ARUP

Appendix B

Revised Geotechnical Planning Review Report

GEOTECHNICAL PLANNING REVIEW REPORT (GPRR)

FOR

APPLICATION FOR AMENDMENT OF PLAN

UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (Cap.131)

TO REZONE THE APPLICATION SITE

FROM "GREEN BELT" AND AREA SHOWN AS "ROAD"

TO "RESIDENTIAL (GROUP C) 5"

FOR

PROPOSED RESIDENTIAL DEVELOPMENT AT

VARIOUS LOTS IN D.D. 210 AND ADJOINING GOVERNMENT LAND

PAK WAI, SAI KUNG

CONTENTS

1. Introduction

2. Site Location and Description

2.1 Site Location

2.2 Existing Features

3. The Proposed Development

4. Existing Information

4.1 Ground Investigation Information

4.2 Layout of Existing Utilities

4.3 Layout of Existing Building Structure

5. Ground Conditions

5.1 Topography

5.2 Geology

5.3 Groundwater Condition

6. Proposed Works

6.1 Proposed Ground Investigation Works

6.2 Proposed Works on Existing Features

6.3 Proposed Works on Natural Terrain

6.4 Proposed Foundation Works

6.5 Proposed Site Formation, Excavation and Lateral Support Works

6.6 Construction Method & Sequence

7. Impacts on Adjacent Premises/Geotechnical Features

8. Conclusion

LIST OF FIGURES

Figure 1	Site Location Plan
Figure 2	Master Layout Plan
Figure 3	Diagramatic Section
Figure 4	Layout plan for Hillside Catchments
Figure 5	Section A-A
Figure 6	Section B-B
Figure 7	Section C-C
Figure 8	Demarcation Plan for Proposed NTHS Study Area

APPENDICES

Appendix A	Information of Existing Slopes/Retaining Walls
Appendix B	Existing Boreholes Information
Appendix C	ENTLI and HLC from GInfo
Appendix D	Geology Map from GInfo
Appendix E	Summary of API

1. INTRODUCTION

This report presents the geotechnical planning review for the proposed development based on the available ground information in supplementary to the master layout plans.

The development involved the construction of four blocks of 3 to 4 storey residential building with carparking podium.

The geotechnical review is prepared under the supervision of Registered Geotechnical Engineer, Wong Wai Yi 0151939, in accordance with the requirement set out in PNAP-APP25 (PNAP 78). This report contains the following as listed.

- Impact and proposed investigation to the adjoining premises
- Conclusion and recommendation

2. SITE LOCATION AND DESCRIPTION

2.1 Site Location

The captioned site locates in a valley opposing Pak Wai in Sai Kung, The total area of the site is about 12,692m^2. The elevation of the site is about +4.5 – 7.5mPD. A site location plan is attached in Figure 1.

2.2 Existing Features

According to the Slope Information System, features related to the Site are listed as follow:

1) Features within the Site:

Feature No.	Type	Location	Responsibility	Height	Angle	Length
*7SE-D/C 154	Slope	West	DD210 Lot31 Lands D	4.0 m	35	40 m
*7SE-D/F 46	Slope	West	Lands D	5.0 m	40	40 m
7SE-D/FR 70	(Obsolete feature)					

2) Features within the scope of 10m from site boundary

Feature No.	Type	Location	Responsibility	Height	Angle	Length
7SE-D/C 153	Slope	West	Lands D	3.5 m	75	60 m
7SE-D/R 54	Wall	East	Lands D	4.4 m	30	85 m

3) Feature attached in the OH Catchment A1:

Feature No.	Type	Location	Responsibility	Height	Angle	Length
7SE-D/C 163	Slope	West	Lands D	9.0 m	45	45 m

4) Feature attached in the OH Catchment A2:

Feature No.	Type	Location	Responsibility	Height	Angle	Length
7SE-D/C 370	Slope	West	DD210 Lot 11 Lands D	3.8 m	40	16 m

* Refer to Section 6.2.

Location plan & basic information of the features are attached in Appendix A. The available information indicates that the slope shall be in good condition.

A natural terrain is located at the west of the site.

3. THE PROPOSED DEVELOPMENT

The development involved the construction of residential development of four blocks of 3 to 4 storey residential building with one-level basement carpark. The schematic master layout plan and diagramatic section of the proposed new building are given in Figure 2 and Figure 3.

4. EXISTING INFORMATION

4.1 Ground Investigation Information

Two boreholes carried out by Enpack (HK) Ltd. In 2001 BH8 and BH9 were found within the site, information is given in Appendix B.

4.2 Layout of Existing Utilities

Enquiries shall be made to various utility companies for the layout of existing utilities adjacent to the site. A waterpipe laid along the existing footpath to be diverted before the site formation work.

4.3 Layout of Existing Building Structure

There is one temporary structure of concrete building in the lot and this will be demolished during the development. Abandoned

5. GROUND CONDITIONS

5.1 Topography

The elevation of site is about +4.5 – 7.5mPD. The site can be accessed via Access road from Hiram's Highway. The total area of the site is about 12,692m^2.

5.2 Geology

From the two boreholes information, the site would be covered by a layer of fill/ alluvium/ residual soil of 2m to 6m thick. Underneath the fill/ alluvium/ residual soil there would be a layer of grade V to IV TUFF. Grade III or better grade of Tuff be found at a depth of 3m to 6m below existing ground level.

Soil Properties

FILL
Fill generally consists of light brown, sandy silt.

ALLUVIUM
Alluvium generally consists of firm, greyish brown, silt or clayey sand, locally sandy or silty clay.

TUFF
Tuff was classified as weak to strong, light yellowish brown, highly to slightly decomposed, coarse ash crystal.

5.3 Groundwater Condition

Based on the available ground investigation information, highest water table may be at about 2m below existing ground level.

6. PROPOSED WORKS

6.1 Proposed Ground Investigation Works

The proposed Ground Investigation works for the site area at D.D.210, Sai Kung for the proposed development will include drilling of 7 vertical drillholes with installation of 3 standpipe / piezometer inside the site. Sampling of soil/rock material and testing will be proposed to determine the soil/rock properties.

6.2 Proposed Works on Existing Features

There are 2 existing features within the site and 4 outside site boundary but close to the site.

The stability of existing features within or close to the site (including any unregistered features) to be affected or being affected by the development during site formation works shall be assessed. Monitoring works shall be carried out during the whole construction period. Remedial or upgrading works shall be proposed and carried out if found necessary.

6.3 Proposed Works on Natural Terrain

6.3.1 Description of the Catchment Area

Based on available topographic maps No. 7SE-25A and 7SE-25C of Hong Kong from the Survey & Mapping Office (SMO) of the Lands Department, the hillside catchment westbound of proposed Redevelopment understudy are described below, and presented as Figure 4, with relevant cross-sections of the catchment presented as Figure 5 to 7.

The Study Area can be sub-divided into 3 major Catchment i.e.

(a) Catchment A1 & A2 – They are piece of abandoned cultivated land. The majority portion of these areas is characterized by moderately gentle terrains 28° to 32° .

(b) Catchment B – Undisturbed natural openhill terrain. Here, the ridgeline of the hillside running from NW to SE downhill direction. On the NE flank of the hillside, the contour run from +66 mPD highest to +42 mPD bounding the perimeter of Catchment A1. The majority portion of this catchment is characterized by gentle to moderately gentle terrains 20° to 33° .

(c) Catchment C – the contour within this catchment contain pronounced topographic depression with a definite flow path running downhill north easterly. The identified runoff angle in this depression zone is moderately gentle to gentle i.e. 16° to 23° .

6.3.2 Published Geology

Available geological information for the Catchment Areas have been reviewed. Based on Glnfo Geological May & Solid Geology, the catchment are underlain by course ash crystal TUFF, with overlying colluvium. Part plan of geological mapsheets are attached in Appendix D.

6.3.3 Landslide Inventories

According to the ENTL1 dataset (Appendix C refers), there are three historic relict landside first identified in 1963. These are 07SED0074E, 07SED0075E & 07SED0076E. These locations are marked on Aerial photos 1963 attached in Appendix E, also marked on Figure 4. In which two of them lies totally outside the Catchment Zone. Only 07SED0075E is of relevant to this study, and is further discussed in 6.3.4.

6.3.4 Catchment Study

As revealed from aerial photographs from 1963 to 2024. The catchment understudy has no pass landslide failure. These pre-historic events were identified. Two of these totally lied outside study catchment and direction of landslide is non-critical. Lies within Catchment B, and had a flow direction towards Catchment C. No debris flow path can be traced in 1963 aerial photo. Primarily

Catchment C remained undisturbed.

In conclusion, Catchment A1 & A2 were cultivated land which likely have been progressively abandoned from 1963 onwards. Therefore, this vast piece of farmland and its surrounding natural habitats have been gradually covered up fully by mature dense vegetation. A summary of API is attached in Appendix E.

6.3.5 Screening of Catchment in accordance with GEO Report 138

The catchment areas understudy have no past landslide failure record since 1963 to 2024. The catchments are in stable conditions. Based on GEO Report No. 138, the proposed Site Redevelopment is classified as Facility Group 1(a) in Table 2-2. Referring to Section 2.3.3 In-principle Objection Criteria, the site is NOT faced with severe terrain hazards. It is not located within an angle of reach of 35° from any natural terrain at an elevation of 50m and more above the proposed site formation level. The Site is not located on, or immediately below terrain that is known to be affected by outside, long scale movement. Hence, it does not satisfy the In-principle Objection Criteria.

Thus, referring to 2.3.4 Alert Criteria Fig 2.5, the only critical Cross Section A-A (Figure 5) fall within the requirement of a Natural Terrain Hazzard Studies (NTHS) to be carried out. Since Catchment B have no landslide records since 1963 and the natural catchment is fully covered by mature vegetation. It is proposed the hillside in Catchment A1 disturbed by human activities shall carry out further study. The extent of natural terrains affecting the Site to be studied is demarcated in Figure 8.

6.4 Proposed Foundation Works

The proposed development comprises four blocks of 3 to 4 storey residential building with one level of basement carpark. The available ground investigation information indicates that the rockhead level, defined as weathering grade III or better rock with total core recovery greater than 85%, or a firm stratum such as grade IV rock, may be encountered on average at a level about 3m to 6m below the existing ground. As the loading from the building is comparatively general, mini pile or pre-boring socket H-piles are considered to be feasible foundation options for the proposed building. In case the rock head level is shallow or the bearing capacity is checked to the adequate, footing foundation shall be an alternative. The proposed foundation scheme of the development shall have minimal effect or impact to the stability of all slopes (man-made & natural terrains), retaining walls and existing building or structures within or in vicinity to the lot. Detailed foundation design will be submitted separately when the proposed ground investigation works are completed. Stability of all existing slopes (man-made & natural terrains) and retaining wall (including unregistered features) within or in vicinity to the lot affecting or being affected by the development during demolition & construction shall be assessed & remedial works shall be carried out if found necessary.

6.5 Proposed Site Formation, Excavation and Lateral Support Works

Since the proposed building platform is similar to existing ground level of the site, site formation works are considered to be minimal. For the construction of footing / pile cap, open excavation, sheet pile / pipe pile / soldier pile wall with walings and struts are considered to be feasible scheme to retain excavation depth. The choice of scheme of temporary support shall be subject to detail assessment. Stability of all existing slopes (man-made & natural terrains) and retaining walls (including unregistered features) within or in vicinity to the lot affecting or being affected by the development during demolition & construction shall be assessed & remedial works shall be carried out if found necessary. The detailed design of the works will be submitted separately.

6.6 Construction Method & Sequence

Monitoring points shall be installed & initial reading shall be recorded prior commencement of any works. Remedial works on existing slopes & retaining walls being affected shall be carried out prior commencement of site formation, ELS, foundation & superstructure. Pre-boring shall be carried out prior H-pile installation.

Obstruction during pipe pile installation for temporary ELS shall be overcome by pre-boring. Strut of the ELS shall not be dismantled until completion of the permanent screen wall support the level difference. All temporary cut slope and back filling shall be backfilled by proper material with proper compaction. Groundwater shall be controlled during the excavation. Excessive groundwater drawdown at the adjacent ground shall not be allowed.

7. IMPACTS ON ADJACENT PREMISES/GEOTECHNICAL FEATURES

As the existing registered retaining walls & slope is in close proximity to the captioned site, consideration shall be taken in the design of the proposed works. Also, vibration caused by the installation of the pipe piles / socket H-pile and the ground settlement caused by the wall deflection and dewatering in the excavated areas may cause adverse effects to the adjacent utilities and structures. Therefore, it is necessary to limit the amount of vibration and ground settlement by adoption suitable lateral support works design and construction method. Pre-boring shall be carried out prior installation of piling for foundation and ELS. In all case, stability of existing geotechnical features within or in vicinity to the lot affecting or being affected by the development shall be assessed & remedial works shall be carried out if found necessary.

Groundwater control during the excavation is also critical for the design. Excessive groundwater drawdown at the adjacent ground is not allowed because ground settlement will be induced and damage will be caused to the adjacent structures and utilities. Detail assessment and design will be included in the foundation, site formation and ELS submission.

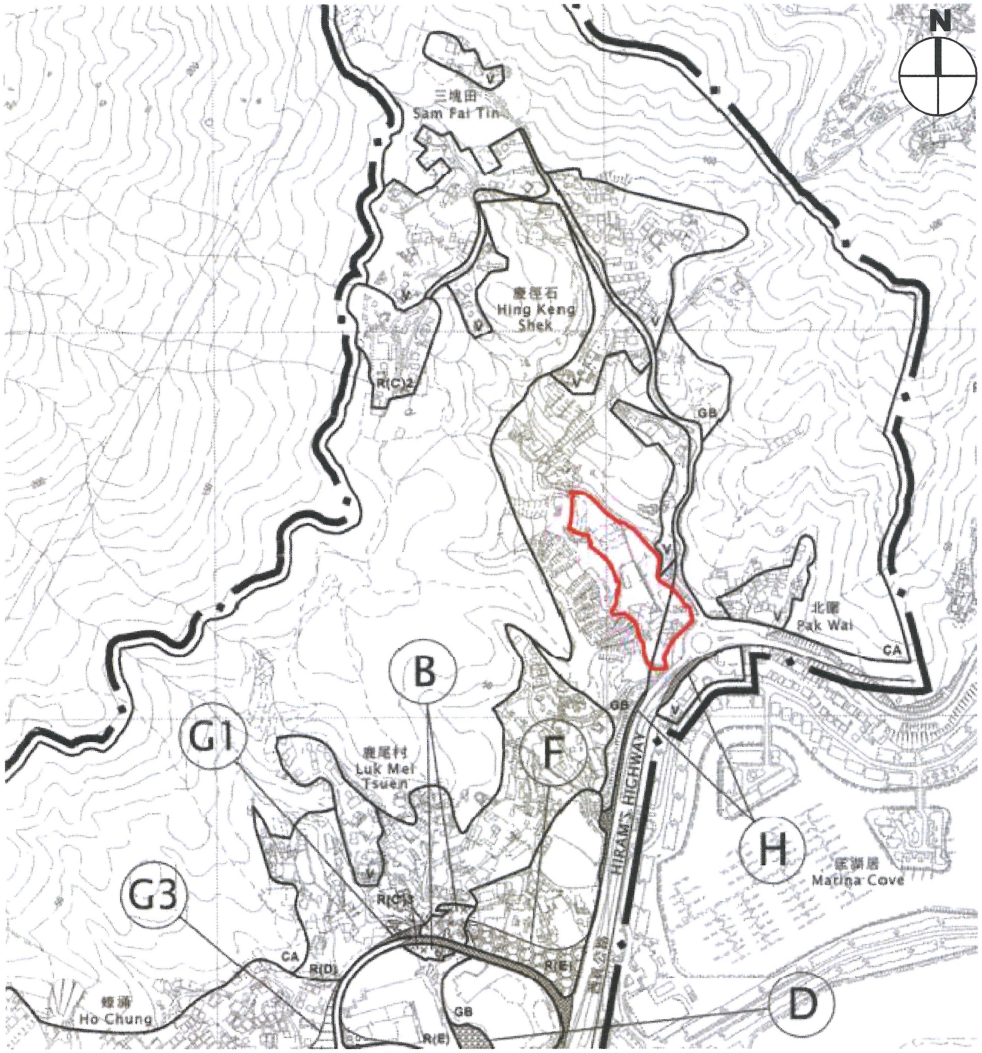
In addition, in order to ensure the adjacent premises will not be damaged by the proposed works, settlement monitoring stations, titling check points and building settlement pins will be proposed to be installed around the site. The movement of the adjacent premises will be monitored at these stations continuously throughout the work period. The noise from proposed works shall be kept within acceptable limit to minimize the disturbance to the environment. The detailed assessment and discussion on these aspects will be presented in the separate submission for ELS works.

8. CONCLUSION

On the basis of the available geotechnical information, the following conclusions and recommendation are drawn:

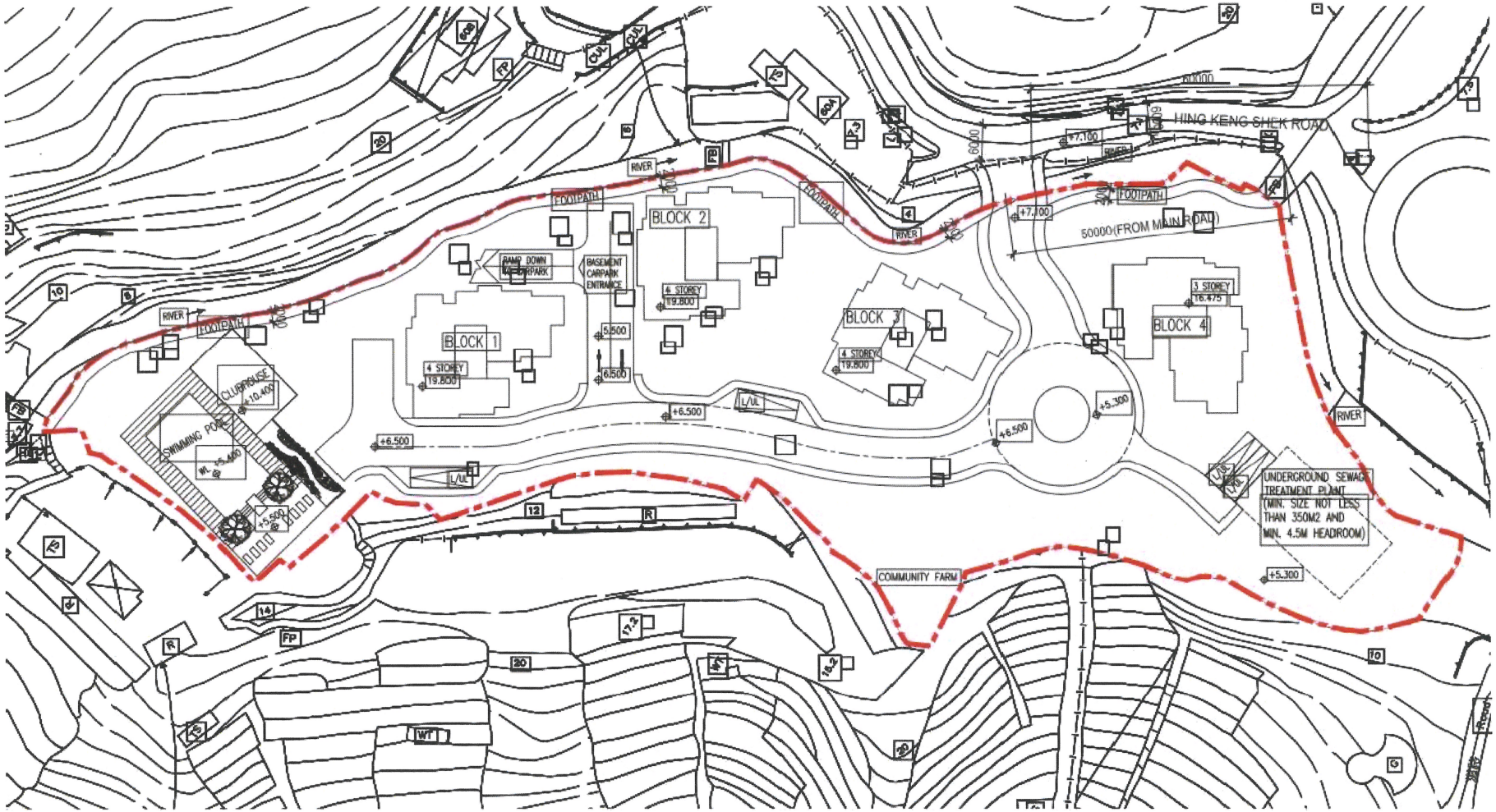
- The proposed development as presented in the Master Layout Plan is considered as a geotechnical feasible scheme.
- Ground investigation works will be carried out within the proposed development site.
- Mini pile or socket H pile with pre-boring is considered to be feasible foundation options for the proposed development. Footing may be an alternative if the soil stratum at shallow level provides adequate bearing capacity.
- The site formation works for the proposed development shall be minimal.
- Suitable groundwater control scheme shall be considered in design to avoid excessive groundwater drawdown at the adjacent area.
- Proper excavation and lateral support works design and construction method have to be adopted to minimize the adverse effect on the existing utilities and structures. The detailed discussion will be presented the separate submission for excavation and lateral support works.
- Stability of all slopes (man-made & natural terrains) and retaining walls (including unregistered features) within or in vicinity to the lot affecting or being affected by the development during demolition & construction works shall be assessed & remedial works shall be carried out if found necessary.
- Stability of the natural terrain affecting or being affected by the development permanently or temporarily during demolition & construction works shall be assessed & monitored. Mitigation works shall be proposed and carried out as necessary.

It is noteworthy to note that the works / proposal mentioned in this report are preliminary only at the planning stage and will be subjected to detailed study in the detail design stage under separate cover. Based on the current assessment, the proposed development is considered geotechnical feasible.



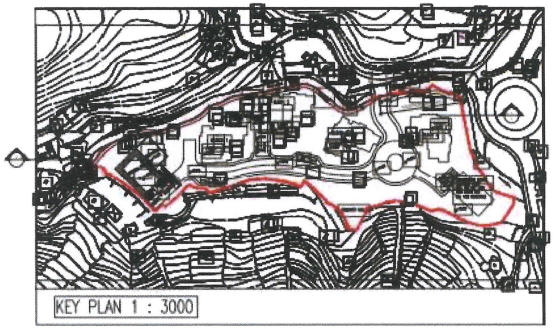
Site Location Plan
(Extracted from Draft Ho Chung Outline Zoning Plan No. S/SK-HC/12)

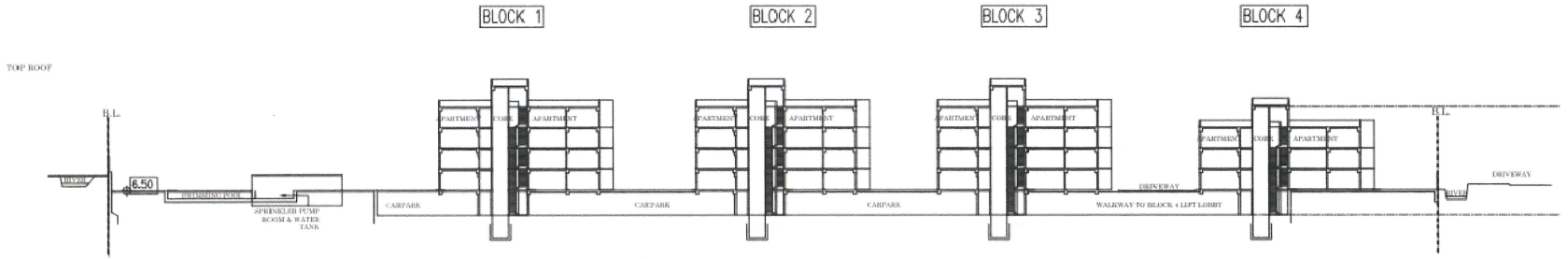
Figure 1



Master Layout Plan

Figure 2





DIAGRAMATIC SECTION

Diagramatic Section

Figure 3

LEGEND:

- LOT BOUNDARY
- SCOPE WITHIN 10m FROM LOT BOUNDARY
- SLOPE FEATURES
- OH CATCHMENT A1/A2 ABANDONED CULTIVATED LAND OPEN HILL SIDE
- OH CATCHMENT B OPEN HILL SIDE
- CD CATCHMENT C CHANNELISED
- A A — SECTIONS
- DH8 — EXISTING DRILLHOLES

HING RENG SHEK ROAD

RIDGE LINE

07SED0074E

07SED0075E

07SED0076E

DH8

DH9

7SE-D/C 163

7SE-D/F 46

7SE-D/R 54

7SE-D/C 154

7SE-D/C 153

7SE-D/C 370

A1

A2

B

C

31°

20°

33°

32°

28°

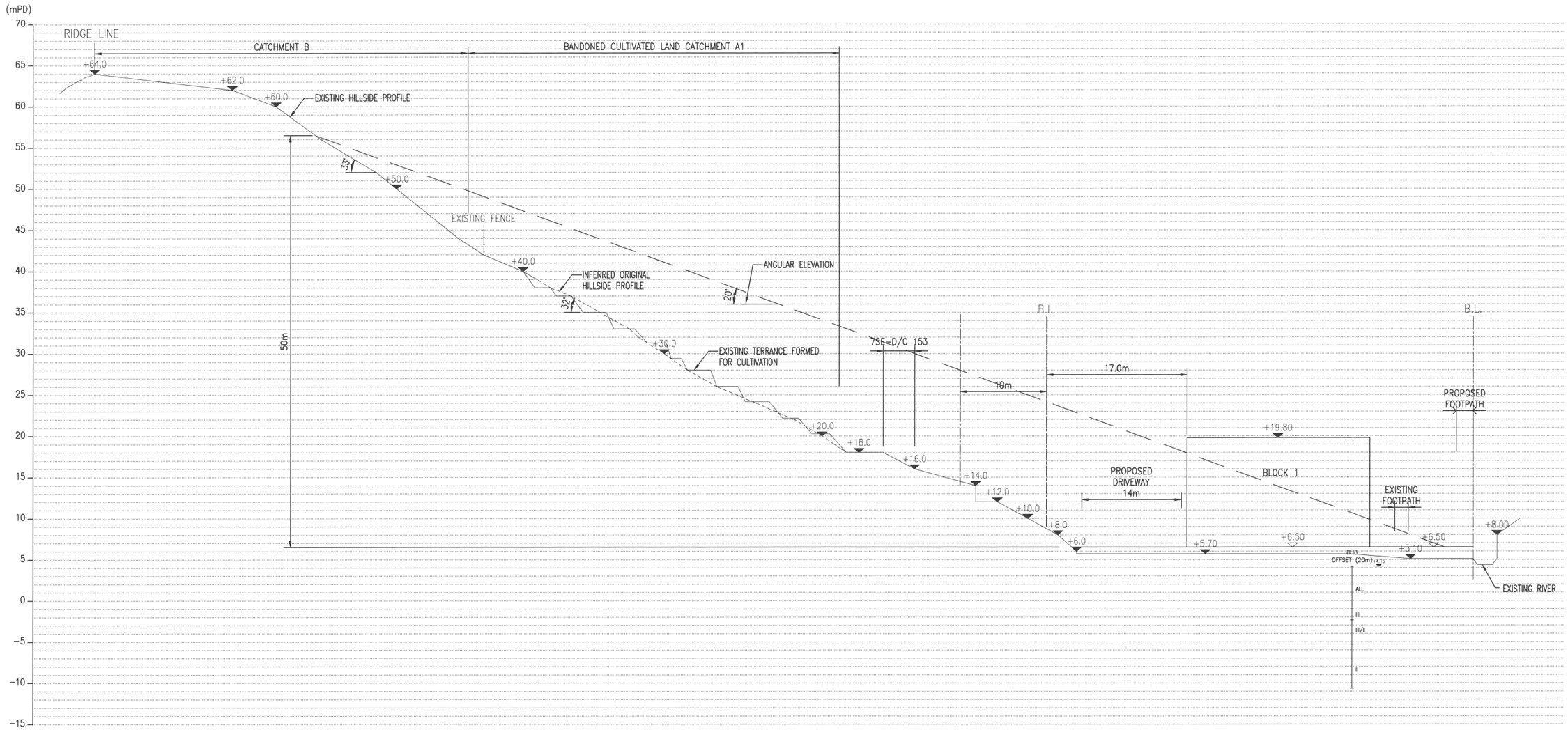
23°

16°

10m FROM B.L.

SCALE : 1:1000

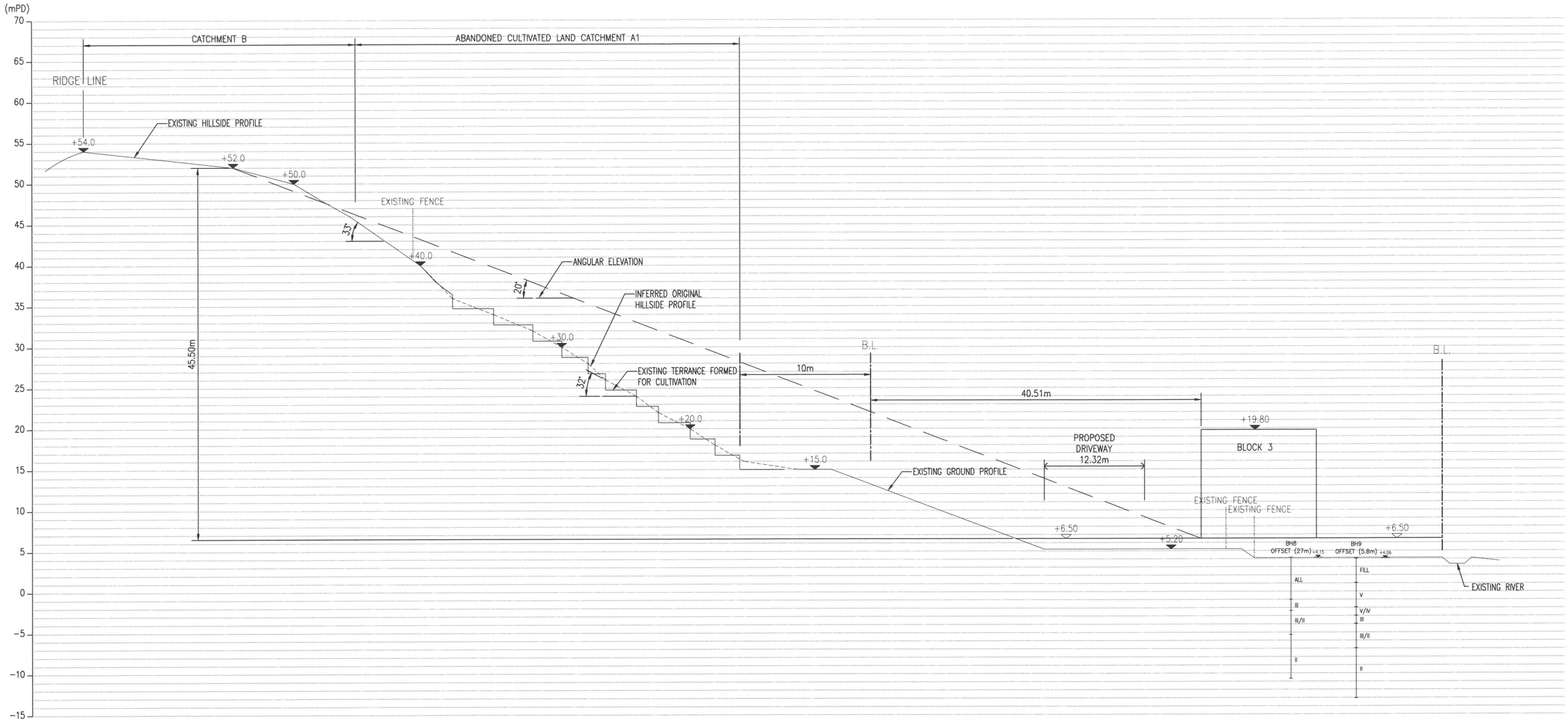
FIGURE 4



SECTION A–A

1 : 500

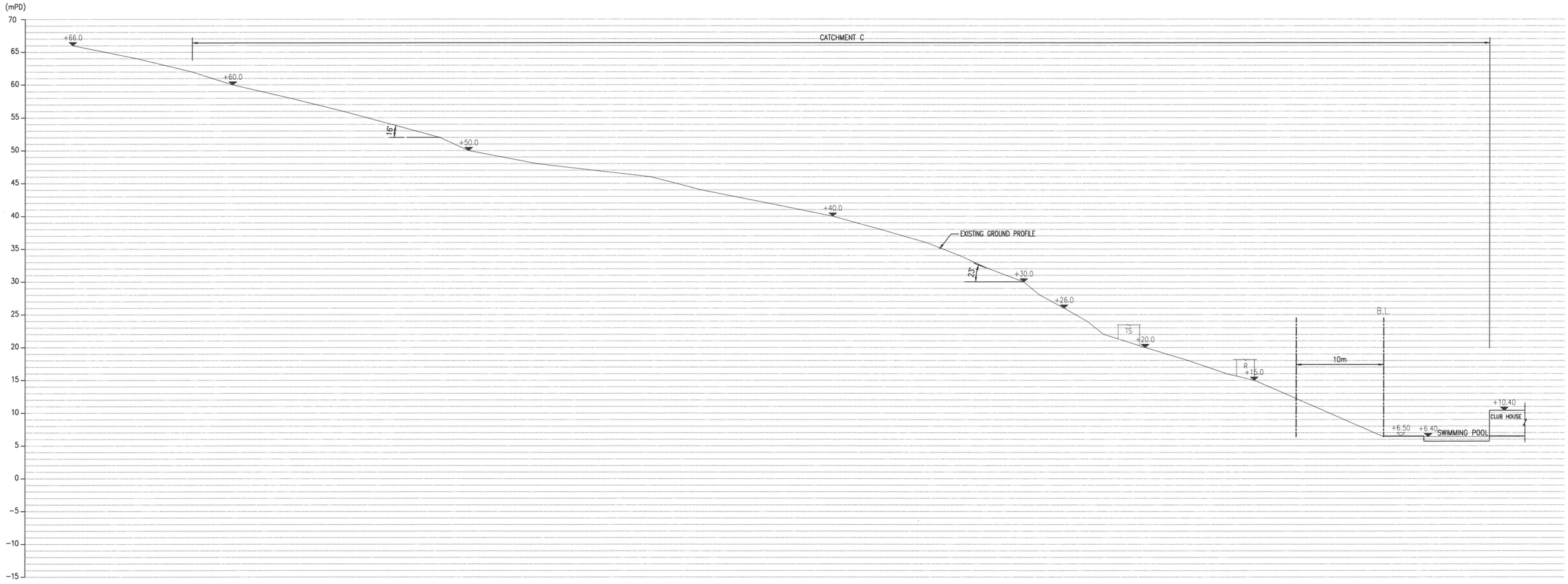
FIGURE 5



SECTION B–B

1 : 500

FIGURE 6



SECTION C–C

1 : 600

FIGURE 7

LEGEND:

- LOT BOUNDARY
- SCOPE WITHIN 10m FROM LOT BOUNDARY
- SLOPE FEATURES
- OH CATCHMENT A1/A2 ABANDONED CULTIVATED LAND OPEN HILL SIDE
- OH CATCHMENT B OPEN HILL SIDE
- CD CATCHMENT C CHANNELISED
- A A — SECTIONS
- DH8 — EXISTING DRILLHOLES
- PROPOSED NTHS STUDY AREA

N

07SED0074E

07SED0075E

07SED0076E

RIDGE LINE

A1

A2

B

C

7SE-D/C 163

7SE-D/F 46

7SE-D/R 54

7SE-D/C 154

7SE-D/C 153

7SE-D/C 370

DH8

DH9

10m FROM B.L.

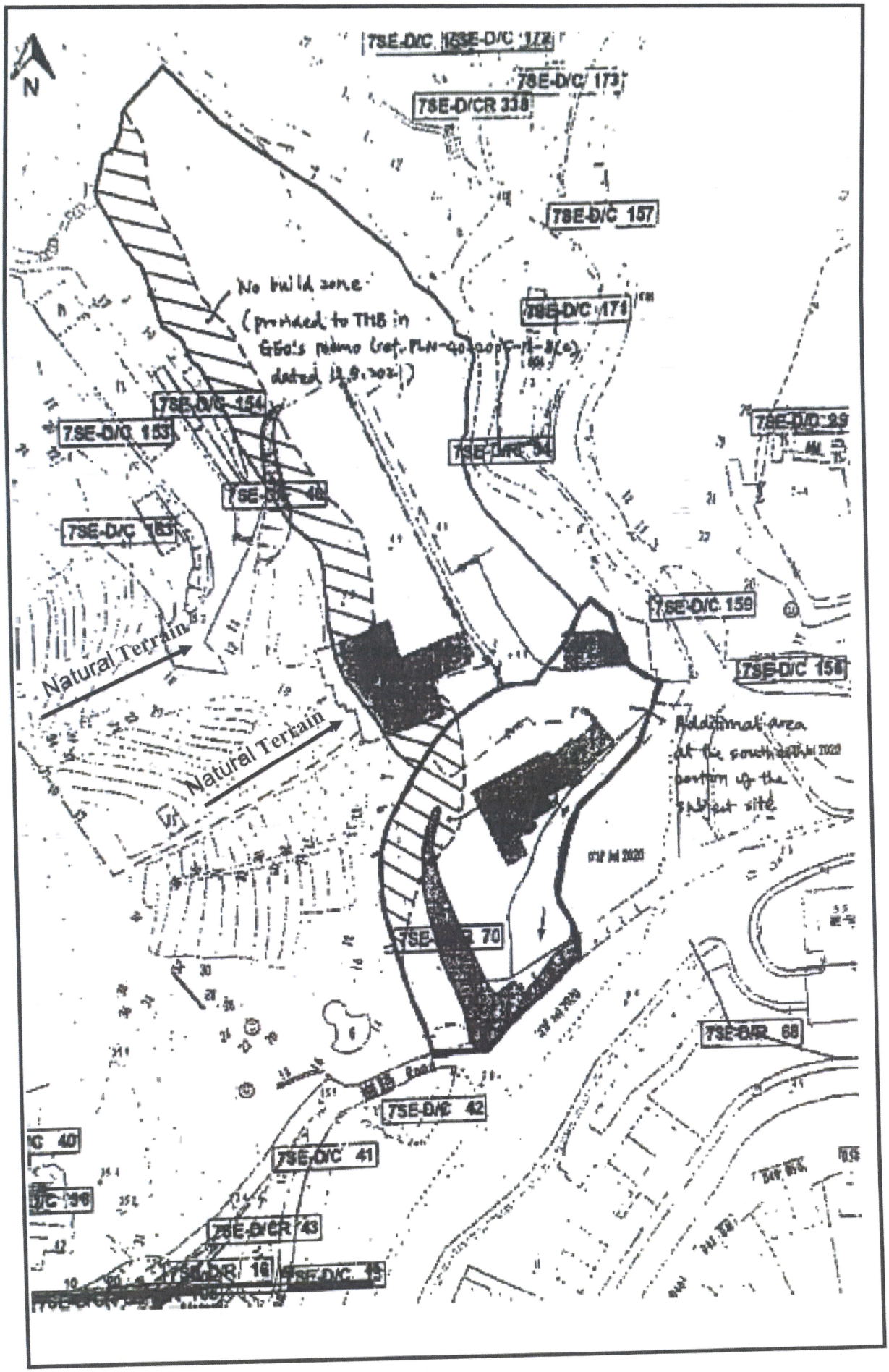
HING TENG SHEK ROAD

SCALE : 1:1000

FIGURE 8

Appendix A

Information of Existing Slopes/ Retaining Walls


N
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
No build zone
(provided to THB in
GEO's memo (ref. PLN-40-2005-11-8(c)
dated 12.9.2021)
7SE-D/C 154
7SE-D/C 153
7SE-D/C 159
Natural Terrain
Natural Terrain
Additional area
at the southeast
portion of the
subject site
7SE-D/C 42
7SE-D/C 41
7SE-D/CR 43

BASIC INFORMATION

Location:	Southern part of Hing Keng Shek Village, Sai Kung
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (EI)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	Project Office
Approximate Coordinates:	Easting : 844005 Northing : 824697

CONSEQUENCE-TO-LIFE CATEGORY

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

SLOPE PART

(1) Max. Height (m): 4 Length (m): 35 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 1,5b(vi),7 Reason Code: 62,90 MR Endorsement Date: 05-05-1998
(2) Sub Div.: 2 Mixed Feature Party: DD210 Lot31 Agent: N/A Land Cat.: 1,5b(vi),7 Reason Code: 1 MR Endorsement Date: 05-05-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	04-12-2018
Data Source:	Project Office
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

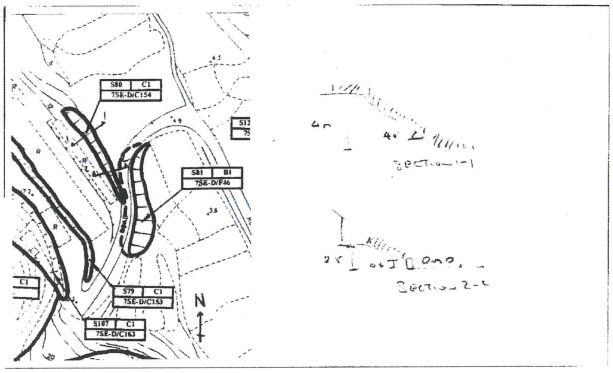
GIU Cell Ref.:	7SE25A9
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	9301 (1974), 9302 (1974)
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	04-12-2018
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1968
Related Reports/Files or Documents:	N/A
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: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	13-03-1997
Weather:	Mainly Fine
District:	ME



Section No:	1-1
Height(m):	H1 : 4 , H2 : 0
Type of Toe Facility:	Remote area or abandoned facilities
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 : Minor (mid-portion) 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

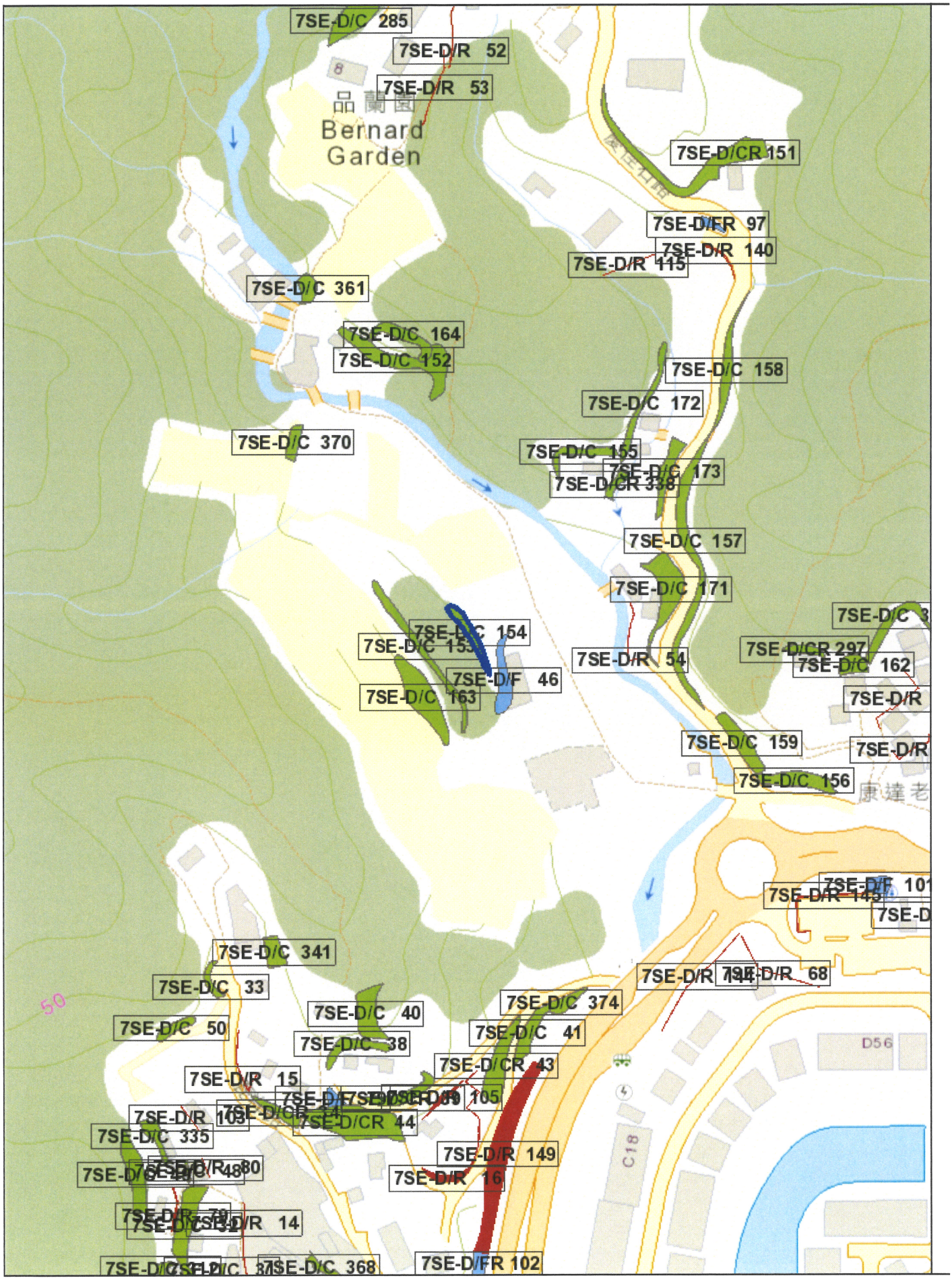











7SE-D/C 285
7SE-D/R 52
7SE-D/R 53
品蘭園
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 154
7SE-D/C 153
7SE-D/F 46
7SE-D/C 163
7SE-D/R 54
7SE-D/CR 297
7SE-D/C 162
7SE-D/R
7SE-D/C 159
7SE-D/R
7SE-D/C 156
康達老
7SE-D/F 101
7SE-D/R 145
7SE-D
7SE-D/C 341
7SE-D/C 33
7SE-D/R 144
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 50
7SE-D/C 41
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 15
7SE-D/R 105
7SE-D/R 103
7SE-D/CR 44
7SE-D/C 335
7SE-D/R 149
7SE-D/R 16
7SE-D/R 14
7SE-D/C 368
7SE-D/FR 102
D56
C18
50

BASIC INFORMATION

Location:	SOUTHERN PART OF HING KENG SHEK VILLAGE
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (Notional)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	SIRST
Approximate Coordinates:	Easting : 844019 Northing : 824678

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Road/footpath with very low traffic density
Distance of Facility from Crest (m):	0
Facility at Toe:	Remote area or abandoned 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): 35 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD210 LOT31 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 15-03-2001
(2) Sub Div.: 2 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 15-03-2001

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	13-03-1997
Data Source:	SIRST
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.:	7SE25A9
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	9301 (1974), 9302 (1974)
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	13-03-1997
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1968
Related Reports/Files or Documents:	N/A
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: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	
Weather:	
District:	ME
Section No:	1-1
Height(m):	
Type of Toe Facility:	Remote area or abandoned facilities
Distance from Toe(m):	0
Type of Crest Facility:	Road/footpath with very low traffic density
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

PHOTO




7SE-D/R 52
7SE-D/R 53
品蘭園
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 327
7SE-D/C 154
7SE-D/C 153
7SE-D/CR 297
7SE-D/C 162
7SE-D/F 46
7SE-D/C 163
7SE-D/R 54
7SE-D/R 116
7SE-D/C 159
7SE-D/R 123
7SE-D/C 156
康達老人中
7SE-D/F 101
7SE-D/R 145
7SE-D/C 341
7SE-D/C 33
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 50
7SE-D/C 41
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 15
7SE-D/R 105
7SE-D/CR 44
7SE-D/C 335
7SE-D/R 149
7SE-D/R 16
7SE-D/R 79
7SE-D/C 32
7SE-D/R 14
7SE-D/C 368
7SE-D/FR 102
D56
C18

(OBSOLETE FEATURE)

BASIC INFORMATION

Location: Hiram's Highway

Date of Formation: post-1977

Date of Construction/ Modification:

Approximate Coordinates: Easting : 844090 Northing : 824574

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest: Road/footpath with heavy traffic density

Distance of Facility from Crest (m): 0

Facility at Toe: Horticulture garden

Distance of Facility from Toe (m): 0

Consequence-to-life Category: 2

Remarks: N/A

SLOPE PART

(1) Max. Height (m): 4 Length (m): 140 Average Angle (deg): 30

WALL PART

(1) Max. Height (m): 2 Length (m): 58 Face Angle (deg): 90

MAINTENANCE RESPONSIBILITY

Government Feature Party: HyD Agent: HyD

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 18-06-2010
Data Source: EI(HyD)
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

Wall Part (1)
Type of Wall: Wall Material: Concrete Wall Location: Wall at toe
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

SERVICES

(1) Utilities Type: Cable Size(mm): 0 Location: On crest Remark: Size cannot be determined
(2) Utilities Type: Electricity Size(mm): 0 Location: On crest Remark: Size cannot be determined
(3) Utilities Type: Gas Size(mm): 0 Location: On crest Remark: Size cannot be determined
(4) Utilities Type: Sewer/Drain Size(mm): 0 Location: On crest Remark: Size cannot be determined
(5) Utilities Type: Water Main Size(mm): 100 Location: On crest Remark: N/A
(6) Utilities Type: Water Main Size(mm): 150 Location: On crest Remark: N/A

STAGE 1 STUDY REPORT

Inspected On:
Weather:
District: ME

Section No: 1-1
Height(m):
Type of Toe Facility: Horticulture garden

Distance from Toe(m): 0
Type of Crest Facility: Road/footpath with heavy traffic density

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

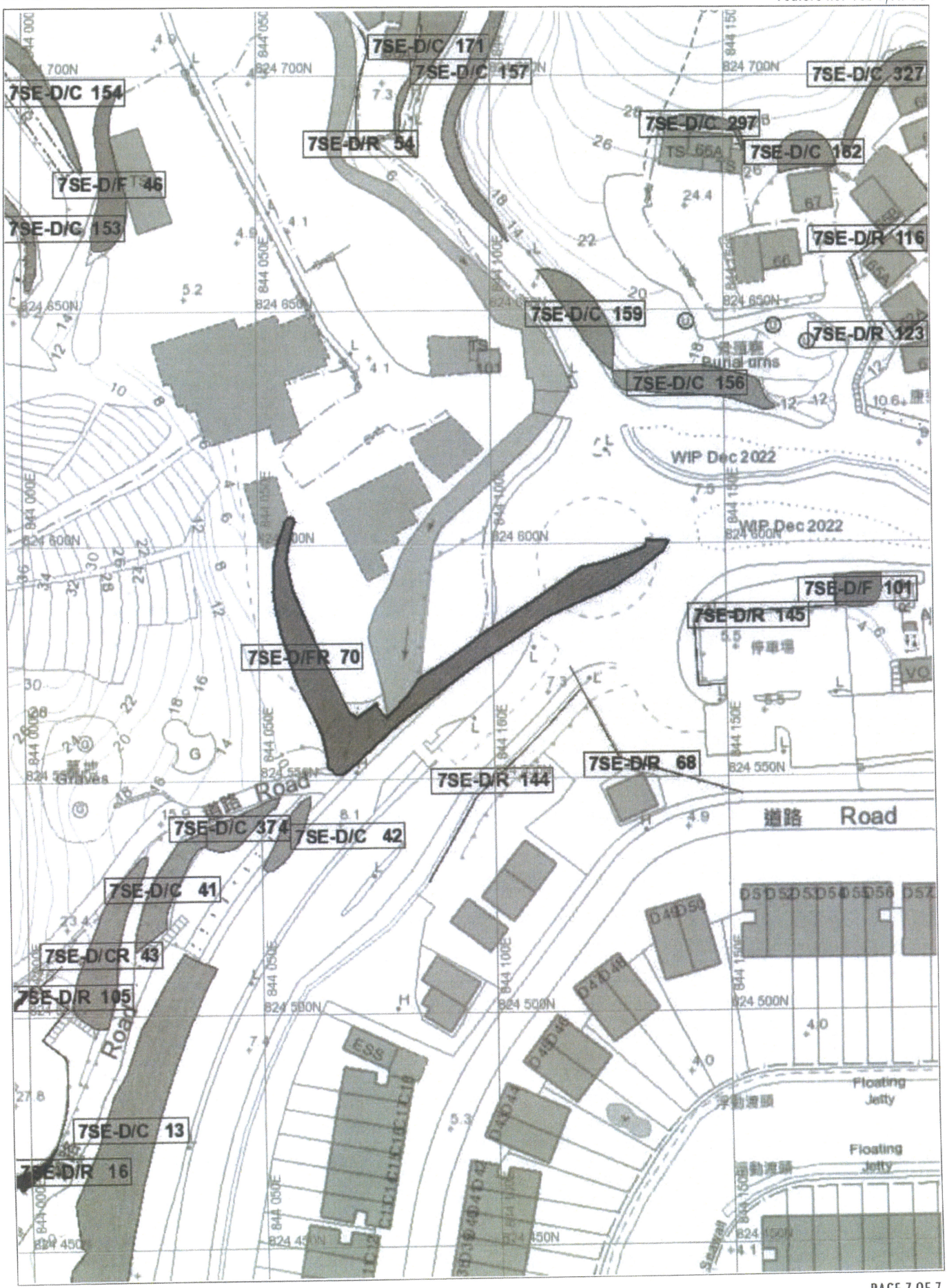
PHOTO










7SE-D/C 171
7SE-D/C 157
7SE-D/C 154
7SE-D/C 327
7SE-D/C 297
7SE-D/R 54
7SE-D/C 162
7SE-D/F 46
7SE-D/C 153
7SE-D/R 116
7SE-D/C 159
7SE-D/R 123
7SE-D/C 156
WIP Dec 2022
WIP Dec 2022
7SE-D/F 101
7SE-D/R 145
7SE-D/FR 70
7SE-D/R 68
7SE-D/R 144
道路 Road
7SE-D/C 374
7SE-D/C 42
7SE-D/C 41
7SE-D/CR 43
7SE-D/R 105
Road
7SE-D/C 13
7SE-D/R 16
Floating Jetty
Floating Jetty

BASIC INFORMATION

Location:	Southern part of Hing Keng Shek Village, Pak Sha Wan
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (EI)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	Project Office
Approximate Coordinates:	Easting : 843982 Northing : 824693

CONSEQUENCE-TO-LIFE CATEGORY

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

SLOPE PART

(1) Max. Height (m): 3.5 Length (m): 75 Average Angle (deg): 60

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: 01-09-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	04-12-2018
Data Source:	Project Office
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

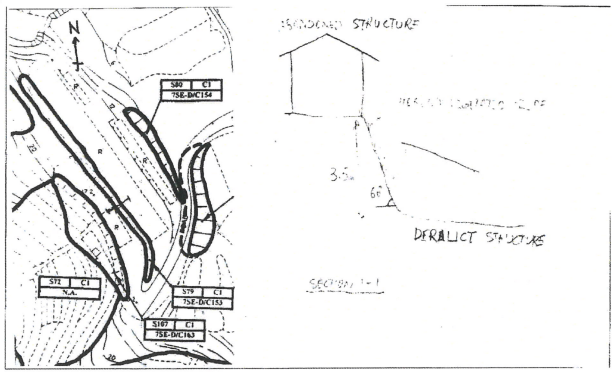
GIU Cell Ref.:	7SE25A8
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	N/A
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	04-12-2018
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
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: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	13-03-1997
Weather:	Mainly Fine
District:	ME



Section No:	1-1
Height(m):	H1 : 4 , H2 : 0
Type of Toe Facility:	Remote area or abandoned facilities
Distance from Toe(m):	0
Type of Crest Facility:	Remote area or abandoned facilities
Distance from Crest(m):	0
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 : No signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : Reasonable (mid-portion) 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

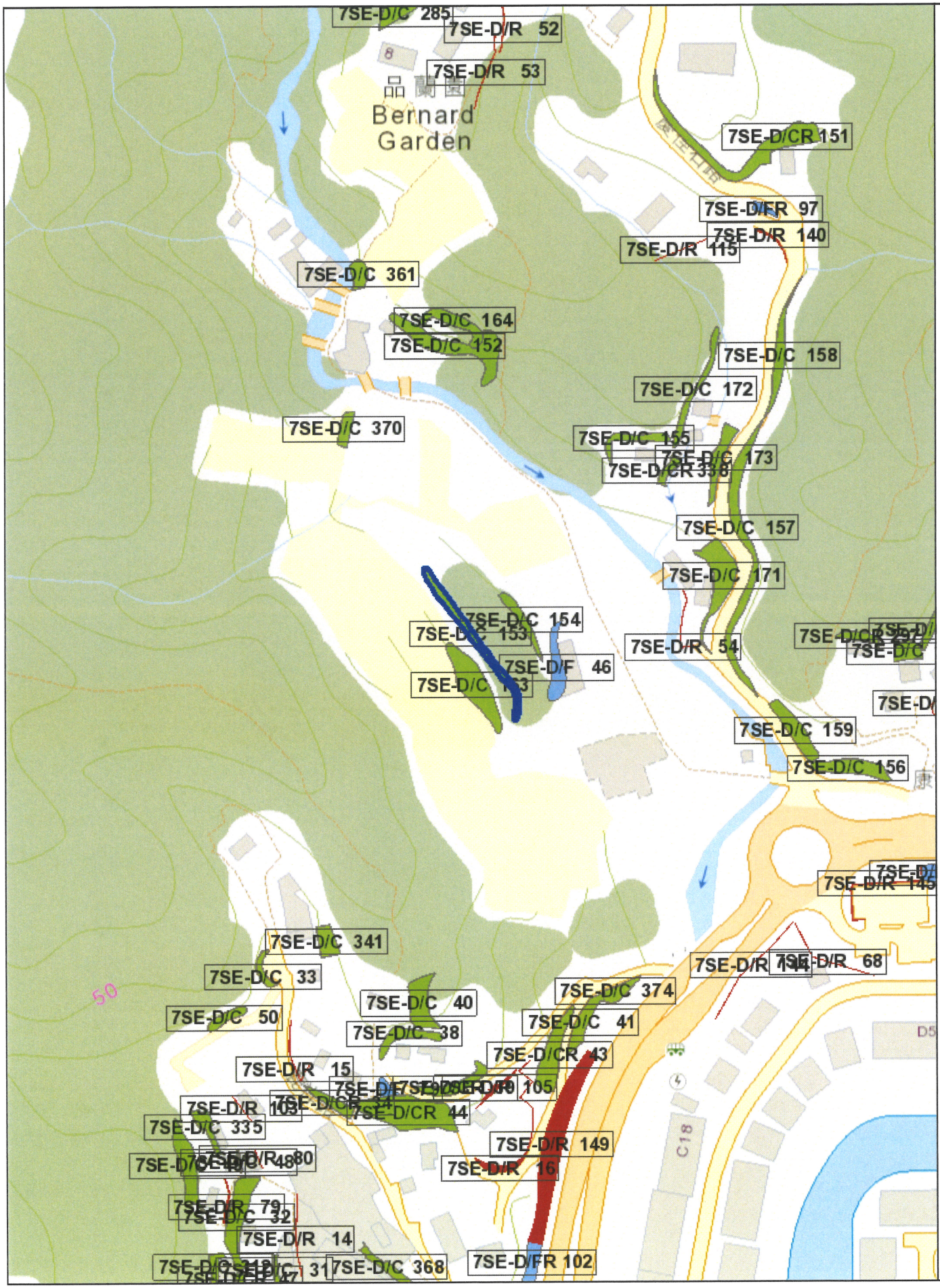











7SE-D/C 285
7SE-D/R 52
7SE-D/R 53
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 154
7SE-D/C 153
7SE-D/R 54
7SE-D/F 46
7SE-D/C 159
7SE-D/C 156
7SE-D/R 145
7SE-D/C 341
7SE-D/C 33
7SE-D/R 144
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 50
7SE-D/C 41
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 15
7SE-D/R 105
7SE-D/R 103
7SE-D/CR 44
7SE-D/C 335
7SE-D/R 149
7SE-D/R 16
7SE-D/C 32
7SE-D/R 14
7SE-D/C 368
7SE-D/FR 102
50
C18

BASIC INFORMATION

Location:	Hing Keng Shek Road, Sai Kung
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (EI)
Date of Formation:	pre-1977
Date of Construction/ Modification:	17-03-2010
Data Source:	Project Office
Approximate Coordinates:	Easting : 844072 Northing : 824698

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Cottage, licensed and squatter area
Distance of Facility from Crest (m):	3
Facility at Toe:	Catchwater w/consequence on Group 5 facilities
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	1
Remarks:	N/A

SLOPE PART

N/A

WALL PART

(1) Max. Height (m): 4.4 Length (m): 30 Face Angle (deg): 85

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 0 Government Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 22-03-2011

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	12-02-2019
Data Source:	Project Office
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

N/A

WALL PART

Wall Part (1)
Type of Wall: Wall Material: Concrete Wall Location: Retaining wall with level platform
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): 75 Spacing (m): 1.5

SERVICES

N/A

CHECKING STATUS INFORMATION

Tagmark: SCS_14115 Part: 0 Checking Status: Feature modified/upgraded to current standard Checking Certificate No.: GEO/ME 085/2011

BACKGROUND INFORMATION

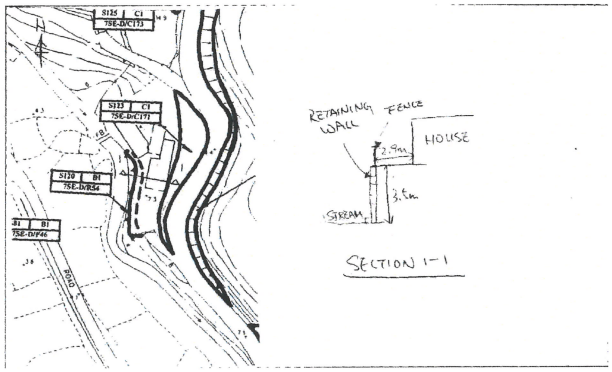
GIU Cell Ref.:	7SE25A9
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	9301 (1974), 9302 (1974)
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	12-02-2019
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1962
Related Reports/Files or Documents:	N/A
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: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	13-03-1997
Weather:	Mainly Fine
District:	ME



Section No:	1-1
Height(m):	H1 : 4 , H2 : 4
Type of Toe Facility:	Catchwater w/consequence on Group 5 facilities
Distance from Toe(m):	0
Type of Crest Facility:	Cottage, licensed and squatter area
Distance from Crest(m):	3
Consequence Category:	1
Engineering Judgement:	P
Section No:	2-2
Type of Toe Facility:	
Distance from Toe(m):	
Type of Crest Facility:	
Distance from Crest(m):	
Consequence Category:	1
Engineering Judgement:	P
Sign of Seepage:	Slope : N/A Wall : Signs of seepage
Criterion A satisfied:	N
Sign of Distress:	Slope : N/A Wall : Moderate(mid-portion, at toe)
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	Y
Note:	N/A
Consequence category (for critical section):	1
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

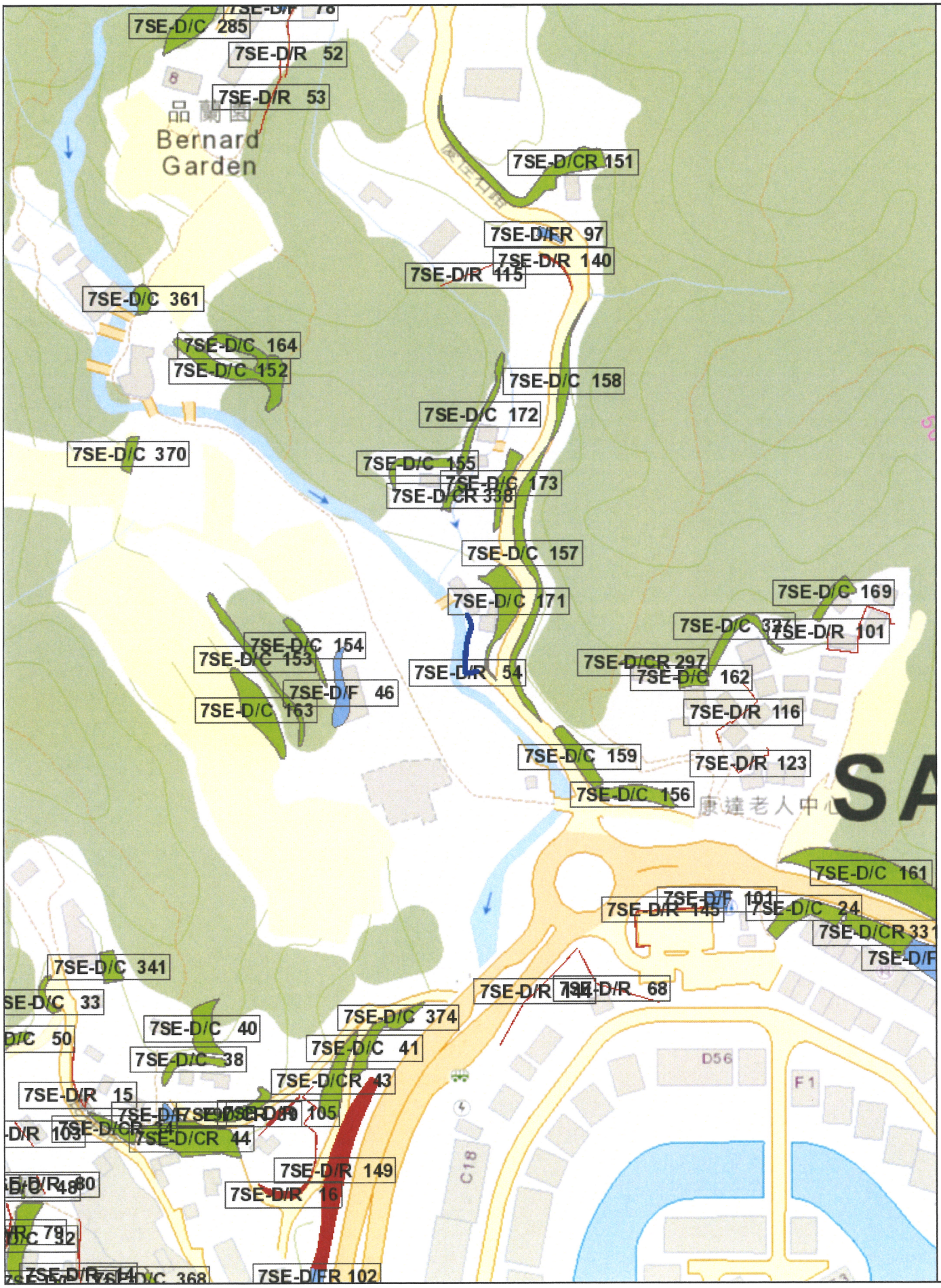











7SE-D/C 285
7SE-D/R 52
7SE-D/R 53
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 169
7SE-D/R 101
7SE-D/C 154
7SE-D/C 153
7SE-D/R 54
7SE-D/CR 297
7SE-D/C 162
7SE-D/F 46
7SE-D/C 163
7SE-D/R 116
7SE-D/C 159
7SE-D/R 123
7SE-D/C 156
7SE-D/C 161
7SE-D/R 145
7SE-D/C 24
7SE-D/CR 331
7SE-D/C 341
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 41
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 15
7SE-D/CR 44
7SE-D/R 149
7SE-D/R 16
7SE-D/FR 102
D56
F1
C18

BASIC INFORMATION

Location:	Southern part of Hing Keng Shek Village
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (EI)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	Project Office
Approximate Coordinates:	Easting : 843985 Northing : 824668

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Undeveloped green belt
Distance of Facility from Crest (m):	0
Facility at Toe:	Lightly-used playground
Distance of Facility from Toe (m):	1
Consequence-to-life Category:	3
Remarks:	TGN 15 case - provided by SP Division (31 MAR 2004)

SLOPE PART

(1) Max. Height (m): 9 Length (m): 45 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: 05-05-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	13-11-2008
Data Source:	Project Office
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: Decomposed volcanic
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

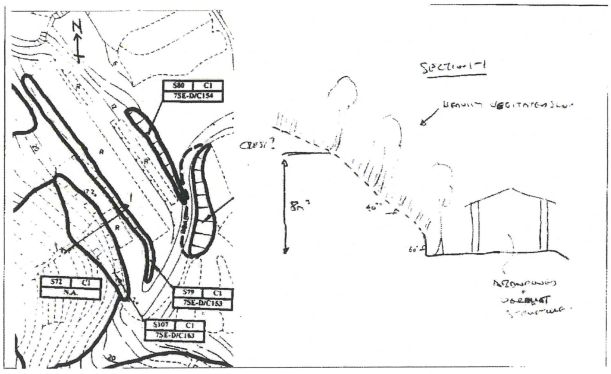
GIU Cell Ref.:	7SE25A8
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	9301 (1974), 9302 (1974)
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	13-11-2008
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1968
Related Reports/Files or Documents:	N/A
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: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	13-03-1997
Weather:	Mainly Fine
District:	ME



Section No:	1-1
Height(m):	H1 : 8 , H2 : 0
Type of Toe Facility:	Lightly-used playground
Distance from Toe(m):	1
Type of Crest Facility:	Undeveloped green belt
Distance from Crest(m):	0
Consequence Category:	1
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:	1
Engineering Judgement:	P
Sign of Seepage:	Slope : No signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : Minor (mid-portion) 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):	1
Observations:	TGN 15 case - provided by SP Division (31 MAR 2004)
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

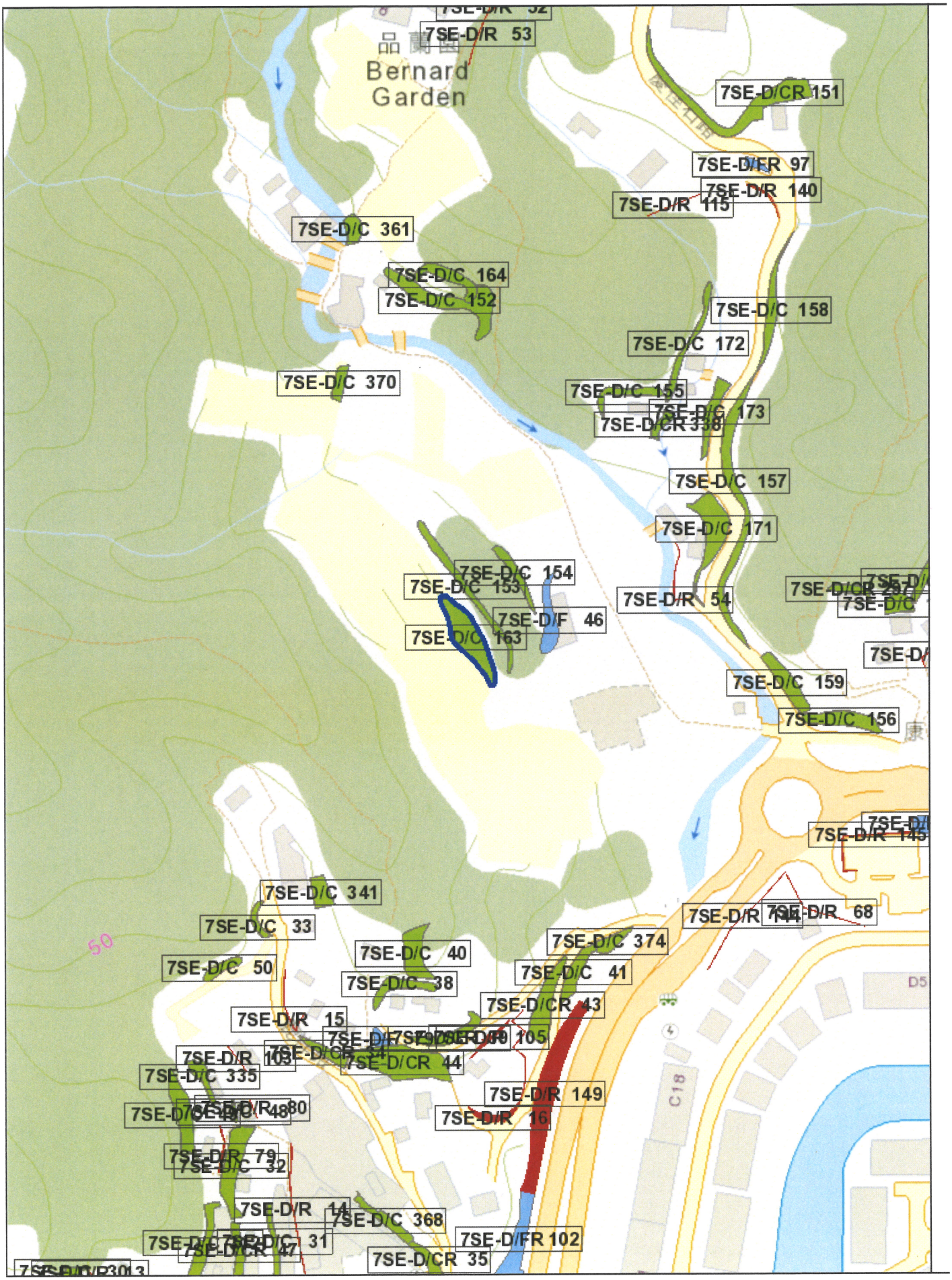
Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO








Bernard Garden
7SE-D/R 53
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 154
7SE-D/C 153
7SE-D/R 54
7SE-D/F 46
7SE-D/C 163
7SE-D/C 159
7SE-D/C 156
7SE-D/R 145
7SE-D/C 341
7SE-D/C 33
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 50
7SE-D/C 41
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 15
7SE-D/R 105
7SE-D/CR 44
7SE-D/C 335
7SE-D/R 149
7SE-D/R 16
7SE-D/R 79
7SE-D/C 32
7SE-D/R 44
7SE-D/C 368
7SE-D/C 31
7SE-D/FR 102
7SE-D/CR 47
7SE-D/CR 35
50
C18

BASIC INFORMATION

Location:	Northwest of Marina Cove and West of Hing Keng Shek Road, Southwest Sai Kung
Registration Date:	15-05-2019
Ranking Score (NPRS):	17 (LPMit)
Date of Formation:	post-1977
Date of Construction/ Modification:	
Data Source:	Project Office
Approximate Coordinates:	Easting : 843930 Northing : 824779

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Undeveloped green belt
Distance of Facility from Crest (m):	0
Facility at Toe:	Cottage, licensed and squatter area
Distance of Facility from Toe (m):	0.5
Consequence-to-life Category:	1
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 3.8 Length (m): 16 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD210 LOT 11 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 19-10-2020
(2) Sub Div.: 2 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 19-10-2020

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	31-12-2018
Data Source:	Project Office
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: 1 Min. Berm Width (m): 0.8
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.:	N/A
Map Sheet Reference (1:1000):	N/A
Aerial Photos:	N/A
Nearest Rainguage Station (Station Number):	()
Data Collected On:	31-12-2018
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
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: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	
Weather:	
District:	N/A
Section No:	1-1
Height(m):	
Type of Toe Facility:	Cottage, licensed and squatter area
Distance from Toe(m):	0.5
Type of Crest Facility:	Undeveloped green belt
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

PHOTO

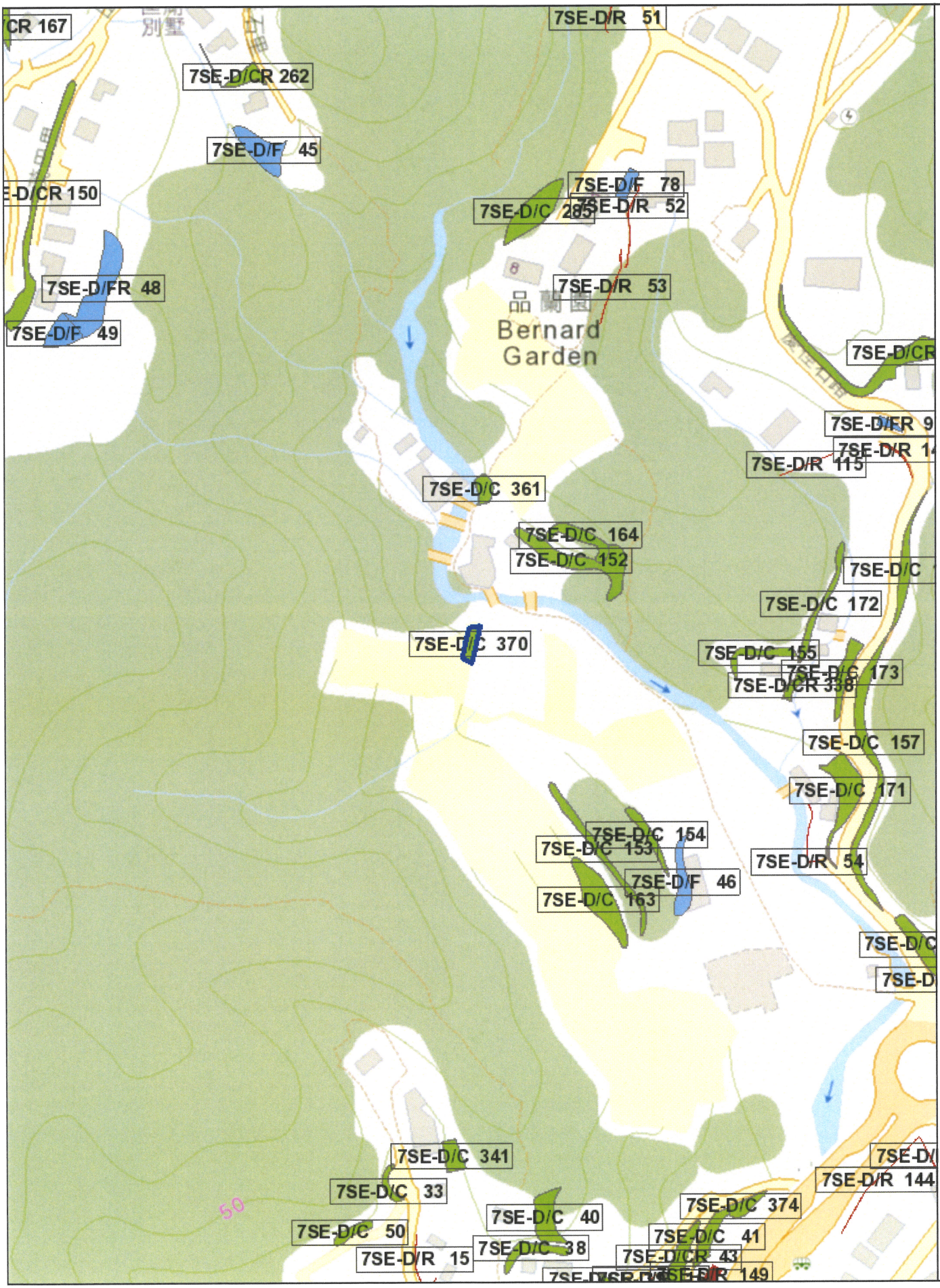






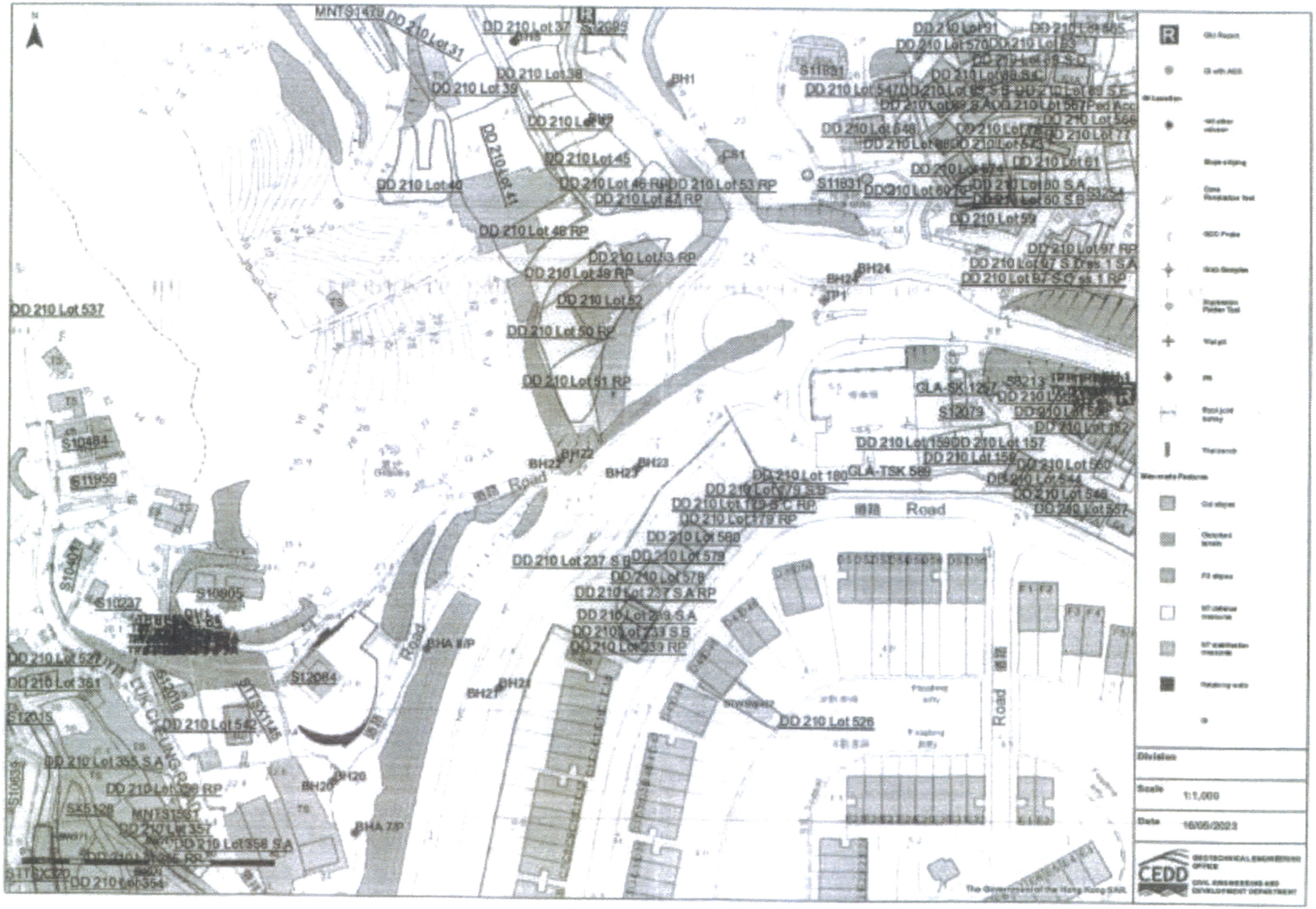





CR 167
7SE-D/CR 262
7SE-D/F 45
E-D/CR 150
7SE-D/FR 48
7SE-D/F 49
7SE-D/R 51
7SE-D/F 78
7SE-D/C 285
7SE-D/R 52
7SE-D/R 53
Bernard Garden
7SE-D/CR
7SE-D/FR 9
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 154
7SE-D/C 153
7SE-D/R 54
7SE-D/F 46
7SE-D/C 163
7SE-D/C
7SE-D
7SE-D/C 341
7SE-D/C 33
7SE-D/C 40
7SE-D/C 374
7SE-D/R 144
7SE-D/C 50
7SE-D/C 41
7SE-D/R 15
7SE-D/C 38
7SE-D/CR 43
50

Appendix B

Existing Boreholes Information


N
DD 210 Lot 537
DD 210 Lot 527
DD 210 Lot 381
DD 210 Lot 355 S A
DD 210 Lot 354
DD 210 Lot 542
DD 210 Lot 526
S10484
S11959
S10407
S10237
S10905
S12064
S12015
S10838
S12089
S11931
S12079
S10213
S11254
SK5128
MNT91479
MNT91481
MNT91482
MNT91483
MNT91484
MNT91485
MNT91486
MNT91487
MNT91488
MNT91489
MNT91490
MNT91491
MNT91492
MNT91493
MNT91494
MNT91495
MNT91496
MNT91497
MNT91498
MNT91499
MNT91500
MNT91501
MNT91502
MNT91503
MNT91504
MNT91505
MNT91506
MNT91507
MNT91508
MNT91509
MNT91510
MNT91511
MNT91512
MNT91513
MNT91514
MNT91515
MNT91516
MNT91517
MNT91518
MNT91519
MNT91520

ENPACK (H.K.) LIMITED
Civil Engineers & Contractors
Astoria Building, 6th floor, 34 Ashley Road Kowloon, Hong Kong
Tel : 23762121 Fax : 23790882
ISO 9002 : 1994 Certificate No. FQ00021

DRILLHOLE RECORD

HOLE NO. **BH 8**

CONTRACT NO. **GE/99/06**

SHEET 1 of 2

PROJECT **PWP Item 4273DS-Port Shelter Sewerage Stage 3 Phase 3, Ho Chung and Pik Shui Sun Tsuen Sewerage, Ground Investigation**

METHOD **W+RC**

MACHINE & No. **DR 77**

FLUSHING MEDIUM **WATER**

CO-ORDINATES
E 844,049.46
N 824,688.94

ORIENTATION **VERTICAL**

W.O. No **GE/99/06.59**

DATE: **17/11/2001** to **19/11/2001**

GROUND LEVEL **+4.15** mPD

Drilling Progress	Casing size	Water level (m) Shift start/ end	T.C.R.(%)	S.C.R.(%)	R.Q.D.(%)	F.I.	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
17.11.01	PX							I.P. 0.50 / 1.00 / 1.50					Loose, light yellowish brown (10YR 6/4), silty fine to medium SAND with some angular to subangular fine to medium gravel sized rock fragments. (ALLUVIUM)
								1.90 2.05	+2.10	2.05			
			32					T2-101 3.00					Light grey (10R 7/1), angular to subangular fine to coarse GRAVEL sized moderately strong tuff fragments. (ALLUVIUM)
			51					T2-101 3.50	+0.65	3.50			
			100				38blows	3.95 4.10	+0.05	4.10			Dark grey (5R 4/1), subangular fine to medium GRAVEL sized tuff fragments with a matrix of silty sand. (ALLUVIUM)
	PX HX												
			41					T2-101 4.85					Light grey, angular to subangular medium to coarse GRAVEL with much cobble and occasional boulder sized moderately strong to strong tuff fragments. (ALLUVIUM)
	HX					NA			-1.00	5.16		III	Moderately strong, light grey to light yellowish brown, moderately decomposed coarse ash crystal TUFF. Joints are extremely closely occasionally very closely to closely spaced, rough, undulating and planar, extremely to very narrow, iron and manganese stained and clay infilled (<2-3mm), dipping at 60°-70° and subvertical.
			98	21	13	>20		T2-101 6.05					
17.11.01		1.20m at 18:00											
19.11.01		1.10m at 08:00							-2.35	6.50			
			98	32	10	10.0		T2-101 7.35				III/II	Moderately strong to strong, grey, moderately to slightly decomposed coarse ash crystal TUFF. Joints are closely, locally extremely to very closely spaced, rough, undulating and planar, extremely narrow, iron and manganese stained, kaolin infilled (<2mm), dipping at 60°-70° and subvertical.
						>20							
						5.0							
			100	80	47			T2-101 8.10					
			100	67	44			T2-101 9.45					From 8.90-9.45m : Non intact.
						NI			-5.30	9.45			
						7.7		T2-101				II	Strong, grey to dark grey, slightly decomposed coarse ash crystal TUFF.

Small Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample

Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Standpipe Tip

LOGGED **P. Barry**

DATE **20/11/2001**

CHECKED **J. Morrison**

DATE **22/11/2001**

REMARKS
1. Prior to drilling an inspection pit was excavated by hand to 1.50m depth.

ENPACK (H.K.) LIMITED
Civil Engineers & Contractors
Astoria Building, 6th Floor, 34 Ashley Road
Kowloon, Hong Kong
Tel : 23742121 Fax : 23760252
ISO 9002 : 1994
Certificate No. FQ00021

DRILLHOLE RECORD

HOLE NO. **BH 8**

CONTRACT NO. **GE/99/06**

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

PROJECT **PWP Item 4273DS-Port Shelter Sewerage Stage 3 Phase 3, Ho Chung and Pik Shui Sun Tsuen Sewerage, Ground Investigation**

METHOD **W+RC**	CO-ORDINATES	W.O. No **GE/99/06.59**
MACHINE & No. **DR 77**	**E 844,049.46** **N 824,688.94**	DATE: **17/11/2001** to **19/11/2001**
FLUSHING MEDIUM **WATER**	ORIENTATION **VERTICAL**	GROUND LEVEL **+4.15** mPD

Drilling Progress	Casing size	Water level (m) Shift start/ end	T.C.R.(%)	S.C.R.(%)	R.Q.D.(%)	F.I.	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
10													
11			100	100	77	Ni 2.1		T2-101 10.95					Joints are closely becoming medium spaced, planar, extremely narrow, kaolin coated and occasionally kaolin infilled (<2mm), dipping at 45°-55°, 60°-70° and subvertical. From 10.15-10.50m : Non intact.
12			100	90	73			T2-101 12.45					
13			100	100	76			T2-101 13.90					
14		1.15m at 18:00	100	100	89			T2-101 14.80	-10.65	14.80			
19.11.01													
15													End of Investigation hole at 14.80m.
16													
17													
18													
19													
20													

Small Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample

Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Standpipe Tip

LOGGED **P. Barry**

DATE **20/11/2001**

CHECKED **J. Morrison**

DATE **22/11/2001**

REMARKS

ENPACK (H.K.) LIMITED
Civil Engineers & Contractors
Astoria Building, 6th floor, 34 Ashley Road
Kowloon, Hong Kong
Tel : 23762121 Fax : 23796283
ISO 9002 : 1994 Certificate No. FQ00021

DRILLHOLE RECORD

HOLE NO. **BH 9**

CONTRACT NO. **GE/99/06**

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

PROJECT **PWP Item 4273DS-Port Shelter Sewerage Stage 3 Phase 3, Ho Chung and Pik Shui Sun Tsuen Sewerage, Ground Investigation**

METHOD **W+RC**	CO-ORDINATES **E 844,072.77 N 824,663.34**	W.O. No **GE/99/06.59**
MACHINE & No. **DR 77**		DATE: **21/11/2001** to **22/11/2001**
FLUSHING MEDIUM **WATER**	ORIENTATION **VERTICAL**	GROUND LEVEL **+4.06** mPD

Drilling Progress	Casing size	Water level (m) Shift start/ end	T.C.R.(%)	S.C.R.(%)	R.Q.D.(%)	F.I.	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
21.11.01	PX							1 0.50 I.P. 2 1.00 3 1.50					Soft to firm, yellowish brown (10YR 5/6) and light grey (10R 7/1), sandy SILT with some angular fine to coarse gravel sized weak to moderately strong tuff fragments. (FILL)
			0				20blows	4 1.90 2.00					
			100				21blows	5 2.45 6 2.50 7 2.95	+1.06	3.00			
							(1, 2, 3, 4, 4, 4) N = 15	8 3.10 9 3.40				V	Extremely weak, red (10R 5/8) mottled yellowish brown, completely decomposed coarse ash crystal TUFF. (Firm to stiff, slightly sandy clayey SILT with occasional angular fine to medium gravel sized rock fragments)
			100					10 4.00 11 5.00					
							(2, 2, 3, 5, 5, 6) N = 19	12 5.65 13 5.95 14 6.00	-1.94	6.00		V/IV	Extremely weak to weak, light yellowish brown (2.5Y 6/4), completely to highly decomposed coarse ash crystal TUFF. (Sandy angular fine to coarse GRAVEL sized weak rock fragments)
	PX		100					15 6.90 7.00 T2-101	-2.94	7.00		III	Moderately strong, light yellowish brown, moderately decomposed highly micro fractured coarse ash crystal TUFF. Joints are extremely very closely spaced, rough, planar, extremely narrow, iron and manganese stained, dipping at 35°-45°, 60°-70° and subvertical.
			95	30	0	>20		7.50 T2-101 7.80					
			100	100	50				-3.94	8.00		III/II	Moderately strong to strong, grey, moderately to slightly decomposed coarse ash crystal TUFF. Joints are very closely to closely spaced, rough, undulating and planar, extremely to very narrow, iron and manganese stained, kaolin infilled (<2-3mm), dipping at 35°-45°, 60°-70° and subvertical. From 8.80-9.10m : Extremely closely spaced joints.
			100	85	38	8.8		T2-101 8.80					
			95	73	37	>20 6.7		T2-101					

Small Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample

Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Standpipe Tip

LOGGED **P. Barry**
DATE **23/11/2001**
CHECKED **J. Morrison**
DATE **01/12/2001**

REMARKS
1. Prior to drilling an inspection pit was excavated by hand to 1.50m depth.

ENPACK (H.K.) LIMITED
Civil Engineers & Contractors
Acorn Building, 6th floor, 34 Ashley Road Kowloon, Hong Kong
Tel : 23762131 Fax : 23760282
ISO 9002 : 1994 Certificate No. FQ00021

DRILLHOLE RECORD

HOLE NO. BH 9

CONTRACT NO. GE/99/06

SHEET 2 of 2

PROJECT PWP Item 4273DS-Port Shelter Sewerage Stage 3 Phase 3, Ho Chung and Pik Shui Sun Tsuen Sewerage, Ground Investigation

METHOD W+RC

MACHINE & No. DR 77

FLUSHING MEDIUM WATER

CO-ORDINATES
E 844,072.77
N 824,663.34

ORIENTATION VERTICAL

W.O. No GE/99/06.59

DATE: 21/11/2001 to 22/11/2001

GROUND LEVEL +4.06 mPD

Drilling Progress	Casing size	Water level (m) Shift start/ end	T.C.R.(%)	S.C.R.(%)	R.Q.D.(%)	F.I.	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
10								T2-101 10.30					As sheet 1 of 2. From 10.30-10.40m : Non intact.
11		0.30m at 18:00	100	91	53	NI 1.7		T2-101 11.45	-6.94	11.00		II	Strong, grey to dark grey, slightly decomposed coarse ash crystal TUFF. Joints are closely to medium spaced, rough, planar, extremely narrow, chlorite coated, dipping at 35°-45°, 60°-70° and subvertical.
21.11.01 22.11.01 12		1.25m at 08:00	100	100	100			T2-101 12.85					
13			100	100	70			T2-101 14.35					
14						5.5							
15			100	100	59			T2-101 15.80					
16			100	92	54			T2-101 17.10	-13.04	17.10			
17 22.11.01		1.23m at 18:00											End of investigation hole at 17.10m.
18													
19													
20													

Small Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample

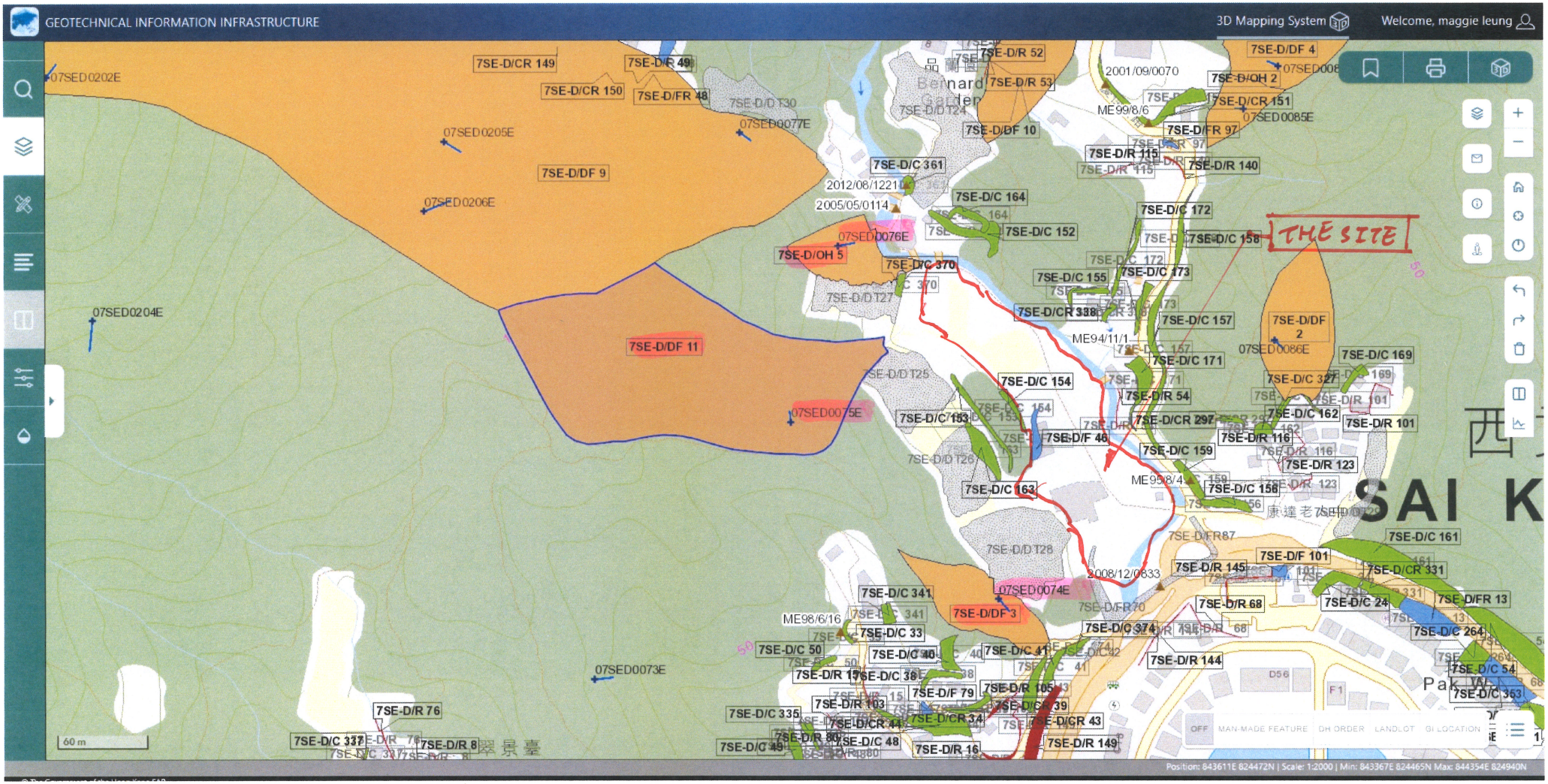
Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Standpipe Tip

LOGGED P. Barry
DATE 23/11/2001
CHECKED J. Morrison
DATE 01/12/2001

REMARKS

Appendix C

ENTLI and HLC from GInfo


GEOTECHNICAL INFORMATION INFRASTRUCTURE
3D Mapping System
Welcome, maggie leung
THE SITE
7SE-D/DF 11
7SE-D/DF 9
7SE-D/DF 3
7SE-D/OH 5
7SE-D/OH 2
7SE-D/DF 4
7SE-D/DF 2
7SE-D/CR 149
7SE-D/CR 150
7SE-D/R 49
7SE-D/FR 48
7SE-D/R 52
7SE-D/R 53
7SE-D/DF 10
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 115
7SE-D/R 140
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 172
7SE-D/C 158
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 169
7SE-D/C 154
7SE-D/R 54
7SE-D/C 162
7SE-D/R 101
7SE-D/CR 297
7SE-D/F 46
7SE-D/R 116
7SE-D/C 159
7SE-D/R 123
7SE-D/C 163
7SE-D/C 158
7SE-D/C 161
7SE-D/F 101
7SE-D/R 145
7SE-D/CR 331
7SE-D/C 341
7SE-D/R 68
7SE-D/C 24
7SE-D/FR 13
7SE-D/C 374
7SE-D/C 264
7SE-D/R 144
7SE-D/C 54
7SE-D/C 363
7SE-D/C 33
7SE-D/C 50
7SE-D/C 40
7SE-D/C 41
7SE-D/R 17
7SE-D/C 38
7SE-D/F 79
7SE-D/R 105
7SE-D/C 39
7SE-D/R 103
7SE-D/C 335
7SE-D/CR 34
7SE-D/CR 43
7SE-D/CR 41
7SE-D/C 48
7SE-D/R 149
7SE-D/R 16
7SE-D/C 49
7SE-D/R 76
7SE-D/C 337
7SE-D/R 8
07SED0202E
07SED0205E
07SED0206E
07SED0204E
07SED0077E
07SED0076E
07SED0075E
07SED0073E
07SED0074E
07SED0085E
07SED0086E
2001/09/0070
ME99/8/6
2012/08/1221
2005/05/0114
ME94/11/1
ME95/8/4
2008/12/0833
ME98/6/16
SAI K
60 m
Position: 843611E 824472N | Scale: 1:2000 | Min: 843367E 824465N Max: 844354E 824940N

ENTLI & MLC

Historical Landslide Catchment

Name	Value
Catchment No.	7SE-D/DF 3
Plan area of the catchment (Sq. m)	2768.70312927
Maximum elevation difference (m)	40
The plan area of the catchment with gradient less than 15 degree (Sq. m)	194.443969406
Site visit for the catchment	Y
Total number of relict ENTLI records within the catchment	1
Total number of recent ENTLI records within the catchment	0
The length of the longest relict ENTLI record within the catchment (m)	11.18
The length of the longest recent ENTLI record within the catchment (m)	0
The length of the longest ENTLI record within the catchment (m)	11.18
The total length of the all ENTLI record within the catchment (m)	11

ENTLI Crown / Trail

Name	Value
ENTLI No.	07SED0074E
Slide ID	07SEDX0013
Type of slides	Relict
Action	A
Width of main scarp	9.5
Length of landslide source	11
Slope	45
Vegetation cover	Completely in grass
Year landslide first observed	1963
Elevation of landslide crown	32
Elevation of landslide toe	26
Elevation difference of landslide trail	6
Gully	N
Relict class	Depression related to drainage line (10% certain)
Easting	843994.155676
Northing	824571.578318

Historical Landslide Catchment

Name	Value
Catchment No.	7SE-D/DF 11
Plan area of the catchment (Sq. m)	19668
Maximum elevation difference (m)	75
The plan area of the catchment with gradient less than 15 degree (Sq. m)	0
Site visit for the catchment	Y
Total number of relict ENTLI records within the catchment	1
Total number of recent ENTLI records within the catchment	0
The length of the longest relict ENTLI record within the catchment (m)	8
The length of the longest recent ENTLI record within the catchment (m)	0
The length of the longest ENTLI record within the catchment (m)	8
The total length of the all ENTLI record within the catchment (m)	8

ENTLI Crown / Trail

Name	Value
ENTLI No.	07SED0075E
Slide ID	07SEDX0014
Type of slides	Relict
Action	A
Width of main scarp	14
Length of landslide source	7.5
Slope	39
Vegetation cover	Shrubs and trees
Year landslide first observed	1963
Elevation of landslide crown	57
Elevation of landslide toe	49
Elevation difference of landslide trail	8
Gully	N
Relict class	Broad depression (10% certain)
Easting	843857.473781
Northing	824688.2476

Historical Landslide Catchment

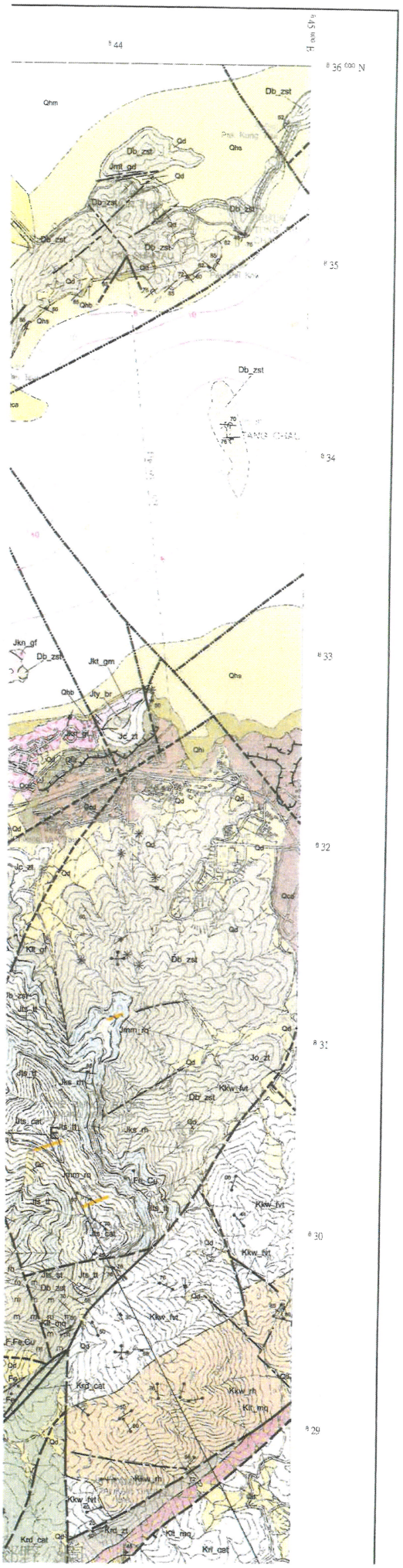
Name	Value
Catchment No.	7SE-D/OH 5
Plan area of the catchment (Sq. m)	2190.91106044
Maximum elevation difference (m)	51
The plan area of the catchment with gradient less than 15 degree (Sq. m)	0
Site visit for the catchment	Y
Total number of relict ENTLI records within the catchment	1
Total number of recent ENTLI records within the catchment	0
The length of the longest relict ENTLI record within the catchment (m)	11.69
The length of the longest recent ENTLI record within the catchment (m)	0
The length of the longest ENTLI record within the catchment (m)	11.69
The total length of the all ENTLI record within the catchment (m)	12

ENTLI Crown / Trail

Name	Value
ENTLI No.	07SED0076E
Slide ID	07SEDX0015
Type of slides	Relict
Action	A
Width of main scarp	16
Length of landslide source	11.5
Slope	47
Vegetation cover	Completely in grass
Year landslide first observed	1963
Elevation of landslide crown	36
Elevation of landslide toe	25
Elevation difference of landslide trail	11
Gully	N
Relict class	Broad depression (10% certain)
Easting	843888.557203
Northing	824804.065281

Appendix D

Geology Map from GInfo



HONG KONG GEOLOGICAL SURVEY

Sheet 7
SOLID AND SUPERFICIAL GEOLOGY

Series HGM20
Scale 1:20 000

SUPERFICIAL DEPOSITS

AGE (Millions of years)			GENETIC CLASSIFICATION OR NAMED DIVISIONS			PRINCIPAL MATERIALS
0	QUATERNARY	HOLOCENE	FANLING FORMATION	Fill; sanitary fill		Natural earth and waste
				Alluvium	Qfa	Clay, silt, sand and gravel; well-sorted to semi-sorted
			HANG HAU FORMATION	Beach deposits	Qhb	Sand
				Intertidal deposits	Qhi	Silt, sand and clay
				Marine mud	Qhm	Soft to very soft mud; some sand
				Marine sand	Qhs	Sand; some gravel and sand
		PLEISTOCENE AND HOLOCENE	UNDIFFERENTIATED	Colluvium	Qd	Silt, sand and gravel with boulders
		PLEISTOCENE HOLOCENE	CHEK LAP KOK FORMATION	Alluvium	Qca	Silt, sand, gravel and boulders
1.8				Colluvium	Qcd	Sand, gravel, cobbles and boulders in silt matrix

MINOR INTRUSIVE ROCKS

Undifferentiated mafic to intermediate dykes, dominantly basaltic andesite and andesite — b

VOLCANIC ROCKS

140	JURASSIC TO CRETACEOUS	CRETACEOUS	EARLY	KAU SAI CHAU VOLCANIC GROUP	CLEAR WATER BAY FORMATION	Eutaxitic fine ash vitric tuff	Kkw_fvt
						Flow-banded porphyritic rhyolite lava	Kkw_rh
					CHE KWU SHAN FORMATION	Eutaxitic fine ash vitric tuff	Krc_fvt
				REPULSE BAY VOLCANIC GROUP	MOUNT DAVIS FORMATION	Coarse ash crystal tuff	Krd_cat
						Tuffaceous siltstone	Krd_zt
						Feldsparphyric rhyolite, mainly dykes	Krd_rf
						Quartzphyric rhyolite, mainly dykes	Krd_rq
					LONG HARBOUR FORMATION	Coarse ash crystal tuff	Krl_cat
144						Tuffaceous sandstone	Krl_st

GRANITOID ROCKS

Klt_lq	Quartz latite	TEI TONG TSUI QUARTZ MONZONITE	LION ROCK SUITE
Klt_rf	Feldsparphyric rhyolite		
Klt_gf	Fine-grained granite		
Klt_mq	Quartz monzonite		
Kcs_gf	Dominantly porphyritic fine-grained granite	SHUI CHUEN O GRANITE	CHEUNG CHAU SUITE
Kcs_gm	Dominantly equigranular medium-grained granite with some porphyritic fine-grained granite		
Kcs_gc	Dominantly coarse-grained granite		
Kcu_gd	Undifferentiated porphyritic medium-grained granodiorite		

Textural Modification

Inequigranular texture

146	JURASSIC	MIDDLE TO LATE	LATE			Jkt_gf	Fine-grained biotite granite	SHA TIN GRANITE	KWAI CHUNG SUITE
						Jkt_gm	Medium-grained biotite granite		
						Jkt_gc	Coarse-grained biotite granite		
						Jkn_gf	Dominantly porphyritic fine-grained granite with some equigranular medium-grained granite	NEEDLE HILL GRANITE	
						Jko_rq	Quartzphyric rhyolite to porphyritic granite dykes	EAST LANTAU RHYOLITE	
						Jkd_rf	Feldsparphyric rhyodacite to porphyritic granite dykes	EAST LANTAU RHYODACITE	
148						Jks_rh	Flow-banded porphyritic rhyolite sill	SHAM CHUNG RHYOLITE	
164			MIDDLE	TSUEN WAN VOLCANIC GROUP	TAI MO SHAN FORMATION	Jtm_fvt	Fine ash vitric tuff	CHEK MUN RHYOLITE	LAMMA SUITE
						Jtm_cat	Lapilli lithic-bearing coarse ash crystal tuff		
						Jtm_zt	Tuffaceous siltstone		
					SHING MUN FORMATION	Jts_cat	Lapilli lithic-bearing coarse ash crystal tuff		
						Jts_bt	Tuff breccia		
						Jts_tt	Tuffite		
						Jts_st	Tuffaceous sandstone		
						Jts_zt	Tuffaceous siltstone		
165					YIM TIN TSAI FORMATION	Jty_cat	Lapilli lithic-bearing coarse ash crystal tuff		
						Jty_br	Sedimentary breccia		
						Jty_tt	Tuffite		
						Jty_zt	Tuffaceous siltstone		

Jmm_rq — Quartzphyric rhyolite dykes

Jmt_rf — Feldsparphyric rhyolite dykes

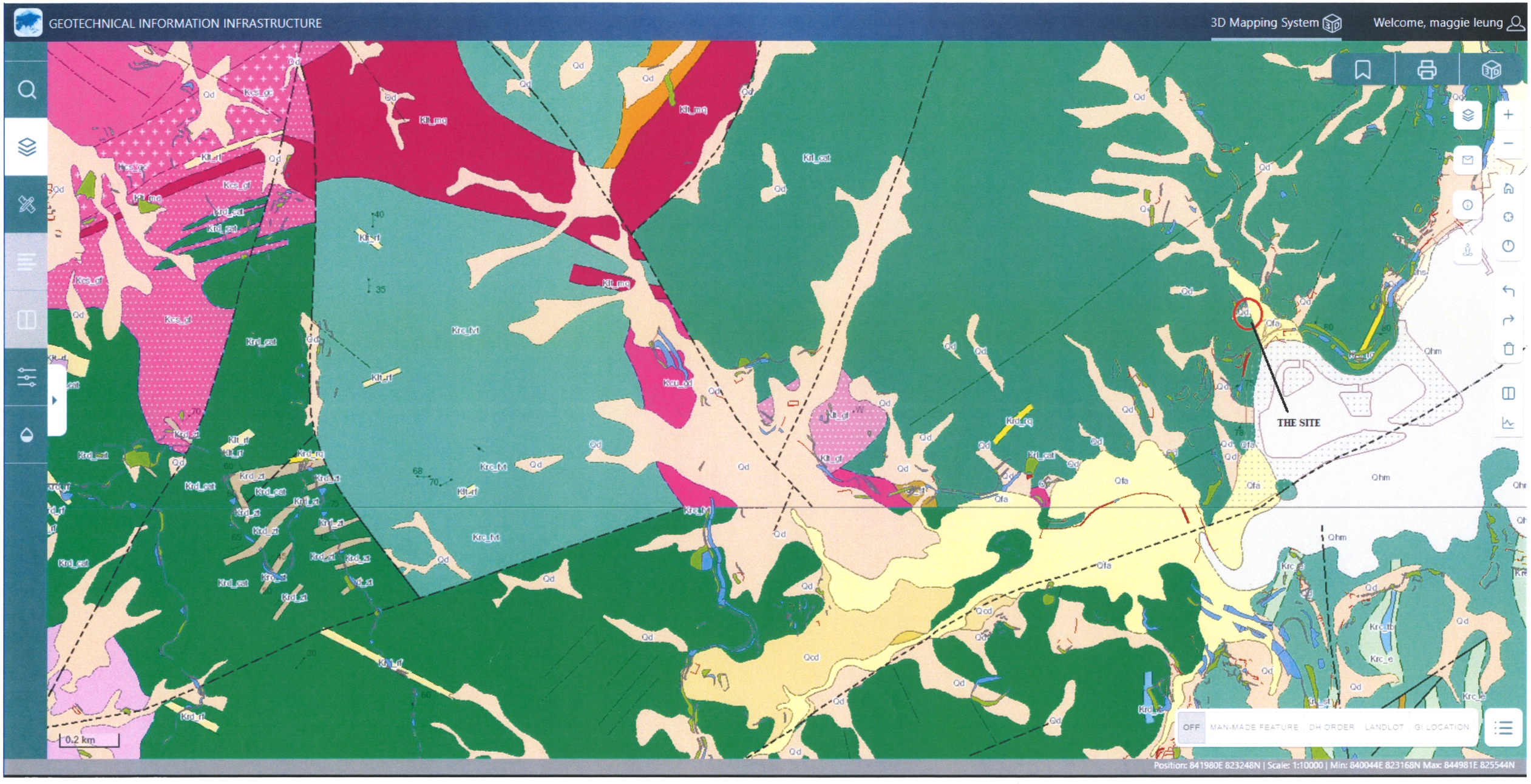
Jmt_gd — Porphyritic medium- and fine-grained granodiorite — TAI PO GRANODIORITE

m m m / m m m — Contact metamorphism

Thermally altered tuff

SEDIMENTARY ROCKS

JURASSIC	EARLY TO MIDDLE	TAI O FORMATION	Grey to red, fine-grained sandstone and siltstone	Jo_zt
			Grey to black laminated siltstone	



GEOLOGICAL MAP (2nd ED. AFTER 2008)

FORMATION INFRASTRUCTURE

3D Mapping System

W

THE SITE

OFF MAN-MADE FEATURE DH ORDER LAND

Position: 842516E 823548N | Scale: 1:10000 | Min: 840069E

SAR

SOLID GEOLOGY

Appendix E

Summary of API

Summary of API

Year	Photographic Reference no.	Activities	Observations
1963	1963-9701 1963-9702	3900	The usage of land in the Site is farmland. Catchment A1 & A2 are also farmland. 3 nos. of Enhanced Natural Terrain Landslide Inventory (ENTLI) with Historical Landslide Catchment (HLC) are found from Ginfo.
1964	1964-4532	1800	The Site, Catchment A1 & A2 are farmland. Catchment B & C were fully covered by vegetation.
1968	1968-0898 1968-0899	2000	The Site, Catchment A2 are farmland. Catchment A1 was started to cover by vegetation/ trees and had been abandoned. Catchment B & C were fully covered by vegetation.
1974	09302	4000	The Site, Catchment A2 are farmland. Catchment A1, B & C were fully covered by vegetation. Catchment A2 was started to cover by vegetation/ trees and had been abandoned
1977	20026	4000	The Site is farmland. Catchments under study were fully covered by vegetation.
1978	23149	4000	The Site is farmland Catchments under study were fully covered by vegetation.
1979	25705	2500	The Site is farmland Catchments under study were fully covered by vegetation.
1980	29666	4000	The Site is farmland Catchments under study were fully covered by vegetation.
1982	43262	4000	The Site is farmland Catchments under study were fully covered by vegetation.

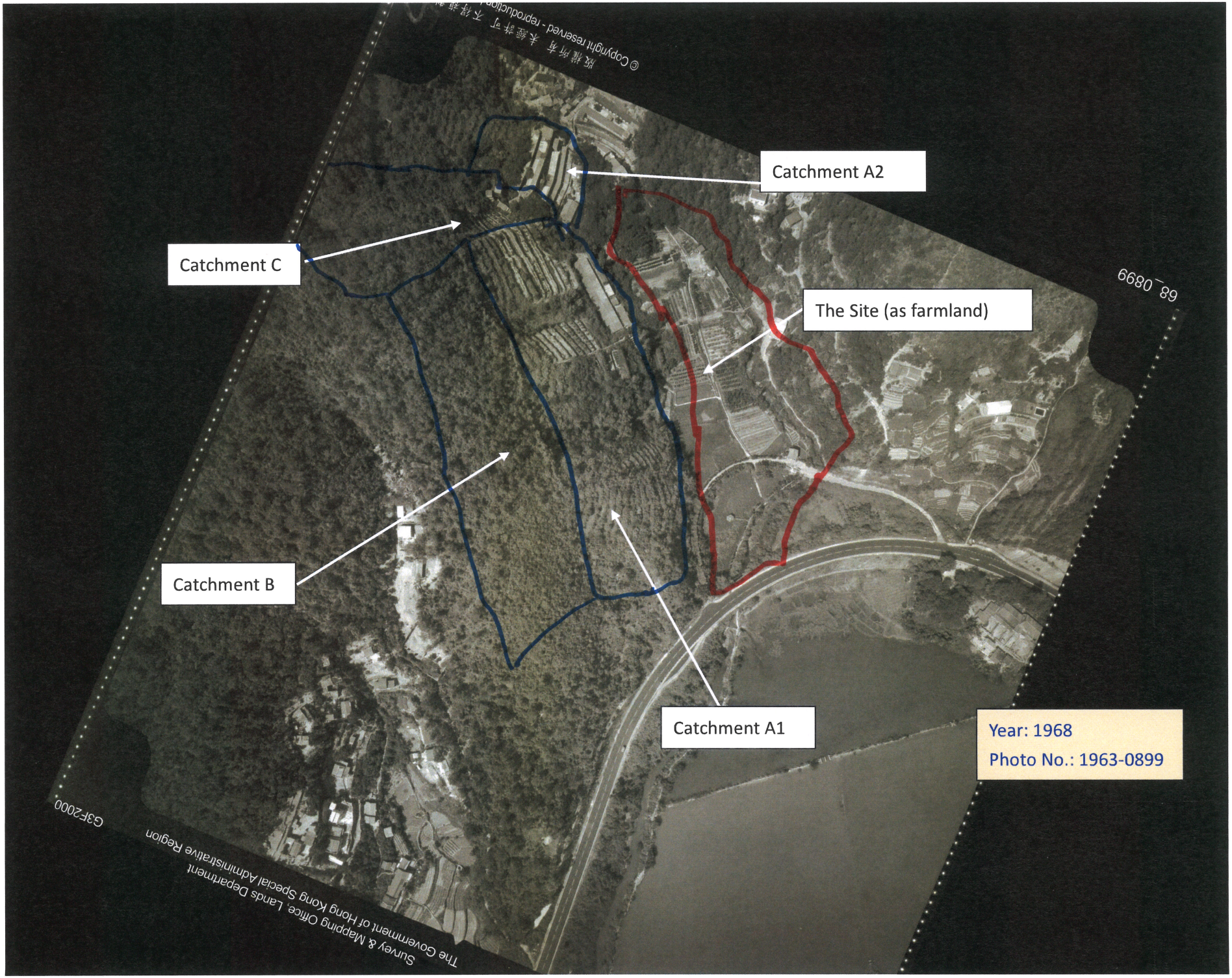
Year	Photographic Reference no.	Activities	Observations
1983	50643	4000	Middle part was farmland and other parts of the Site was started to cover by vegetation/ trees Catchments under study were fully covered by vegetation.
1984	55367	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1986	A05256	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1987	A08855	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1988	A15444	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1989	A17757	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1990	A21734	2000	Middle part of the Site was started to cover by vegetation/ trees. Other parts of the Site and Catchments under study were fully covered by vegetation.
1991	A29309	3000	The Site and Catchments under study were fully covered by vegetation.
1993	CN03209	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1994	CN06606	3300	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1995	CN10978	2500	Some squatters found in the Site. Catchments under study were fully covered by vegetation.

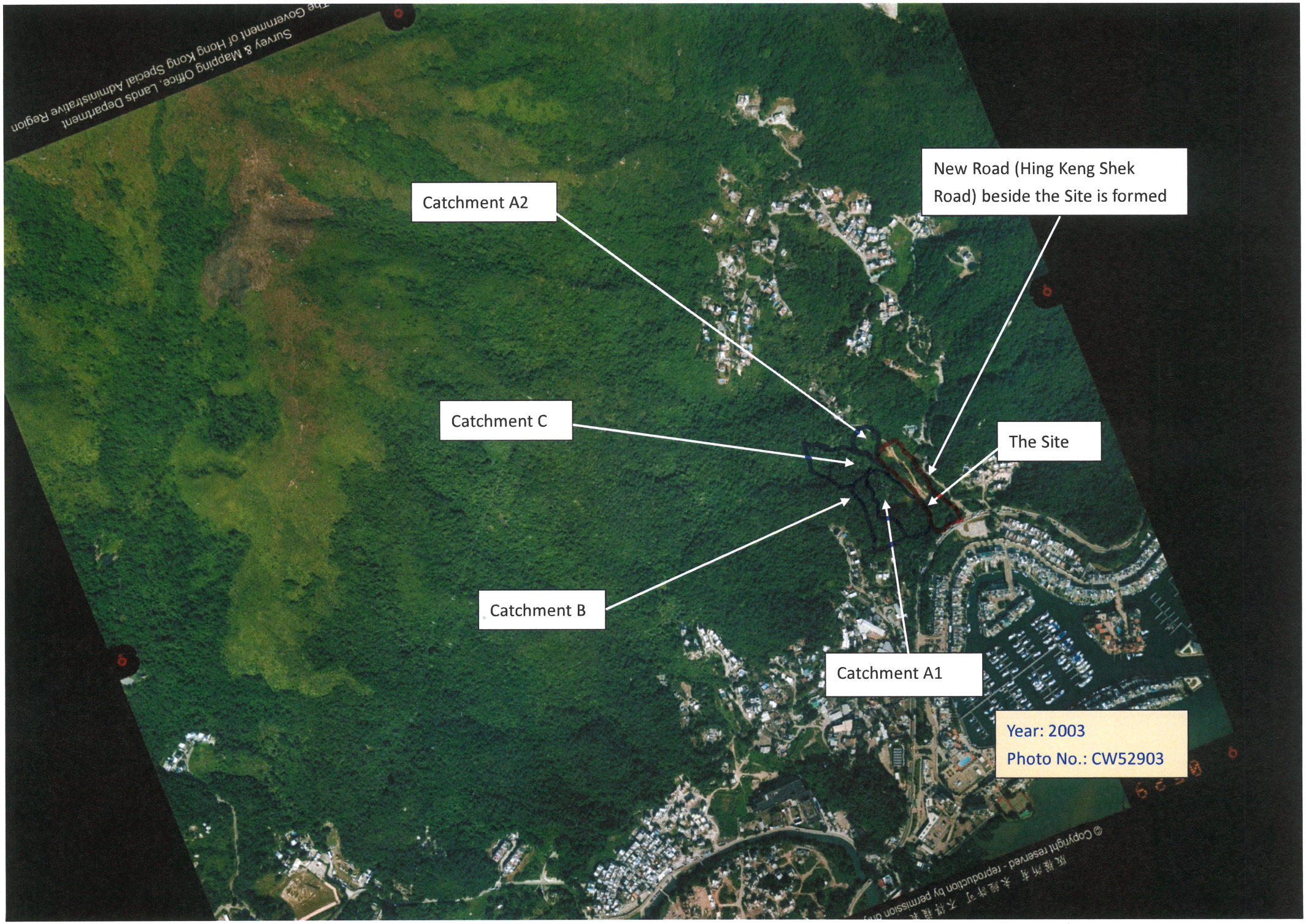
Year	Photographic Reference no.	Activities	Observations
1996	CN15116	3500	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1997	CN16771	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1998	CN21228	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1999	CN23114	2500	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2000	CN26681	4000	Public works (Port Shelter Sewerage Stage 3, Ph. 3 – GE/99/06) was commenced in the middle of the Site. Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2001	CW32429	4000	GI for Public works GE/99/06 was commenced in the middle of the Site Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2002	CW38786	3000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2003	CW52903	4000	New Road (Hing Keng Shek Road) beside the Site is formed Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2004	CW52903	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.

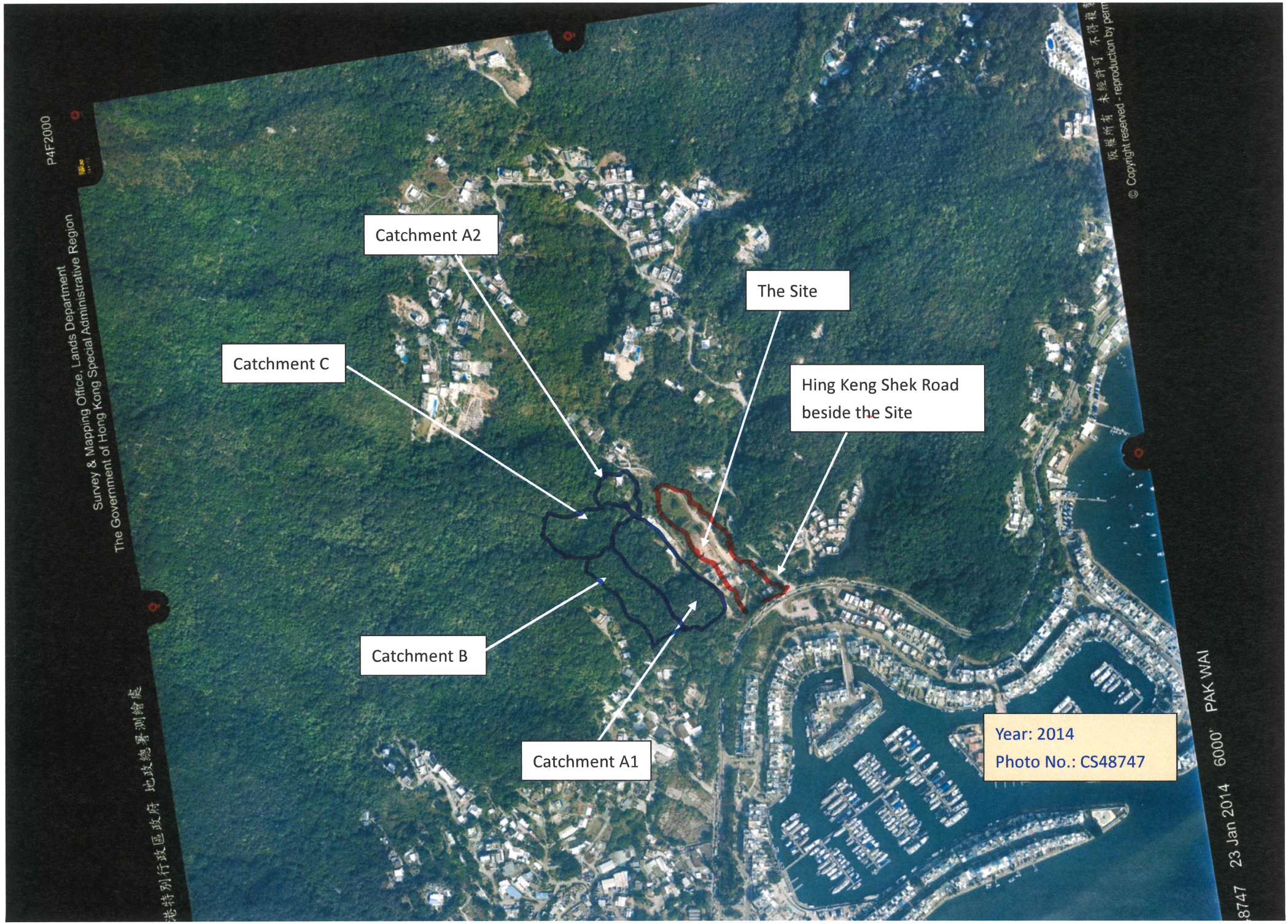
Year	Photographic Reference no.	Activities	Observations
2005	CW63913 CW64565	2500	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2006	CW52903	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2007	CS09320	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2008	CS22404	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2009	CS24367	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2010	CS29288	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2011	CS35169	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2012	CS39288	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2013	CS45139	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2014	CS48747 CS48748	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2015	CS57777	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.

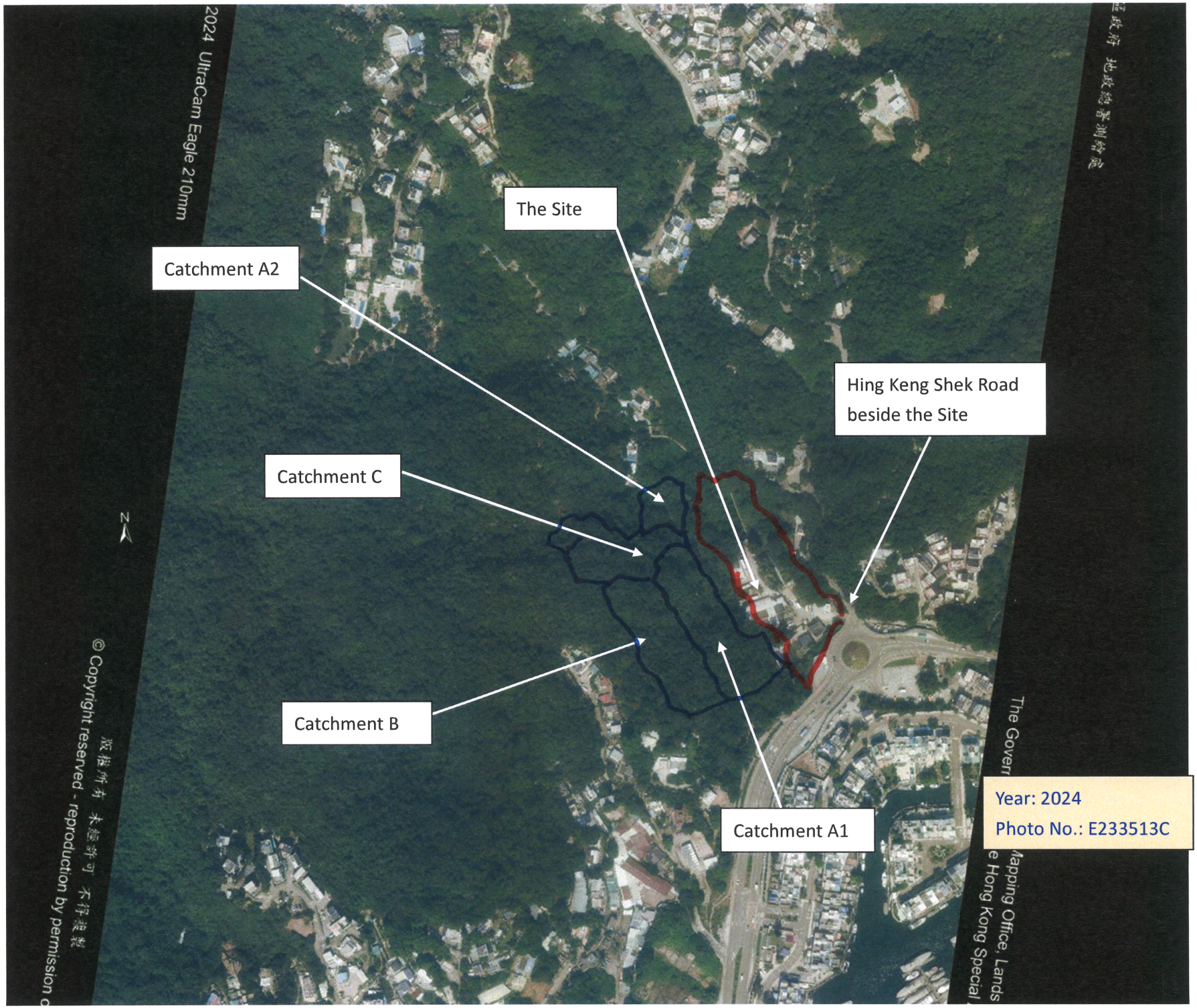
Year	Photographic Reference no.	Activities	Observations
2016	CS64065	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2019	E068813C	6900	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2020	E097551C	6900	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2021	E129664C	6900	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2022	E181548C	3000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2023	E194258C	6900	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2024	E233512C E233513C	6900	Latest Aerial Photos Some squatters found in the Site. Catchments under study were fully covered by vegetation. No New ENTLI, HLC & Landslide Incident was found from GInfo in Catchments under study


ENTLI: 07SED0076E
Catchment A2
Catchment C
The Site (as farmland)
ENTLI: 07SED0075E
Catchment B
Catchment A1
ENTLI: 07SED0074E
Year: 1963
Photo No.: 1963-9702


Catchment A2
Catchment C
The Site (as farmland)
Catchment B
Catchment A1
Year: 1968
Photo No.: 1963-0899
68_0899
© Copyright reserved - Reproduction
版權所有 未經許可 不得複
The Government of Hong Kong Special Administrative Region
Survey & Mapping Office, Lands Department
G3F2000


Catchment A2
New Road (Hing Keng Shek Road) beside the Site is formed
Catchment C
The Site
Catchment B
Catchment A1
Year: 2003
Photo No.: CW52903


Catchment A2
The Site
Catchment C
Hing Keng Shek Road
beside the Site
Catchment B
Catchment A1
Year: 2014
Photo No.: CS48747
P4F2000
Survey & Mapping Office, Lands Department
The Government of Hong Kong Special Administrative Region
© Copyright reserved - reproduction by perm
PAK WAI
23 Jan 2014
6000'


2024 UltraCam Eagle 210mm
The Site
Catchment A2
Hing Keng Shek Road
beside the Site
Catchment C
Catchment B
Catchment A1
N
© Copyright reserved - reproduction by permission
Year: 2024
Photo No.: E233513C