

Geotechnical Assessment Report
on
Proposed Temporary Shop & Services
(Estate Agent Office)
with
Ancillary Car Park for Period of 3 Years
at
Lot 431 R.P. in D.D. 10
Lam Kam Road, Lam Tsuen
Tai Po, N.T.

Philip So & Associates Consulting Civil and Geotechnical Engineers Ltd.
August 2017

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1. Introduction

Temporary Shop & Services (Estate Agent Office) with Ancillary Car Park for a Period of 3 years are proposed to be carried out at Lot 431 R.P. in D.D. 10, Lam Kam Road, Lam Tsuen, Tai Po, N.T. For this project, Philip So & Associates Ltd. is appointed by the lot owner as the project geotechnical consulting engineer.

To support the proposal, the following geotechnical and structural aspects are studied:-

- a) Identifying the geotechnical constraints of the site; and
- b) Assessing foundation works to be required with particular emphasize on the geotechnical constraints including the sub-stratum condition.

This report identifies the pertinent geotechnical and structural features of the site and their implications on the proposed development. It also discusses in general the geotechnical and structural considerations required for the subject works, with a brief discussion about the structural works to be involved.

In order to fulfill the above-mentioned objectives, a comprehensive investigation programme will be implemented comprising the following:-

- 1.1 Detailed ground investigation including in-situ and laboratory soil testing to identify the soil parameters together with the monitoring of groundwater table, by sinking vertical drillholes and trial pits on site;
- 1.2 Establishment of geological and hydrogeological model based on the findings from topographic survey and the ground investigation works.

2. Site Location, Topography and Surrounding Environment

The proposed works involve Temporary Shop & Services (Estate Agent Office) with Ancillary Car Park for Period of 3 Years at Lot 431 R.P. in D.D. 10, Lam Kam Road, Lam Tsuen, Tai Po, N.T. The block plan of the site is given in Figure 1.

2.1 Site Descriptions

The works consist mainly of the following items:-

- a) Proposed Shop and Services (Estate Agent Office);
- b) Proposed Ancillary Car Park;
- c) Proposed Ingress/Egress; and
- d) Proposed Turfed Area.

An existing slope with Feature No. 7NW-A/F2 is situated due south of the site.

To the south of the site, there is a vehicular road, namely Lam Kam Street, with heavy traffic density. To the north and north-west of the site, there are single storey structures. To the south-west of the site, there are some temporary shelters.

Existing Geotechnical Features

Feature No. 7NW-A/F2

The Feature is situated due south of the site. The full slope is about 130m long. The maximum height of the cut slope is 8m with an average angle of 40° inclining to horizontal. The proposed turfed area is situated near the slope toe. An existing road with heavy traffic is situated in the slope crest. With reference to the SMRIS retrieved from Lands Department (see Appendix A), the lot owners or parties listed below are responsible for maintenance of this Feature:

- Lot 459 in D.D. 10
- Lot 460 B.R.P. in D.D. 10
- Highways Department
- Lot 431 in D.D. 10

- Lot 461 B.R.P. in D.D. 10

3. General Approaches for Site Formation, Superstructure and Foundation Design

With reference to the Block Plan (Figure 1 refers), temporary shop & services (Estate Agent Office) with Ancillary Car Park and turfed area are proposed to be constructed at the subject lot.

Judging from the site conditions and the proposed building, the following approaches shall be adopted for the future Site Formation, superstructure and foundation design:-

- a) To provide shallow foundation is considered appropriate in order to support the future structures.
- b) To carry out detailed stability assessment for the existing Feature and to provide adequate upgrading measures as necessary.

3.1 Site Formation, Foundation and Superstructure Approach

Ground investigation works including trial pits / vertical boreholes shall be sunk on the existing Feature No. 7NW-A/F2 to confirm the thickness of the soil stratum, the depth of bearing stratum and the groundwater table level. Soil sampling and laboratory testing shall be conducted in order to identify the soil parameters for different types of soils in the subject site.

Feature No. 7NW-A/F2

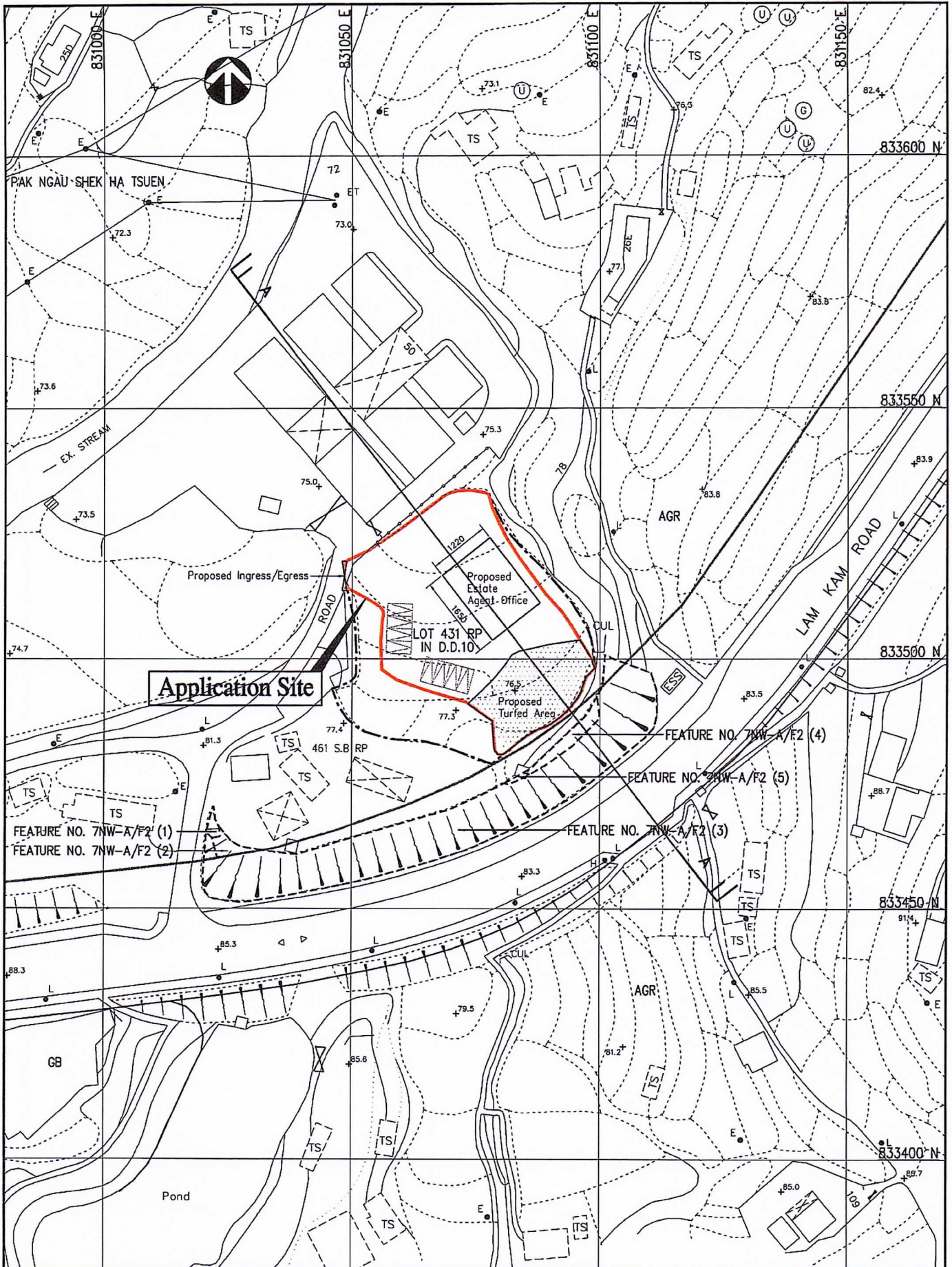
With reference to the Block Plan and section, turfed area is to be located near the slope toe. Overall stability assessment for the feature shall be checked to ensure the feature will not affect the proposed works, or vice versa. Adequate upgrading measures (e.g. installation of soil nails) shall be provided if the feature cannot fulfill the current engineering standard.

4. Conclusions and Recommendations

On the basis of engineering considerations discussed in Sections 2 & 3, it is considered that the proposed development is feasible.

Pad footing / raft footing are proposed as the support for construction of the proposed structure. Adequate upgrading measures (e.g. installation of soil nails) shall be provided if the existing Feature cannot fulfill the current engineering standards.

Figures



PROJECT : LOT 431 RP (PORTION) IN D.D.10, LAM KAM ROAD,
LAM KAM TSUEN, TAI PO, N.T.

DWG. TITLE : BLOCK PLAN

DATE : 28/08/2017 SCALE : 1 : 1000 DRG. NO. : Figure 1

GEOTECHNICAL CONSULTANT :

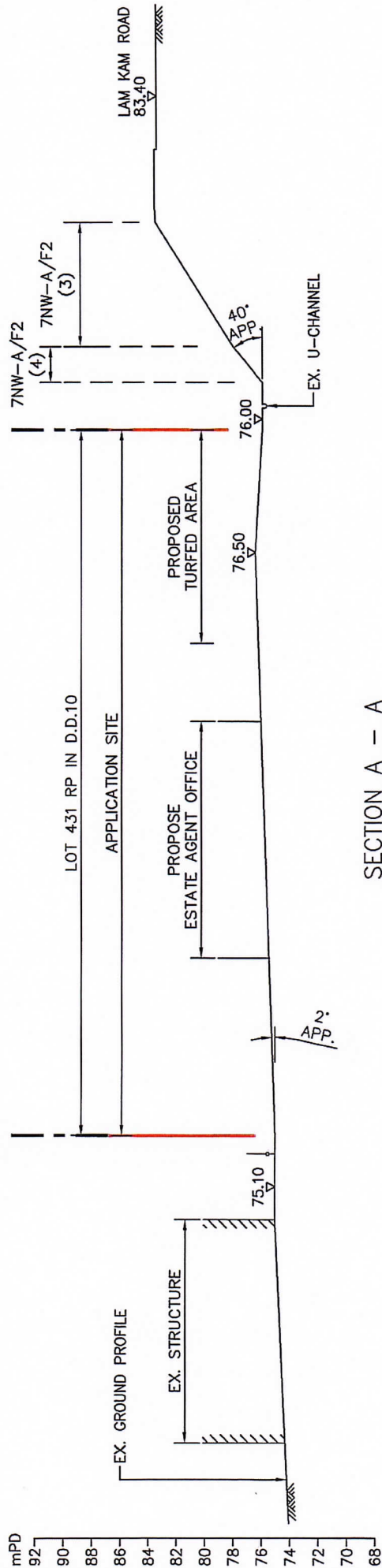
PSA PHILIP SO & ASSOCIATES
CONSULTING CIVIL AND GEOTECHNICAL ENGINEERS LTD.

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SECTION A - A

PROJECT : LOT 431 RP (PORTION) IN D.D.10, LAM KAM ROAD, LAM KAM TSUEN, TAI PO, N.T.		GEOTECHNICAL CONSULTANT :	
DWG. TITLE : SECTION A - A		PSA PHILIP SO & ASSOCIATES CONSULTING CIVIL AND GEOTECHNICAL ENGINEERS LTD.	
DATE : 28/08/2017		Flat C, 8/F., On Ho Industrial Building, No. 17-19, Shing Wan Road, Tai Wai, Shatin, N.T.	
SCALE : 1 : 400		TEL. (852) 2739 9333 FAX. (852) 2732 2863	
DRG. NO. : Figure 2			

Photos



Photo 1 Local Mini Bus Stop to serve the local resident from Pak Ngau Shek Tseun and Tai Wo MTR Station



Photo 2 Northern View from the Application Site, 2 to 3-storeys village houses were found



Photo 3 One storey structures to immediate north of the application site which has been in existence before the EDPA Plan

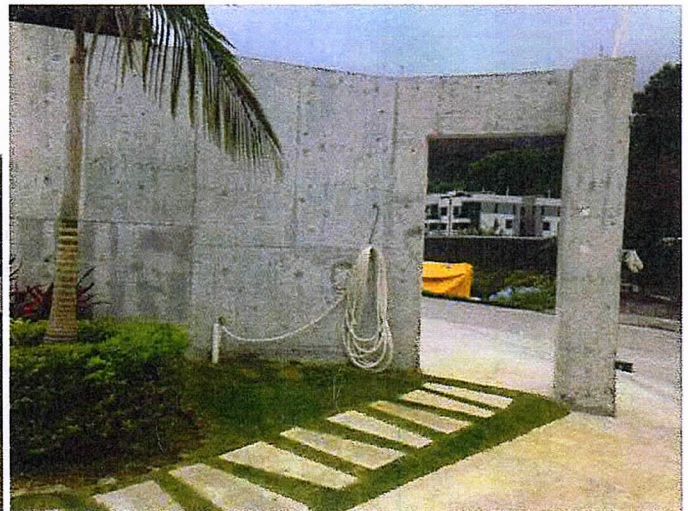


Photo 4 The Pedestrian Entrance in the immediate Left of the Application Site



Photo 5 The Entrance of the local van Track branching off from Lam Kam Road



Photo 6 One storey structure in the immediate southwest of the Application Site

Project:
Section 16 Planning Application for Shop & Services (Estate Agent Office) with Ancillary Car Park at Lot 431 RP (Part) in D.D.10, Lam Kam Road, Lam Tsuen, Tai Po, New Territories

Title:
Surrounding Land Uses Characteristics

Illustration:
3

Scale:
Not to Scale

Date:
June 2017

PHILIP SO & ASSOCIATES LTD.
Consulting Civil & Geotechnical Engineers

Ref.: ADCL/PLG-10125-R001/1003

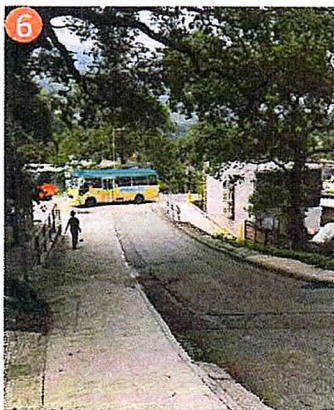
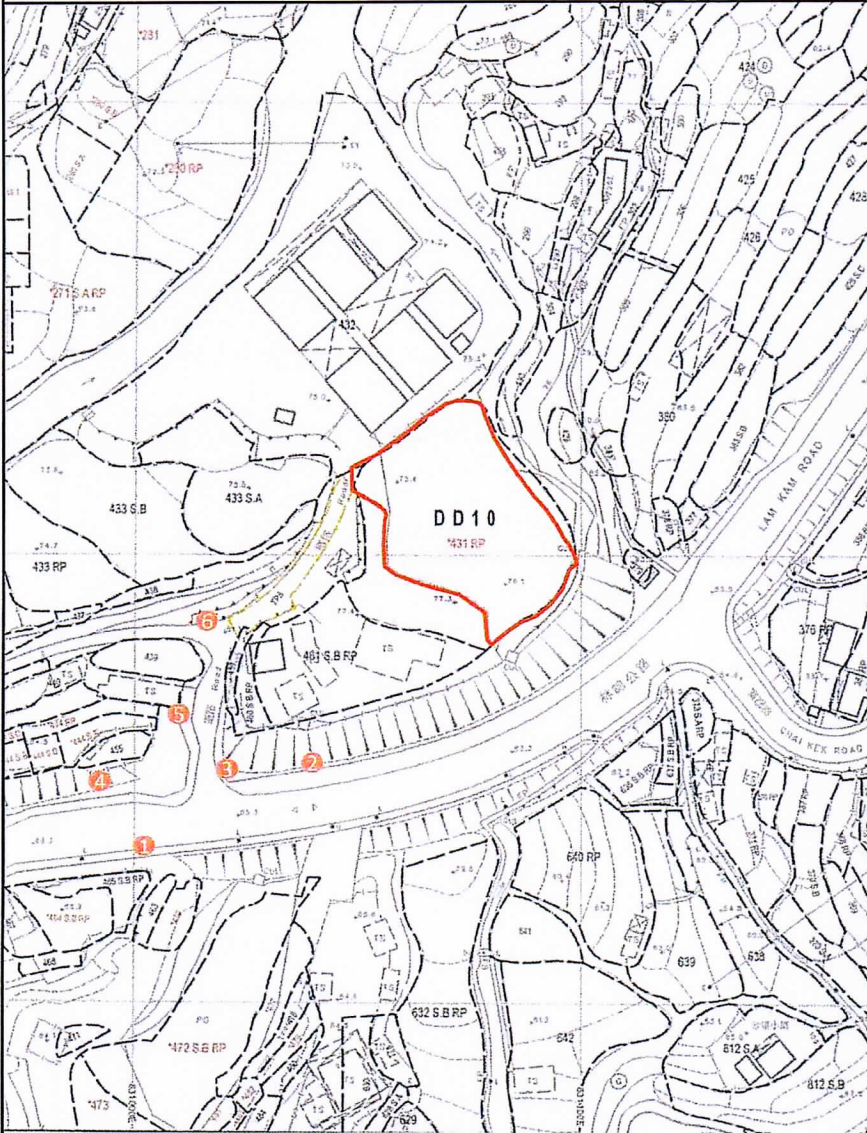
LEGEND:

The Subject Building

① – ⑥

Viewpoint

(For Identification Only)



Project:
Section 16 Planning Application for Shop & Services (Estate Agent Office) with Ancillary Car Park at Lot 431 RP (Part) in D.D.10, Lam Kam Road, Lam Tsuen, Tai Po, New Territories

Title:
Current Conditions of Lam Kam Road

Illustration:
4

Scale:
Not to Scale

Date:
June 2017

PHILIP SO & ASSOCIATES LTD.
Consulting Civil & Geotechnical Engineers

Ref.: ADCL/PLG-10125-R001/1004

Appendix A

SMRIS from Lands Department and SIS from CEDD



BASIC INFORMATION

Location: LAM KAM ROAD, TP

SIFT Ref.: N/A

First Registration Date:

SIFT Class: B2

Data Source: E(HyD)

Approximate Coordinates: Easting: 831067 Northing: 833461

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest: Road/footpath with heavy traffic density

Distance of Facility from Crest (m): 4

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): 8 Length (m): 130 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

- | | | | |
|-----|---------------|-----------------------------------|----------------------------------|
| (1) | Mixed Feature | Maintenance Party: DD10 Lot459 | MR Endorsement Date: 30-Aug-2000 |
| (2) | Mixed Feature | Maintenance Party: DD10 Lot460BRP | MR Endorsement Date: 30-Aug-2000 |
| (3) | Mixed Feature | Maintenance Party: HyD | MR Endorsement Date: 30-Aug-2000 |
| (4) | Mixed Feature | Maintenance Party: DD10 Lot431 | MR Endorsement Date: 30-Aug-2000 |
| (5) | Mixed Feature | Maintenance Party: DD10 LOT461BRP | MR Endorsement Date: 30-Aug-2000 |



DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 09-May-2012

Data Source: EI(HyD)

Slope Part Drainage: (1) Position: Toe Size(mm): 600
(2) Position: Berm Size(mm): 225

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): 1

Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

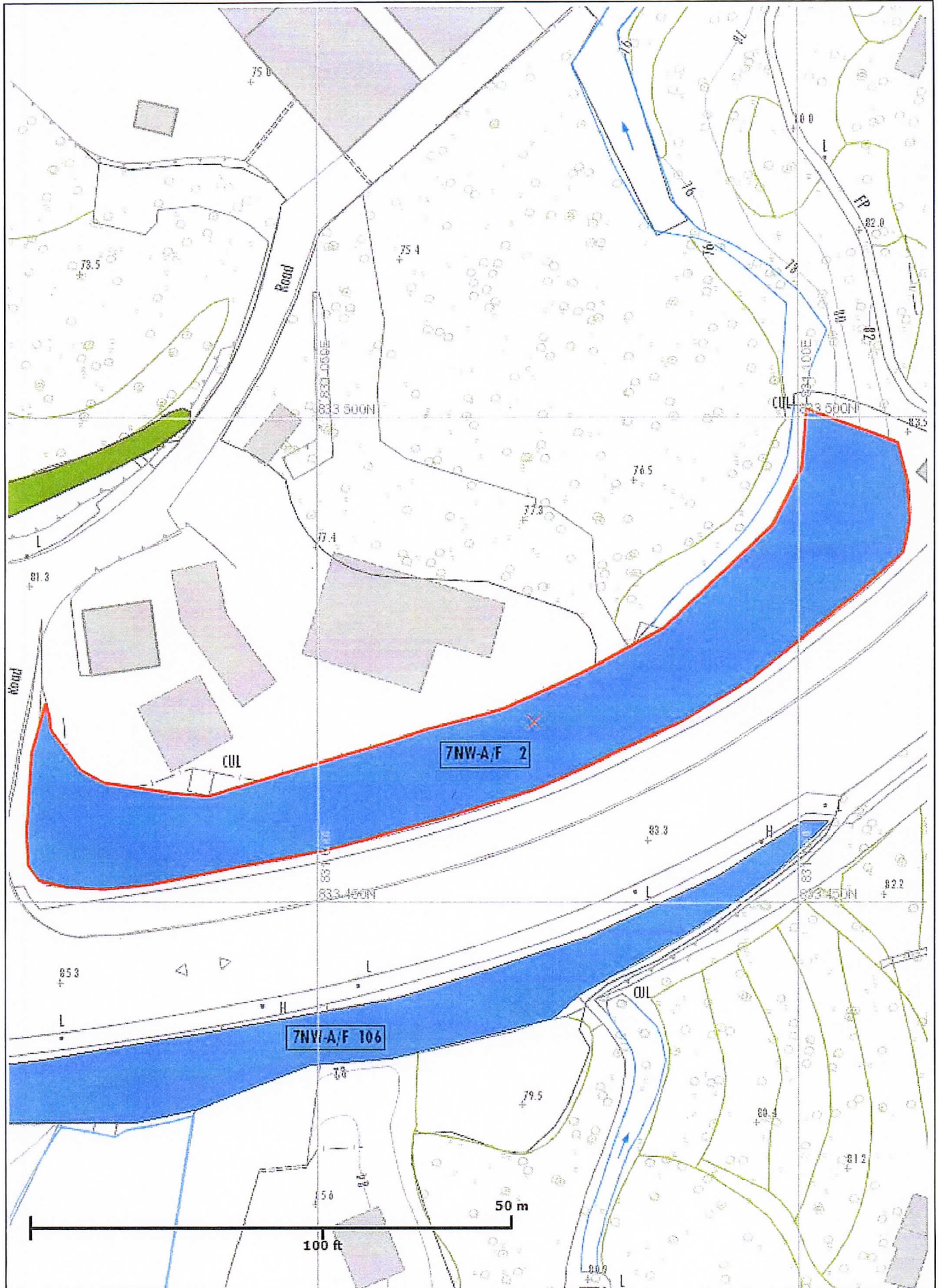
N/A

SERVICES

N/A

PHOTO





Slope Maintenance Responsibility Report

(7NW-A/F2)


**ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT**
List of Slope Maintenance Responsibility Area(s)

1	7NW-A/F2	Sub-Division		1
	Location	ADJOINING LAM KAM RD NEAR SPOT LEVEL 83.3 WITHIN VARIOUS LOTS IN DD10		
	Responsible Lot/Party	DD10 Lot459	Maintenance Agent	N/A
	Remarks	Slope information being reviewed.		
2	7NW-A/F2	Sub-Division		2
	Location	ADJOINING LAM KAM RD NEAR SPOT LEVEL 83.3 WITHIN VARIOUS LOTS IN DD10		
	Responsible Lot/Party	DD10 Lot460BRP	Maintenance Agent	N/A
	Remarks	Slope information being reviewed.		
3	7NW-A/F2	Sub-Division		3
	Location	ADJOINING LAM KAM RD NEAR SPOT LEVEL 83.3 WITHIN VARIOUS LOTS IN DD10		
	Responsible Lot/Party	HyD	Maintenance Agent	HyD
	Remarks	1. Slope information being reviewed. 2. For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent direct.		
4	7NW-A/F2	Sub-Division		4
	Location	ADJOINING LAM KAM RD NEAR SPOT LEVEL 83.3 WITHIN VARIOUS LOTS IN DD10		
	Responsible Lot/Party	DD10 Lot431	Maintenance Agent	N/A
	Remarks	Slope information being reviewed.		
5	7NW-A/F2	Sub-Division		5
	Location	ADJOINING LAM KAM RD NEAR SPOT LEVEL 83.3 WITHIN VARIOUS LOTS IN DD10		
	Responsible Lot/Party	DD10 LOT461BRP	Maintenance Agent	N/A
	Remarks	Slope information being reviewed.		

- 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.

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Search Criteria: 7NW-A/F2

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: 29/08/2017

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Search Criteria: 7NW-A/F2