Piezometers of Casagrande type were installed with 25mm I.D. PVC riser pipes in all drillholes, except B23, B25, ST13 and ST14 at specified depths. The piezometer tips were surrounded by clean sand of grading between 1,200 and 210 microns and were sealed with bentonite pellets to form response zones of specified lengths.

4.4.2 Standpipes

Standpipes were installed in drillholes B23 and B25 to specified depths. The standpipes comprised 25mm I.D. PVC riser pipes surrounded by clean inert aggregate filter of size between 10mm and 16mm. The standpipe tube was capped at the base and was perforated about 5% of the surface area from 0.5m below the top to the bottom of the tube and was protected by nylon mesh.

Response tests were carried out on the piezometers and standpipes after completion of installation. The details of installations and the response test results are included in Appendix I.

Readings of water levels in the piezometers and standpipes were taken daily for 7 days following the completion of response tests. The results are presented in Appendix J.

The details of installation are summarized in Table 3.

4.4.3 Piezometer (Halcrow) Buckets

Halcrow type piezometer buckets were installed in the selected piezometers and standpipe at specified depths. The bucket strings were fabricated in accordance with the Figure 23 of Geoguide 2.

A summary of installations is presented in Table 3.

5. Soil and Rock Descriptions

The soils and rocks encountered in the investigation have generally been described according to the Geoguide 3, Guide to Rock and Soil Descriptions, except for the following terms which are used for the secondary constituents other than clay, silt and sand, in composition of common ground:

"with occasional" for less than 5%, and
"with some" for between 5% and 20%; and
"with much or many" for greater than 20%

The classification and definitions of the descriptive terms are presented in Appendix A.

DRiLTECH

5. Soil and Rock Descriptions (Cont'd)

The delineation of various strata was primary based on examination of disturbed samples and core samples recovered from the drillholes and the exposed faces of trial pits. The results are presented in Appendix C in form of Drillhole and Trial Pit Records, which have been finalized by incorporating comments provided by Black & Veatch Hong Kong Limited.

The legends used in these records are summarized in Appendix B.

6. Surveying

The locations of investigation stations were surveyed using theodolite and the results are related to the Hong Kong Grid System. The co-ordinates and levels of these investigation stations are presented on the relevant records and are summarized in Table 1.

7. Digital Data Record

The data of the ground investigation works are also provided in an electronic format on a 3.5" floppy disk. The format complies with the 3rd edition of the Association of Geotechnical and Geoenvironmental Specialists (AGS) Publication 'Electronic Transfer of Geotechnical and Geoenvironmental Data'. The record is included in Appendix M.

8. References

1. Geotechnical Control Office (1991), Geological Map of Hong Kong HGM20, Sheet 3 (Edition 1) 1:20,000
2. Geotechnical Engineering Office (2nd Reprint, 1994), Guide to Rock and Soil Descriptions (Geoguide 3)
3. Geotechnical Engineering Office (4th Reprint, 2000), Guide to Site Investigation (Geoguide 2)
4. Association of Geotechnical & Geoenvironmental Specialists (1999), Electronic Transfer of Geotechnical and Geoenvironmental Data, 3rd Edition
5. BS 5930: 1981, the "Code of Practice for Site Investigation"

TABLES

DRiLTECH

Contract No. GE/2003/19
Ground Investigation - New Territories East (Term Contract)

Works Order No. GE/2003/19.29
Agreement No. CE 6/2002 (DS)
Drainage Improvement in Northern NT - Package C
Investigation, Design and Construction (Man Uk Ping)

Final Field Work Report

Table 1 - Survey Records

Station No.	Ground Level/ Reference Level (mPD)	Easting	Northing
B20	+ 25.74	837313.12	842697.16
B21	+ 24.88	837156.68	842618.35
B22	+ 25.83	837111.26	842932.32
B23	+ 26.30	836857.40	842969.76
B24	+ 21.90	836956.72	842718.12
B25	+ 18.69	836911.61	842516.07
B26	+ 18.44	836713.44	842442.50
B27	+ 16.94	836493.01	842431.77
B28	+ 20.47	836836.91	842332.00
ST13	+ 17.68	836850.41	842489.59
ST14	+ 16.12	836629.33	842432.79
TP12	+ 21.93	837100.49	842725.69
TP13	+ 25.09	836900.10	842910.78
TP14	+ 25.28	836960.47	842144.75

DRILTECH

Contract No. GE/2003/19
Ground Investigation - New Territories East (Term Contract)

Works Order No. GE/2003/19.29
Agreement No. CE 6/2002 (DS)
Drainage Improvement in Northern NT - Package C
Investigation, Design and Construction (Man Uk Ping)

Final Field Work Report

Table 2 - Summary of Drillhole Record

Drillhole No.	Existing Ground Level (mPD)	Fill Bottom Level, (mPD)	Alluvium Bottom Level (mPD)	Colluvium Bottom Level (mPD)	Residual Soil to Highlty Decomposed Rock (mPD)	Moderately Decomposed or Less Decomposed Rock (Top Level, mPD)	Rock Type	End of Hole (mPD)	Remarks
B20	+25.74	+24.74	+22.64	-	+16.02	+16.02	Coarse ash crystal TUFF	+10.51	
B21	+24.88	+ 22.78	+ 20.88	-	+0.68	+0.68	Coarse ash crystal TUFF	-5.06	
B22	+25.83	+ 23.83	+ 21.83	-	+21.83 to "*"	-	Coarse ash crystal TUFF	+10.73	
B23	+26.30	+ 24.30	+ 21.87	-	+21.87 to "*"	-	Coarse ash crystal TUFF	+11.25	
B24	+21.90	+ 20.70	+ 19.40	-	+4.98	+4.98	Coarse ash crystal TUFF	-3.13	With completely decomposed zone
B25	+18.69	+ 16.99	-	-	-7.58	-7.58	Coarse ash crystal TUFF	-11.31	
B26	+18.44	+ 17.44	+ 16.44	-	+16.44 to "*"	-	Coarse ash crystal TUFF	+3.64	
B27	+16.94	+ 15.94	+ 14.94	-	+14.94 to "*"	-	Coarse ash crystal TUFF	+1.84	
B28	+20.47	+ 18.47	+ 15.57	-	+13.42	+13.42	Coarse ash crystal TUFF	+5.35	With completely and highly decomposed zones
ST13	+17.68	-	-	16.73	+16.73 to "*"	-	Coarse ash crystal TUFF	+14.78	

DRiLTECH

Contract No. GE/2003/19
Ground Investigation - New Territories East (Term Contract)

Works Order No. GE/2003/19.29
Agreement No. CE 6/2002 (DS)
Drainage Improvement in Northern NT - Package C
Investigation, Design and Construction (Man Uk Ping)

Final Field Work Report

Table 2 - Summary of Drillhole Record

Drillhole No.	Existing Ground Level (mPD)	Fill Bottom Level, (mPD)	Alluvium Bottom Level (mPD)	Colluvium Bottom Level (mPD)	Residual Soil to Highlty Decomposed Rock (mPD)	Moderately Decomposed or Less Decomposed Rock (Top Level, mPD)	Rock Type	End of Hole (mPD)	Remarks
ST14	+16.12	-	-	-	+16.12 to "*"	-	Coarse ash crystal TUFF	+ 12.77	

Remarks:
1. Where stratum descriptions straddle two decomposition grades, the most decomposed grade is reported in the above table.
2. For ease of reference, the strata less than 0.5m are not included in the table. Please refer to the Drillhole Records for detailed geology description.
3. '*' Bottom level of the stratum cannot be determined.

DRiLTECH

Contract No. GE/2003/19
Ground Investigation - New Territories East (Term Contract)

Works Order No. GE/2003/19.29
Agreement No. CE 6/2002 (DS)
Drainage Improvement in Northern NT - Package C
Investigation, Design and Construction (Man Uk Ping)

Final Field Work Report

Table 3 - Summary of Field Testing and Field Installation

Station No.	Type of Test	Test Zone/ Test Depth (m bgl)	Type of Installation	Installation Tip/ End Depth (m bgl)	Response Zone (m bgl)	Install Halcrow Buckets		Remarks
						Level (m bgl)	Spacing (m)	
B20			Piezometer	9.20	8.20 to 9.70	0.50 to 2.50	0.5	
B21			Piezometer	23.20	22.20 to 23.70	1.00 to 3.00	0.5	
B21	Falling	7.70 to 8.70						
B22			Piezometer	14.10	13.10 to 14.60	0.50 to 1.50	0.5	
B23			Standpipe	14.60	4.00 to 15.05	0.50 to 2.50	0.5	
B23	Constant	9.50 to 10.50						
B24			Piezometer	16.50	15.50 to 17.00			
B24	Constant	9.00 to 10.00						
B24	IP	20.00 to 21.50 and 21.20 to 22.70						
B25			Standpipe	29.50	1.00 to 30.00			
B26			Piezometer	13.80	12.80 to 14.30			
B27			Piezometer	14.10	13.10 to 14.60			
B28			Piezometer	6.50	5.50 to 7.00			

Notes:
IP - Impression Packer Survey
Vane - Vane Shear Test
Sand - In-Situ Density Test
Rising - Rising Head Permeability Test
Constant - Constant Head Permeability Test
Packer - Water Absorption Test
Pressuremeter - Pressuremeter Test
Falling - Falling Head Permeability Test
GCO - Dynamic Probing Test

APPENDIX A

Checklists for Soil & Rock Descriptions

CHECKLIST FOR SOIL DESCRIPTION

GEOTECHNICAL ENGINEERING OFFICE, HKSAR

1. STRENGTH (Compactness & Consistency)

Soil Type	Term	Identification
Very Coarse (COBBLES & BOULDERS)	Loose	By inspection of voids and particle packing in the field.
	Dense	
Coarse (SANDS & GRAVELS)	Very loose	SPT 'N' value 0-4.
	Loose	SPT 4-10; can be excavated with spade; 50 mm peg easily driven.
	Medium dense	SPT 10-30.
	Dense	SPT 30-50; requires pick for excavation; 50 mm peg hard to drive.
	Very dense	SPT > 50.
Fine (CLAYS & SILTS)	Very soft	Undrained shear strength (USS) < 20 kPa; exudes between fingers when squeezed in hand.
	Soft	USS 20-40 kPa; moulded by light finger pressure.
	Firm	USS 40-75 kPa; can be moulded by strong finger pressure.
	Stiff	USS 75-150 kPa; cannot be moulded by fingers; can be indented by thumb.
	Very stiff or hard	USS > 150 kPa; can be indented by thumbnail.
Organic (ORGANIC CLAYS, SILTS SANDS & PEATS)	Compact	Fibres already compressed together.
	Spongy	Very compressible and open structure.
	Plastic	Can be moulded in hand and smears fingers.

Terms applicable only to transported soils. For soils derived from insitu rock weathering, record actual values of quantitative tests (e.g. SPT 'N' value) as part of the description, where appropriate.

2. COLOUR

Parameter	Terms
Value	Light, Dark
Chroma	Pinkish, Reddish, Yellowish, Orangish, Brownish, Greenish, Bluish, Purplish, Greyish
Hue	Pink, Red, Yellow, Orange, Brown, Green, Blue, Purple, White, Grey, Black

For uniform colour distribution, choose a hue, supplemented by a value and/or chroma if necessary.

For non-uniform distribution, repeat this procedure using one of the following descriptors: spotted, mottled, dappled, streaked, striped (e.g. light yellowish brown mottled with red).

State whether sample was wet or dry when described.

3. PARTICLE SHAPE & COMPOSITION

Characteristic	Terms
Form	Equidimensional, Flat, Elongate, Flat & Elongate
Angularity	Angular, Subangular, Subrounded, Rounded
Surface Texture	Smooth, Rough, Glassy, Honeycombed, Pitted, Striated

Describe composition of coarse particles where appropriate. Gravel and larger particles are usually rock fragments (e.g. granite, tuff); sand particles are usually individual minerals (e.g. quartz, feldspar).

4. STRUCTURE

Soil Type	Term	Identification
Coarse & Fine	Homogenous	Deposit consists essentially of one type.
	Interstratified (Interbedded or Interlaminated)	Alternating layers of varying types or with bands or lenses of other materials.
Coarse	Heterogenous	A mixture of types.
Fine	Fissured	Breaks into polyhedral fragments along fissures.
	Intact	No fissures.
Organic	Fibrous	Plant remains recognizable & retain some strength.
	Amorphous	No recognizable plant remains.

Describe spacing of bedding planes, fissures, shell bands, etc using the spacing terms given in items 6 & 7 for rock description (see other side).

Above terms applicable only to transported soils. For soils derived from insitu rock weathering, describe relict structures in accordance with item 6 of rock description (see other side).

5. WEATHERING

Soils Derived from Insitu Weathering of Rocks

There are two main types: saprolites (rock texture/structure retained) and residual soils (rock texture/structure completely destroyed). Describe state of weathering in accordance with items 4 & 8 for rock description (see other side).

Sedimentary (Transported) Soils

Coarse soils: Describe overall discolouration of soil and degree of decomposition of gravel and larger particles (see item 4, other side). Also note any signs of disintegration of large particles where apparent.

Fine Soils: Describe overall discolouration of soil where apparent.

6. SOIL NAME

A. Basic Soil Types

Soil Type	Particle Sizes (mm)		Identification
BOULDERS	–	> 200	Only seen complete in pits or exposures.
COBBLES	–	60 - 200	Often difficult to recover from boreholes.
GRAVELS	Coarse	20 - 60	Easily visible to naked eye; particle shape and grading can be described.
	Medium	6 - 20	Well-graded: wide range of grain sizes.
	Fine	2 - 6	Poorly-graded: not well-graded (split further into uniform or gap-graded).
SANDS	Coarse	0.6 - 2	Visible to naked eye; very little or no cohesion; grading can be described.
	Medium	0.2 - 0.6	May be well-graded or poorly-graded (uniform or gap-graded) as for gravel.
	Fine	0.06 - 0.2	
SILTS	Coarse	0.02 - 0.06	Only coarse silt barely visible to naked eye; exhibits little plasticity and marked dilatancy; slightly granular or silky to the touch. Disintegrates in water; lumps dry quickly; possesses cohesion but can be powdered easily between fingers.
	Medium	0.006 - 0.02	
	Fine	0.002 - 0.006	
CLAYS	–	< 0.002	Dry lumps can be broken by hand but not powdered between the fingers. Disintegrates in water more slowly than silt; smooth to the touch; exhibits plasticity but no dilatancy; sticks to the fingers and dries slowly; shrinks appreciably on drying, usually showing cracks. These properties more noticeable with increasing plasticity.
ORGANIC CLAYS, SILTS OR SANDS	–	varies	Contains much organic vegetable matter; often has a noticeable smell and changes colour on oxidation.
PEATS	–	varies	Predominantly plant remains; usually dark brown or black in colour, often with distinctive smell; low bulk density.

B. Composite Soil Types (Mixtures of Basic Types)

Principal Soil Type	Terminology Sequence	Term for Secondary Constituent	% of Secondary Constituent
Very coarse (BOULDERS & COBBLES) (> 50% of soil > 60 mm)	Secondary constituents (finer material) ▲ after principal	With a little	< 5
		With some	5 - 20
		With much	20 - 50
Coarse (GRAVELS & SANDS) (> 65% gravel & sand sizes)	Secondary constituents before principal (excluding cobbles & boulders) +	Slightly (silty, clayey or silty/clayey) ✱	< 5
		- (silty, clayey or silty/clayey) ✱	5 - 15
		Very (silty, clayey or silty/clayey) ✱ AND/OR	15 - 35
		Slightly (gravelly or sandy) ✱	< 5
		- (gravelly or sandy) ✱	5 - 20
		Very (gravelly or sandy) ✱	20 - 50
Fine (SILTS & CLAYS) (> 35% silt & clay sizes)	Secondary constituents before principal (excluding cobbles & boulders) +	Slightly (gravelly or sandy or both) ✱	< 35
		- (gravelly or sandy) ✱	35 - 65

▲ Full name of finer material should be given (see examples below).

✱ Secondary soil type as appropriate; use 'silty/clayey' when a distinction cannot be made between the two.

\+ If cobbles or boulders are also present in a coarse or fine soil, this can be indicated by using one of the following terms relating to the very coarse fraction after the principal: 'with occasional' (< 5), 'with some' (5-20), 'with many' (20-50), where figures in brackets are % very coarse material expressed as a fraction of the whole soil (see examples below).

Examples: Slightly silty/clayey, sandy GRAVEL. Slightly gravelly, sandy SILT. Very gravelly SAND. Sandy GRAVEL with occasional boulders. BOULDERS with much finer material (silty/clayey, very sandy gravel).

For fine soils, plasticity terms should also be described where possible, viz: 'non-plastic' (generally silts), 'intermediate plasticity' (lean clays), 'high plasticity' (fat clays).

7. DISCONTINUITIES

Full description of discontinuities, where necessary, should be made using the methods and terms given in item 7 for rock description (see other side).

8. ADDITIONAL GEOLOGICAL INFORMATION

Record geological name which indicates geological origin or soil type (e.g. Alluvium, Colluvium, Marine sand etc.). Refer to HKGS maps & memoirs for further information.

NOTES:

1. Mass characteristics of soils (i.e. structure, weathering, discontinuities) can only be described satisfactorily in undisturbed field exposures or large undisturbed samples.
2. For full descriptions of soils derived from insitu rock weathering:
   (a) saprolites - describe as rocks, supplemented by soil strength and soil name terms in brackets,
   (b) residual soils - describe as soils, supplemented by name of parent rock where apparent from field evidence.

CHECKLIST FOR ROCK DESCRIPTION

GEOTECHNICAL ENGINEERING OFFICE, HKSAR

1. STRENGTH

Term	Identification
Extremely weak	Easily crumbled by hand; indented deeply by thumbnail.
Very weak	Crumbled with difficulty; scratched easily by thumbnail; peeled easily by pocket knife.
Weak	Broken into pieces by hand; scratched by thumbnail; peeled by pocket knife; deep indentations (to 5 mm) by point of geological pick; hand-held specimen easily broken by single light hammer blow.
Moderately weak	Broken with difficulty in two hands; scratched with difficulty by thumbnail; difficult to peel but easily scratched by pocket knife; shallow indentations easily made by point of pick; hand-held specimen usually broken by single light hammer blow.
Moderately strong	Scratched by pocket knife; shallow indentations made by firm blow with point of pick; hand-held specimen usually broken by single firm hammer blow. Point load strength (PLS) 0.5 - 2 MPa.
Strong	Firm blows with point of pick cause only superficial surface damage; hand-held specimen requires more than one firm hammer blow to break. PLS 2 - 4 MPa.
Very strong	Many hammer blows required to break specimen. PLS 4 - 8 MPa.
Extremely strong	Specimen only chipped by hammer blows. PLS > 8 MPa.

2. COLOUR

Parameter	Terms
Value	Light, Dark
Chroma	Pinkish, Reddish, Yellowish, Orangish, Brownish, Greenish, Bluish, Purplish, Greyish
Hue	Pink, Red, Yellow, Orange, Brown, Green, Blue, Purple, White, Grey, Black

For uniform colour distribution, choose a hue, supplemented by a value and/or chroma if necessary.

For non-uniform distribution, repeat this procedure using one of the following descriptors: spotted, mottled, dappled, streaked, striped (e.g. light pinkish grey spotted with black).

State whether sample was wet or dry when described.

3. TEXTURE/FABRIC

Texture Terms (Applicable Mainly to Igneous Rocks)
Equigranular, Inequigranular, Megacrystic, Porphyritic, Crystalline, Cryptocrystalline, Aphanitic

Fabric
Describe preferred orientation of grains/crystals where apparent.

Describe intensity, spacing, continuity and any preferred orientation of microfractures where apparent.

4. MATERIAL WEATHERING/ALTERATION

Decomposition Term	Grade Symbol	Typical Characteristics
Residual Soil	VI	Original rock texture completely destroyed; can be crumbled by hand and finger pressure into constituent grains.
Completely Decomposed	V	Original rock texture preserved; can be crumbled by hand and finger pressure into constituent grains; easily indented by point of geological pick; slakes in water; completely discoloured compared with fresh rock.
Highly Decomposed	IV	Can be broken by hand into smaller pieces; makes a dull sound when struck by hammer; not easily indented by point of pick; does not slake in water; completely discoloured compared with fresh rock.
Moderately Decomposed	III	Cannot usually be broken by hand; easily broken by hammer; makes a dull or slight ringing sound when struck by hammer; completely stained throughout.
Slightly Decomposed	II	Not broken easily by hammer; makes a ringing sound when struck by hammer; fresh rock colours generally retained but stained near joint surfaces.
Fresh Rock	I	Not broken easily by hammer; makes a ringing sound when struck by hammer; no visible signs of decomposition (i.e. no discolouration).

This classification is applicable to igneous and volcanic rocks and other rocks of equivalent strength in fresh state.

Disintegration
Describe small-scale cracking and fracturing caused by mechanical weathering, where apparent.

Alteration
Describe state of alteration (e.g. mineralised, kaolinised) where apparent.

5. ROCK NAME (Including Grain Size)

Igneous	:	Coarse- (6-20 mm), Medium- (2-6 mm) & Fine- (0.06-2 mm) grained GRANITE; GRANODIORITE. Very Fine-grained (< 0.06 mm) RHYOLITE; BASALT. (Common types only, see Geoguide 3 for others).
Pyroclastic	:	PYROCLASTIC BRECCIA (> 60 mm), Lapilli TUFF (2-60 mm), Coarse ash TUFF (0.06-2 mm), Fine ash TUFF (< 0.06 mm).
Metamorphic	:	Foliated - SCHIST (> 0.06 mm), PHYLLITE (< 0.06 mm). Non-foliated - MARBLE, QUARTZITE, FAULT BRECCIA.
Sedimentary	:	CONGLOMERATE, BRECCIA (> 2 mm), SANDSTONE (0.06-2 mm), MUDSTONE (< 0.06 mm) = SILTSTONE (0.002-0.06 mm) + CLAYSTONE (< 0.002 mm). (Common types only).

If rock name cannot be identified, describe grain size quantitatively, including textural term where appropriate.

6. STRUCTURE

Structural Term	Rock Type
Bedded, Laminated, Massive	Sedimentary
Massive, Flow-banded	Igneous, Pyroclastic
Foliated, Banded, Cleaved	Metamorphic

Spacing of Planar Structures
Very thick (> 2 m), Thick (0.6-2 m), Medium (200-600 mm),
Thin (60-200 mm), Very thin (20-60 mm),
Thickly-laminated (Sedimentary) (6-20 mm) or Narrow (Igneous, Metamorphic) (6-20 mm),
Thinly-laminated (Sedimentary) (< 6 mm) or Very narrow (Igneous, Metamorphic) (< 6 mm).

Examples: Thickly-bedded SANDSTONE. Narrowly flow-banded RHYOLITE.

7. DISCONTINUITIES

Nature (Type of Discontinuity)

Fault zone	Cleavage	Fissure	Bedding
Fault	Schistocity	Tension crack	
Joint	Shear plane	Foliation	

Location and Orientation
Record location as co-ordinates or relative position along datum line, preferably on map or plan.

Record orientation as dip direction/dip in degrees (e.g. 032/55).

Spacing
Extremely widely-spaced (> 6 m), Very widely-spaced (2-6 m),
Widely-spaced (0.6-2 m), Medium-spaced (200-600 mm),
Closely-spaced (60-200 mm), Very closely-spaced (20-60 mm),
Extremely closely-spaced (< 20 mm).

In exposures, supplement spacing with description of rock block shape where possible. Descriptors: Blocky, Tabular, Columnar, Polyhedral.

Persistence (Areal extent or size of a discontinuity within a plane)
Measured maximum persistence dimension should be used where possible (e.g. the discontinuity trace length on the surfaces of rock exposures). For general descriptions of different discontinuity sets, relative terms should be used.

Roughness
Waviness (large-scale): Estimate/measure wavelength and amplitude in metres.
Unevenness (small-scale), use one term from the following:

Rough stepped	Smooth stepped	Slickensided stepped
Rough undulating	Smooth undulating	Slickensided undulating
Rough planar	Smooth planar	Slickensided planar

Aperture Size
Wide (> 200 mm), Moderately wide (60-200 mm), Moderately narrow (20-60 mm), Narrow (6-20 m), Very narrow (2-6 mm), Extremely narrow (> 0-2 mm), Tight (zero).

Infilling (Nature)

Clean	Surface staining	Decomposed/ disintegrated rock
Non-cohesive soil	Cohesive soil	
Calcite	Manganese	Quartz
Other (Specify)		Kaolin

Give full description of infill materials/minerals where appropriate.

Seepage

Dry	Damp/wet	Seepage present (estimate quantity in l/sec or l/min)

Fracture State
In borehole cores, measure the following: Total Core Recovery (TCR), Solid Core Recovery (SCR), Rock Quality Designation (RQD), Fracture Index (FI). See Geoguide 3 for definitions.

8. MASS WEATHERING

Term	Zone Symbol	Typical Characteristics
Residual Soil	RS	**Residual soil derived from insitu weathering; mass structure and material texture/fabric completely destroyed: 100% soil**
Partially Weathered Rock	PW	**Less than 30% rock**
	0/30	**Soil retains original mass structure and material texture/fabric (i.e. saprolite)** Rock content does not affect shear behaviour of mass, but relict discontinuities in soil may do so. Rock content may be significant for investigation and construction.
	PW	**30% to 50% rock**
	30/50	Both rock content and relict discontinuities may affect shear behaviour of mass.
	PW	**50% to 90% rock**
	50/90	Interlocked structure.
	PW	**Greater than 90% rock**
	90/100	Small amount of the material converted to soil along discontinuities.
Unweathered Rock	UW	**100% rock** May show slight discolouration along discontinuities.

9. ADDITIONAL GEOLOGICAL INFORMATION

Record geological formation name if known. Avoid conjecture. Refer to HKGS maps & memoirs for further information.

NOTES:

1. Rock material description normally includes: strength, colour, texture/fabric, material weathering/alteration and ROCK NAME.
2. Rock mass description normally includes: strength, colour, structure, mass weathering , ROCK NAME, discontinuities and additional geological information. Can be supplemented with more detailed information on texture/fabric and material weathering/alteration of different materials within the mass where necessary.

APPENDIX D

Photographs of Drillholes and Trial Pits

DRILLHOLE RECORD

DRiLTECH

CONTRACT NO. **GE/2003/19**

HOLE NO. **B20**

SHEET **1** of **2**

PROJECT **Agreement No. CE6/2002(DS), Drainage Improvement in Northern NT - Package C Investigation, Design and Construction (Man Uk Ping), Ground Investigation**

METHOD **ROTARY**	CO-ORDINATES E **837313.12** N **842697.16**	WORKS ORDER NO. **GE/2003/19.29**
MACHINE **SD-8**		DATE **20.01.2005** to **21.01.2005**
FLUSHING MEDIUM **WATER**	ORIENTATION **VERTICAL**	GROUND LEVEL **+25.74** mPD

Drilling Progress	Casing Size	Water Level (m) Shift Start/ End	Water Return%	TCR%	SCR%	RQD%	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
20.01.2005	SW								1 0.45	+25.74	0.00			Light yellowish brown (2.5Y6/4), dry, clayey silty sandy subangular GRAVEL of moderately strong tuff and quartz fragments. (FILL)
										+25.24	0.50			Soft, moist, brown (10YR4/3), sandy clayey SILT with occasional subangular gravel and rootlets. (FILL)
1									2 0.95	+24.74	1.00			Soft, moist, light yellowish brown (2.5Y6/3), slightly sandy, silty CLAY with occasional subangular fine gravel of quartz and rootlets. (ALLUVIUM)
									3 1.45					
2			80	100					4 2.00	+23.74	2.00			Soft, light greenish grey (10Y8/1), silty sandy CLAY with some subangular gravel of quartz. (ALLUVIUM)
									5 3.00					
3	SW								6 3.10	+22.64	3.10		V	Extremely weak, occasionally very weak, light grey (2.5Y7/2) to light yellowish brown (2.5Y6/4), completely decomposed coarse ash crystal TUFF with iron and manganese oxide stained relict joints. (Firm, slightly sandy, clayey SILT with occasional subangular gravel, occasional cobble sized rock fragments)
	PW							1,1 2,3,3,4 N=12	7 3.50					
4			80	100					8 4.00					
		Dry at 1800							9 5.00					
5									10 5.10					
20.01.2005 21.01.2005		1.60 at 0800						4,12 21,27,19,17 N=84	11 5.50					
6			80	100					12 6.00					
									13 7.00	+18.74	7.00			
7								4,13 20,23,35,22/45mm 100blS/270mm	14 7.10				V-IV	Very weak to weak, light yellowish brown (2.5Y6/4), completely to highly decomposed coarse ash crystal TUFF. (Very stiff, sandy clayey SILT with much gravel and occasional cobbles)
									15 7.47					
8	PW								16 8.00					
	HW		80	100										
9								7,18 53,47/35mm 100blS/110mm	17 9.00 18 9.10					
	HW								19 9.31					
10							NI		9.72 T2-101	+16.02	9.72 9.86 10.00		III	Moderately strong, light grey to brownish grey,

SMALL DISTURBED SAMPLE
LARGE DISTURBED SAMPLE
U76 SAMPLE
U100 SAMPLE
PISTON SAMPLE (76mm)
MAZIER / PT SAMPLE
SPT LINER SAMPLE
WATER SAMPLE

STANDARD PENETRATION TEST
IN-SITU VANE SHEAR TEST
IMPRESSION PACKER TEST
PERMEABILITY TEST
PRESSUREMETER TEST
PIEZOMETER TIP
STANDPIPE TIP

LOGGED L. Zhang
DATE 26.01.2005
CHECKED C. Lun
DATE 26.01.2005

REMARKS
1. An inspection pit was excavated to 1.50m deep by hand tools.
2. One piezometer was installed with tip at 9.20m.
3. 5 nos. of piezometer Halcrow Buckets were installed from 0.50m to 2.50m with 0.50m intervals.

DRiLTECH

DRILLHOLE RECORD

CONTRACT NO. **GE/2003/19**

HOLE NO. **B20**

SHEET **2** of **2**

PROJECT **Agreement No. CE6/2002(DS), Drainage Improvement in Northern NT - Package C Investigation, Design and Construction (Man Uk Ping), Ground Investigation**

METHOD **ROTARY**

MACHINE **SD-8**

FLUSHING MEDIUM **WATER**

CO-ORDINATES
E **837313.12**
N **842697.16**

WORKS ORDER NO. **GE/2003/19.29**

DATE **20.01.2005** to **21.01.2005**

GROUND LEVEL **+25.74** mPD

Drilling Progress	Casing Size	Water Level (m) Shift Start/ End	Water Return%	TCR%	SCR%	RQD%	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
11			80	85	52	33	12.2 >20 5.9		T2-101 10.86		10.15 10.38 10.86		III	moderately decomposed coarse ash crystal TUFF. Joints are closely to medium, occasionally very closely spaced, rough planar, very narrow to narrow, iron and manganese oxide stained, dipping at 5° to 15°, 25° to 35° and 65° to 75°.
12			80	100	90	85	7.1		T2-101 12.28					
13			80	100	93	87	>20 7.7		T2-101 13.77		13.38 13.51 13.77 13.87			
14			80	100	97	62	>20 5.6 18.6		T2-101		14.23 14.66			
15 21.01.2005		1.96 at 1800					5.3			+10.51	15.23			
16														End of hole at 15.23 m.
17														
18														
19														
20														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- U100 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER / PT SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- IMPRESSION PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- PIEZOMETER TIP
- STANDPIPE TIP

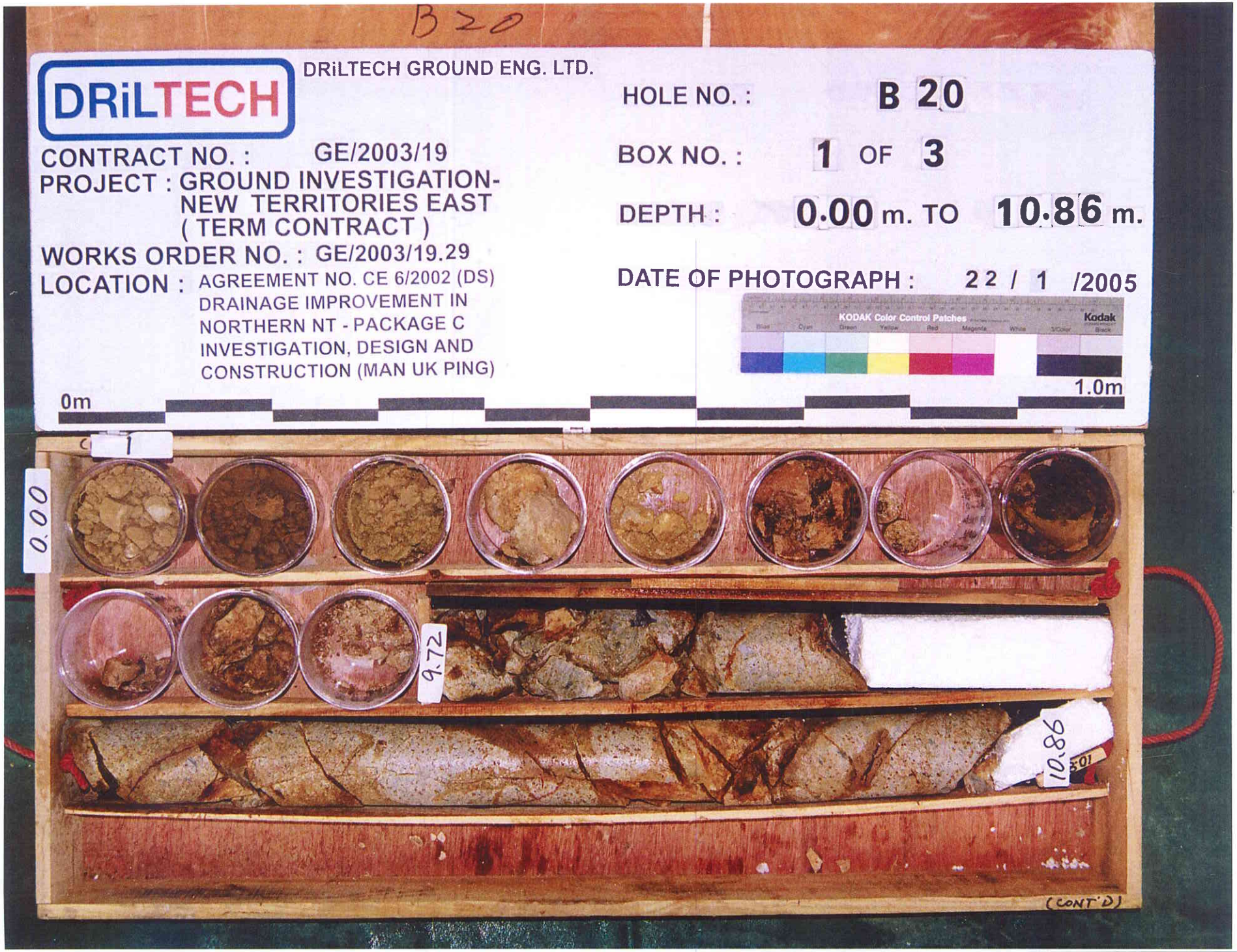
LOGGED **L. Zhang**

DATE **26.01.2005**

CHECKED **C. Lun**

DATE **26.01.2005**

REMARKS


B 20
DRiLTECH
DRiLTECH GROUND ENG. LTD.
HOLE NO. : B 20
CONTRACT NO. : GE/2003/19
BOX NO. : 1 OF 3
PROJECT : GROUND INVESTIGATION-
NEW TERRITORIES EAST
(TERM CONTRACT)
DEPTH : 0.00 m. TO 10.86 m.
WORKS ORDER NO. : GE/2003/19.29
LOCATION : AGREEMENT NO. CE 6/2002 (DS)
DRAINAGE IMPROVEMENT IN
NORTHERN NT - PACKAGE C
INVESTIGATION, DESIGN AND
CONSTRUCTION (MAN UK PING)
DATE OF PHOTOGRAPH : 22 / 1 /2005
KODAK Color Control Patches
Kodak
0m
1.0m
C 1
0.00
9.72
10.86
(CONT'D)


B20
DRiLTECH
DRiLTECH GROUND ENG. LTD.
HOLE NO. : B 20
CONTRACT NO. : GE/2003/19
PROJECT : GROUND INVESTIGATION-
NEW TERRITORIES EAST
(TERM CONTRACT)
BOX NO. : 2 OF 3
WORKS ORDER NO. : GE/2003/19. 29
DEPTH : 10.86 m. TO 14.33 m.
LOCATION : AGREEMENT NO. CE 6/2002 (DS)
DRAINAGE IMPROVEMENT IN
NORTHERN NT - PACKAGE C
INVESTIGATION, DESIGN AND
CONSTRUCTION (MAN UK PING)
DATE OF PHOTOGRAPH : 22 / 1 /2005
KODAK Color Control Patches
Kodak
1.0m
0m
(CONT'D)
10.86
12.28
13.77
(14.33)
(CONT'D)


DRiLTECH
DRiLTECH GROUND ENG. LTD.
HOLE NO. : B 20
CONTRACT NO. : GE/2003/19
PROJECT : GROUND INVESTIGATION-
NEW TERRITORIES EAST
(TERM CONTRACT)
BOX NO. : 3 OF 3
WORKS ORDER NO. : GE/2003/19. 29
DEPTH : 14.33 m. TO 15.23 m.
LOCATION : AGREEMENT NO. CE 6/2002 (DS)
DRAINAGE IMPROVEMENT IN
NORTHERN NT - PACKAGE C
INVESTIGATION, DESIGN AND
CONSTRUCTION (MAN UK PING)
DATE OF PHOTOGRAPH : 22 / 1 /2005
KODAK Color Control Patches
Kodak
0m
1.0m
(CONT'D)
(1433)
15.23
END
(END)

APPENDIX I

Drillholes Piezometer / Standpipe Detail and Response Test Record Sheets

DRiLTECH

DRILLHOLE PIEZOMETER DETAIL AND RESPONSE TEST RECORD SHEET

Drillhole No. : B20

Contract No. : GE/2003/19	Date of Installation : 22-Jan-2005
Works Order No. : GE/2003/19.29	Date of test : 24-Jan-2005
Project: Agreement No. CE6/2002(DS) Drainage Improvement in Northern NT - Package C Investigation, Design and Construction (Man Uk Ping)	Ground Level : +25.74 mPD
	Co-ordinates : E 837313.12 N 842697.16
Initial Water Level : 2.00 m below G.L.	Piezometer Tip Level : +16.54 mPD
Tested / Supervised by : B. Chan	Checked by : C. Lun
Dip meter I.D. : DT-024-003	Checked Date : 24-Jan-05

Time Elapsed (minutes)	Depth of Water from top of pipe (m)
0	0.00
0.25	0.55
0.50	1.50
0.75	1.70
1.00	1.86
1.50	2.10
2.00	2.16
3.00	2.20

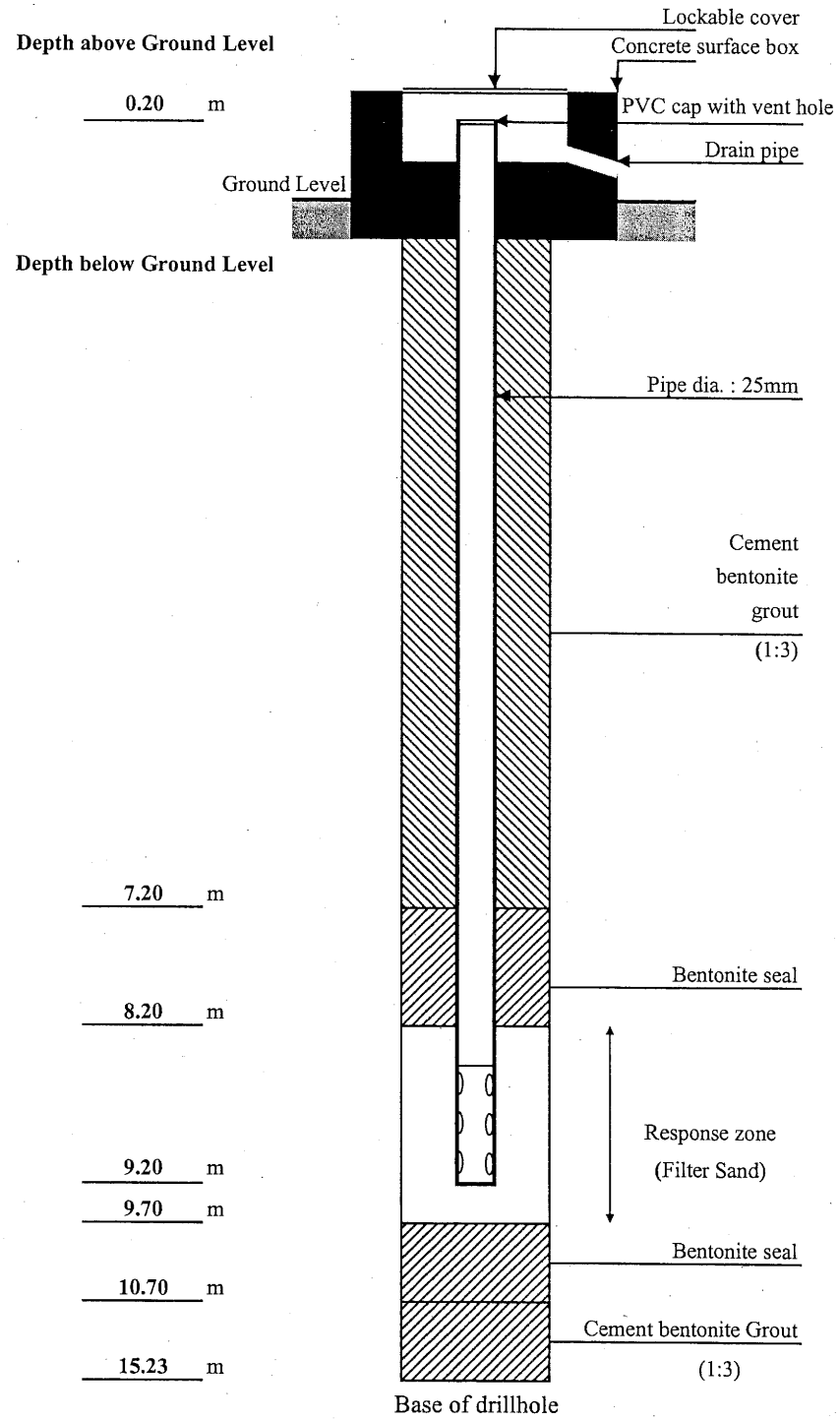
Filter Material: Sand

Material Surrounding Response Zone:

Completely to highly decomposed TUFF

Remarks :

DGEL\Site-F11b_03/02 STD



APPENDIX J

Water Level Monitoring Records

DRiLTECH

WATER LEVEL MONITORING RECORD

Station No. B20

Contract No. : GE/2003/19

Works Order No. : GE/2003/19.29

Project: Agreement No. CE6/2002(DS) Drainage Improvement in Northern NT - Package C Investigation, Design and Construction (Man Uk Ping)

Date of Installation : 22-Jan-05

Measured by : B. Chan

~~Standpipe~~/Piezometer*

Co-ordinates :

E 837313.12 N 842697.16

Ground Level : +25.74mPD

Tip Level : +16.54mPD

Dip Meter I.D. : DT-010-018

Date	Time	Depth of Ground Water Level/below G.L. (m)	Depth of Ground Water/Reduced Level (mPD)	Weather
25-Jan-05	10:00 AM	2.20	+23.54	Fine
26-Jan-05	11:00 AM	2.20	+23.54	Fine
27-Jan-05	4:00 PM	2.20	+23.54	Fine
28-Jan-05	3:00 PM	2.20	+23.54	Fine
29-Jan-05	12:00 PM	2.20	+23.54	Fine
31-Jan-05	1:35 PM	2.21	+23.53	Fine
1-Feb-05	12:50 PM	2.22	+23.52	Fine

Remarks :

* Delete as appropriate

DGEL\Site-F12 03/02 STD

APPENDIX K

Piezometer Buckets Records

DRiLTECH

PIEZOMETER BUCKETS RECORD

Drillhole /~~Trial Pit~~ No. : B20

Contract No. : GE/2003/19

Works Order No.: GE/2003/19.29

Project: Agreement No. CE 6/2002 (DS) Drainage Improvement in Northern NT - Package C Investigation, Design and Construction (Man Uk Ping)

Buckets : Number : 5
Depth : 0.50 m to 2.50 m
Spacing : 0.50 m
Date Installed : 24-Mar-05

Ground Level : +25.74 mPD

Top of Pipe : 0.20 m above / ~~below~~ G.L.

Depth of Tip : 9.20 m below G.L.

Tip Level of Pipe: +16.54 mPD

Date	Ground Water Level, Depth* measured by Dipmeter (m)	Buckets Found to Contain Water										Ground Water Level, Depth* indicated by buckets (m)	Comments/Weather	Recorded by
		Bucket No.:												
		1	2	3	4	5								
		Bucket Depth*:												
		0.50	1.00	1.50	2.00	2.50								

Remarks :

Checked by : C. Lun

Date : 24-Mar-05

Delete as appropriate

* Depth measured from ground level

BLK A & B, HONG KONG SPINNERS INDUSTRIAL BLDG, PHASE VI,
481-483 CASTLE PEAK ROAD, KOWLOON, HONG KONG
香港九龍青山道481-483號香港紗廠工業大廈第六期九樓 A,B 座

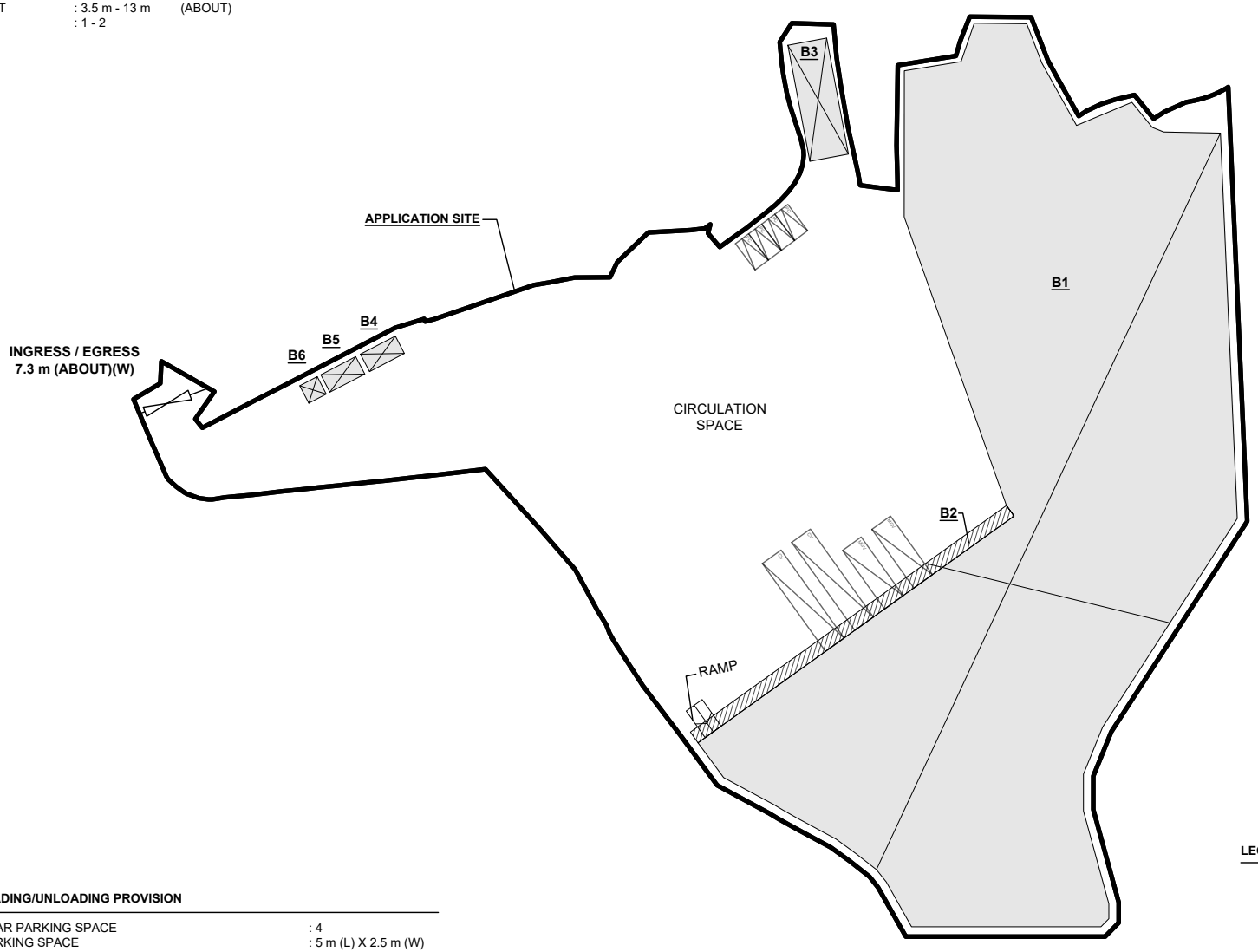
TEL: 2371 0008 FAX: 2744 1037
E-Mail: driltech@driltech.com.hk
WEBSITE: driltech.com.hk

Appendix E – Proposed Development Layout Plan

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 11,698 m^2	(ABOUT)
COVERED AREA	: 5,970 m^2	(ABOUT)
UNCOVERED AREA	: 5,728 m^2	(ABOUT)
PLOT RATIO	: 1.01	(ABOUT)
SITE COVERAGE	: 51 %	(ABOUT)
NO. OF STRUCTURE	: 6	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 11,776 m^2	(ABOUT)
TOTAL GFA	: 11,776 m^2	(ABOUT)
BUILDING HEIGHT	: 3.5 m - 13 m	(ABOUT)
NO. OF STOREY	: 1 - 2	

STRUCTURE	USE	COVERED AREA	GROSS FLOOR AREA	BUILDING HEIGHT
B1	WAREHOUSE (EXCL. D.G.G.)	5,698 m^2 (ABOUT)	11,396 m^2 (ABOUT)	13 m (ABOUT)(2-STOREY)
B2	RAIN SHELTER FOR L/UL	119 m^2 (ABOUT)	119 m^2 (ABOUT)	7 m (ABOUT)(1-STOREY)
B3	SITE OFFICE	108 m^2 (ABOUT)	216 m^2 (ABOUT)	7 m (ABOUT)(2-STOREY)
B4	UTILITIES AND METER ROOM	18 m^2 (ABOUT)	18 m^2 (ABOUT)	3.5 m (ABOUT)(1-STOREY)
B5	WASHROOM	18 m^2 (ABOUT)	18 m^2 (ABOUT)	3.5 m (ABOUT)(1-STOREY)
B6	CARETAKER OFFICE	9 m^2 (ABOUT)	9 m^2 (ABOUT)	3.5 m (ABOUT)(1-STOREY)
	TOTAL	**5,970 m^2 (ABOUT)**	**11,776 m^2 (ABOUT)**	



PARKING AND LOADING/UNLOADING PROVISION

NO. OF PRIVATE CAR PARKING SPACE	: 4
DIMENSION OF PARKING SPACE	: 5 m (L) X 2.5 m (W)
NO. OF LOADING/UNLOADING SPACE FOR MEDIUM GOODS VEHICLE	: 2
DIMENSION OF LOADING/UNLOADING SPACE	: 11 m (L) X 3.5 m (W)
NO. OF LOADING/UNLOADING SPACE FOR CONTAINER VEHICLE	: 2
DIMENSION OF LOADING/UNLOADING SPACE	: 16 m (L) X 3.5 m (W)

LEGEND

- APPLICATION SITE
- STRUCTURE (ENCLOSED)
- STRUCTURE (CANOPY)
- PC — PARKING SPACE (PC)
- MGV — L/UL SPACE (MGV)
- CV — L/UL SPACE (CV)
- INGRESS / EGRESS

NORTH
W E
S

PLANNING CONSULTANT
R-Riches Property Consultants Ltd.

PROJECT
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS WITH ASSOCIATED FILLING OF LAND

SITE LOCATION
VARIOUS LOTS IN D.D. 38 AND ADJOINING GOVERNMENT LAND, SHA TAU KOK, NEW TERRITORIES

SCALE
1 : 1000 @ A4

DRAWN BY	DATE
MN	8.1.2025
REVISED BY	DATE
APPROVED BY	DATE

DWG. TITLE
LAYOUT PLAN

DWG NO.	VER.
PLAN 4	001