

Appendix 2

TREE PRESERVATION AND LANDSCAPE
PROPOSAL

FINAL TREE PRESERVATION AND LANDSCAPE PROPOSAL FOR PROPOSED TONG HANG FRESH WATER PUMPING STATION (ISSUE 1)

Dec 2024

Agreement No. CE 47/2023 (WS)

**Improvement of Water Supply to Northern New Territories
– Investigation, Design and Construction**

WATER SUPPLIES DEPARTMENT

REVISION HISTORY

Issue	Description of Revision	Date
1	Draft (Issue 1)	22 November 2024
2	Final (Issue 2)	23 December 2024

Author Candace LAM



Reviewer Jack CHANG



Approver T.K. TING



Date 23 December 2024

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Appendix A – Tree Survey

1 INTRODUCTION

1.1 Background

- 1.1.1 This Tree Preservation and Landscape Proposal (TLP) Report is prepared in support of a Section 16 (S16) Planning Application for the Proposed Fresh Water Pumping Station (FWPS) in Government Land at Tai Wo Service Road East, Tong Hang, Fanling. This report describes the landscape design as well as tree preservation strategies of the proposed FWPS.
- 1.1.2 The Proposed FWPS comprises of two (2) separate one-storey (excluding basement) buildings, namely a Pump Building in the east and an E&M Building in the west. The Proposed FWPS will serve as a booster pumping station to take treated water from the Tai Po Tau Fresh Water Primary Service Reservoir (“FWPSR”) to other Fresh Water Service Reservoirs (FWSRs).
- 1.1.3 This landscape proposal presents:
- (a) The existing tree vegetation;
 - (b) The Landscape Master Plan;
 - (c) Planting Proposal; and
 - (d) Tree Preservation Proposal

2 THE SITE AND ITS CONTEXT

- 2.1.1 The Site, with a site area of about 2,977.393m², is located within Government Land at Tong Hang, Fanling. The western part of the Site is currently occupied by Civil Engineering and Development Department (“CEDD”) for the construction of Fanling Bypass (Eastern Section). Upon completion, the Fanling Bypass will be crossing above the western part of the Site. The eastern part of the Site is currently vacant and fenced off. A portion of the Site encroached into the adjacent public cycle track to the north.

3 EXISTING VEGETATION

- 3.1.1 A tree survey was carried out on 26 October, 2024 in accordance with DEVB TC(W) No. 4/2020. A total of 8 trees (2 nos. of individual trees, and 6 nos. of trees in 1 tree group) were recorded within the Application Site Boundary. The tree survey schedule, tree survey plan and photographic record of existing trees are shown in **Appendix A** and are outlined below:

Table 1.1 Species Composition of Existing Trees (Individual Trees)

Scientific Name	Chinese Name	Quantity	Tree No.
<i>Roystonea regia</i>	大王椰子	1	T-0756
<i>Sterculia lanceolata</i>	假蘋婆	1	T-0759
Total:		2	

Table 1.2 Species Composition of Existing Trees (Tree Group)

Scientific Name	Chinese Name	Quantity	Tree No.
<i>Leucaena leucocephala</i>	銀合歡	1	TG4
<i>Syzygium jambos</i>	蒲桃	4	TG4
<i>Clausena lansium</i>	黃皮	1	TG4
Total:		6	

- 3.1.2 The Site is dominated by *Syzygium jambos* (4 nos.), which is a common species beside villages in Hong Kong.
- 3.1.3 The health condition of the bulk of these trees is generally in Average condition (**100%**).
- 3.1.4 No OVTs, TPIs or protected species has been identified in accordance with the DEVB TCW No. 5/2020 - Registration and Preservation of Old and Valuable Tree and the Forests and Countryside Ordinance respectively.

Impact of the Proposed FWPS

- 3.1.5 Impact of the Proposed FWPS is generally caused by the site formation works, construction of the building, removal of existing vegetation for the build element and the related construction activities, excavation works for E&M reserves and structural footings.

Retention of Trees

- 3.1.6 The proposed building will be situated at **+17.9mPD**. All **8** surveyed existing trees within the Site, will be affected by the proposed works and **none** of them will be retained.

Felling and Transplantation of Trees

- 3.1.7 For trees that will be in conflict with the proposed works shall be proposed to be transplanted if they fulfil all the criteria below:
- Trees with high amenity value;
 - Trees with good form and health;
 - Suitable access;
 - Tree species able to be transplanted easily;
 - Trees have suitable size and;
 - Trees are young to semi-mature.
- 3.1.8 In this project, 8 of existing trees, including **1** invasive species within the Application Site Boundary are in direct conflict with the proposed works and cannot be retained in situ. None of the disturbed trees fulfil the above criteria and none of them are recommended for transplantation.



- 3.1.9 2 nos. of the affected individual trees, i.e. T-0756 - *Roystonea regia*, T-0759 - *Sterculia lanceolata*, and 6 nos. of the affected trees in tree group, i.e. 4 nos. of *Syzygium jambos*, and 1 no. of *Clausena lansium*, are found located at restricted growing conditions, and have technical difficulty in forming a rootball of appropriate shape and size for successful transplanting because the tree is rooted on slope or in close proximity to a slope and/or other tree/structure. Therefore, they are proposed to be removed.
- 3.1.10 1 no. of the affected tree in TG4 is found to be an invasive species, i.e. *Leucaena leucocephala*. Since it is an undesirable species, it is also proposed to be removed, in accordance with DEVB TC(W) No. 4/2020.

4 LANDSCAPE PROPOSALS (REFER TO APPENDIX B)

4.1 Landscape Proposals

- 4.1.1 The aim of the landscape proposals is to respond to site conditions and building forms, and to provide a quality landscape scheme, The main factors to be taken into consideration are:
- (a) Response to the site context, both in terms of landscape character and visual amenity;
 - (b) Response to the proposed building and its architectural style;
 - (c) Creation of a green setting by maximising the opportunity for soft landscape;
 - (d) Establishment of pleasant landscape areas; and
 - (e) Minimization of future maintenance requirements.
- 4.1.2 Landscape drawings showing the proposed landscape treatment for the Proposed Works Area, and their underlying principles have been attached for ease of reference.
- 4.1.3 The landscape design should consider the following relevant guidelines/ legislation:
- (a) Hong Kong Planning Standards and Guidelines;
 - (b) DEVB TC(W) No. 4/2020;
 - (c) PlanD's PNPP No. 1/2019 – Processing and Compliance Checking of Landscape Submissions related to Planning Applications; and
 - (d) Guidance Notes for Application for Permission under Section 16 of the Town Planning Ordinance (Cap. 131).

4.2 Landscape Design Concept

- 4.2.1 The Proposed FWPS are in proximity to a few major highways and roads, i.e. Fanling Highway, Fanling Bypass (under construction), and Tai Wo Service Road East. The design objective is to minimize the potential impacts towards the surrounding environment, and at the same time, maximizing the greenery opportunity to provide quality visual relief to passersby.

4.2.2

At-grade planting



- 4.2.3 At-grade planting is proposed surrounding the proposed building at **+17.9mPD**. The proposed planting aims to minimize the visual impact of the Proposed building structures to the surrounding environment. Passersby can enjoy the open ambience when walking by the structure, The enhanced paving and selection of plant combination enrich the colour complexity and visual gradation of the Site.

Planting Design

- 4.2.4 A majority of proposed plantings will be planted along the periphery of the Site. This will create a tranquil and harmonic environment for enjoyment of passersby. The use of tree planting in standard size and in good quality would be encouraged to provide a more instant effect. The selected species, *Garcinia subelliptica*, which is an evergreen species, would be able to provide an all-year-round greening and visual enhancement effect. Similarly, all shrubs and groundcover species are evergreen, also achieving the greening and visual enhancement effect all-year-round. For example, *Fagraea ceilanica*, *Monstera deliciosa* and *Lantana montevidensis*. Same criteria have been applied to the selection of climbers. The selected species is *Lonicera japonica*.

Hardscape

- 4.2.5 The selected hardscape materials are in earth tone to keep the structure and proposed works as harmonious as possible with the surrounding environment. Concrete pavers are in a pattern with a mix of different shades of beige (50% Light Beige, 25% Beige and 25% Dark Beige), such approach will help minimize the maintenance and replacement difficulty in the future.

4.3 Soil Depth and Drainage for Planting

- 4.3.1 The requirement of soil depth is directly related to the planting design and its associated loading requirement upon structure. In general, the 1200mm soil depth provided at planting area.
- 4.3.2 All Planting areas on slab shall be provided with sub-soil drainage system.

4.4 Irrigation

- 4.4.1 The proposed irrigation system will be by tap water pipe for manual operation. Lockable water points will be provided at 40m centres covering the entire site. The proposed source of water supply is subject to final approval from the Water Services Department.

4.5 Future Maintenance

Hard Landscape Elements

- 4.5.1 Maintenance for hard landscape elements shall be carried out by the future management office of the Proposed Development with maintenance intention as follows:
- (a) Routine Maintenance (Daily – Weekly)
- Sweeping and litter removal
 - Damage inspection

(b) Annual/Long Term Maintenance

- Resurfacing of worn pavements

Soft Landscape Element

4.5.2 The softworks contractor will be responsible for maintenance of the planting during the establishment period allowed for in the construction contract, usually for the first year after the beginning of the schemes operational phase. This will ensure that the soft landscape measures are in a healthy condition prior to the finished scheme being handed back to the lot owner.

4.5.3 Ultimately the future management office will employ skilled maintenance staff to take care of all landscape areas within the Site.

5 PLANTING PROPOSALS

5.1.1 In order to provide quality landscape for the Proposed Comprehensive Development, soft landscape works will be the major landscape element of the landscaping proposal and satisfy the following criteria:

- (a) To compensate the loss of affected trees;
- (b) To screen the proposed building and reduce the visual impact to the nearby residents/visitors;
- (c) To minimize future maintenance; and
- (d) To be compatible with the surrounding environment.

5.1.2 Species are selected from *Pictorial Guide to Plant Resources for Skyrise Greenery in Hong Kong* issued by DEVB. Tree species selected are in small mature size and do not have aggressive root system. Soil volume has been taken into account, and soil corridor will be provided. Evergreen species with tolerance to pollutions, wind and shade are selected to provide all-year-round greening effect and to ensure the sustainable growth of plants given the Site is situated near Fanling Highway and beneath the future Fanling Bypass. The proposed planting species list is shown as follow.

Table 3.0 Proposed Plant Species

Scientific Name	Chinese Name	Native/Exotic	Size	Spacing (mm)
TREES				
<i>Garcinia Subelliptica</i>	菲島福木	Exotic	Standard	5000
SHRUBS				
<i>Fagraea ceilanica</i>	灰莉	Exotic	1000(mm)	1000
<i>Monstera deliciosa</i>	龜背竹	Exotic	800(mm)	800
<i>Philodendron selloum</i>	春羽	Exotic	800(mm)	800
GROUNDCOVERS				
<i>Hymenocallis littoralis</i>	水鬼蕉	Exotic	400(mm)	400



<i>Lantana montevidensis</i>	小葉馬纓丹	Exotic	300(mm)	300
<i>Ophiopogon japonicus</i>	麥冬	Native	300(mm)	300
CLIMBERS				
<i>Lonicera japonica</i>	金銀花	Native	Min. Height 1500(mm)	165

5.1.3 Within the Site Boundary, a total of 8 trees were recorded. None of them will be retained in-situ nor transplanted. 7 trees inside the Site will be removed due to direct conflict with the construction works and 1 tree inside the Site will be removed due to it being an undesirable species.

5.1.4 9 standard trees with average DBH approx. 60mm are proposed to be planted to compensate the loss of the 7 existing trees and 2 other existing trees that are impacted by the mainlaying works elsewhere. They will be planted at the at-grade planter surrounding the proposed building within the Site Boundary. All these new trees within the lot boundary will all be maintained by the future management office.

5.1.5 Upon the above, the compensation ratio for the affected trees within the Application Site in terms of quantity and quality is shown as follow:

Quantity of loss trees: 8 nos.

Quantity of loss trees discounting undesirable species: 7 nos.

Accumulated DBH loss of trees discounting undesirable species: 1597 mm

Quantity of compensatory trees: 7 nos.

Accumulated DBH of compensatory trees: 420 mm

Quantity compensation ratio: 1:1



Quality (DBH) compensation ratio: 1:0.26

Drawings

PROPOSED TONG HANG FRESH WATER PUMPING STATION LAYOUT PLAN

LANDSCAPE PACKAGE

Drawing number	Drawing title	Scale A1	Scale A3
KEB002406-T-GN-LA-01	COVER AND DRAWING LIST	NTS	NTS
KEB002406-T-GN-LA-02	GENERAL NOTES	NTS	NTS
KEB002406-T-GN-LA-03	SYMBOLS AND ABBREVIATIONS	NTS	NTS
KEB002406-T-GN-LA-04	MASTER LANDSCAPE PLAN	1:250	1:500
KEB002406-T-GN-LA-05	GENERAL ARRANGEMENT PLAN	1:250	1:500
KEB002406-T-GN-LA-06	SITE COVERAGE OF GREENERY	1:250	1:500
KEB002406-T-GN-LA-07	MATERIAL PLAN	AS SHOWN	AS SHOWN
KEB002406-T-GN-LA-08	PLANTING PLAN - TREE	1:250	1:500
KEB002406-T-GN-LA-09	PLANTING PLAN - SHRUBS AND GROUNDCOVER	1:250	1:500

Rev.	Date	Drawn	Description	Checked	Approved
Employer					
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Project					
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Title					
PROPOSED TONG HANG FRESH WATER PUMPING STATION LAYOUT PLAN COVER AND DRAWING LIST					
Consultant					
					
Designed	JC	Checked	MK		
Drawn	CL	Approved	TKT		
Scale	A1	Status	Rev		
NTS		TENDER DRAWING	—		
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GENERAL NOTES:

EXTENT

- 1.01 THESE GENERAL NOTES APPLY TO ALL DWGS LISTED IN DWG NOS. KEB002406-TD-GN-LA-01
- 1.02 THE MEANING OF ABBREVIATIONS ARE PROVIDED ON THIS SHEET.

PURPOSE

- 2.01 THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE LANDSCAPE DESIGN INTENT FOR TENDERING.
- 2.02 THE DRAWINGS SHOW THE GENERAL REQUIREMENTS OF THE DESIGN IN TERMS OF LAYOUT, FORM, MATERIALS AND COLOUR OF THE LANDSCAPE DESIGN ELEMENTS.
- 2.03 DETAILS SHOWN ARE INDICATIVE OF THE PROFILES AND TYPICAL DETAILS AND ARE NOT INTENDED TO INDICATE COMPONENTS, ASSEMBLY OR CONSTRUCTION DETAILS.
- 2.04 MATERIAL PLANS INDICATE MATERIAL LOCATIONS BY GENERAL HATCHING. PART PLANS SHOW THE ACTUAL PAVING PATTERNS INTENDED.
- 2.05 DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE INDICATED.

RULES/GUIDELINES

- 3.01 DIMENSIONS AND LEVELS SHALL GOVERN. DO NOT SCALE DRAWINGS.
- 3.02 ALL DIMENSIONS ARE IN MM UNIT UNLESS OTHERWISE STATED.
- 3.03 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DOCUMENTATION AND DRAWINGS
- 3.04 IF DISCREPANCIES EXIST BETWEEN THE LANDSCAPE DRAWINGS AND DRAWINGS OF THE OTHER DISCIPLINES, IT SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE PROJECT MANAGER/ LANDSCAPE ARCHITECTS / CONTRACT ADMINISTRATOR(S).
- 3.05 LANDSCAPE INSTALLATIONS ARE DIMENSIONED TO THE FINISHED FACE UNO.
- 3.06 PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.
- 3.07 ALL RC STRUCTURE SHALL BE PROVIDED WITH JOINTS AND CONNECTIONS TO ACCOMMODATE NATURALLY OCCURRING STRUCTURAL OR DIFFERENTIAL MOVEMENTS.
- 3.08 ALL JOINTS AND CONNECTIONS BETWEEN DISSIMILAR METALS TO BE ISOLATED TO AVOID BI-METALLIC CORROSION.
- 3.09 ALL MILD STEEL SHALL BE HOT-DIPPED GALVANIZED TO BS EN ISO 1461.
- 3.10 SS TO BE GRADE 1.4401 TO BS EN 10088 (PREVIOUSLY KNOWN AS "GRADE 316"), UNO.
- 3.11 ALL CONCEALED FIXINGS AND ANCHORS TO BE CONSTRUCTED FROM SS GRADE 1.4401 TO BS EN 10088 (PREVIOUSLY KNOWN AS "GRADE 316") OR OTHER APPROVED NON-CORROSIVE MATERIALS.
- 3.12 MATERIALS OR SUBSTANCES USED TO COMPLETE THIS CONTRACT THAT HAVE POTENTIAL NEGATIVE IMPACT TO THE ENVIRONMENT SHALL BE SUBSTITUTED AS ADVISED BY THE CONTRACTOR IN LIAISON WITH THE LANDSCAPE ARCHITECTS / CONTRACT ADMINISTRATOR(S). THE CONTRACTOR SHALL BE PRO-ACTIVE IN IDENTIFYING SUCH SUBSTANCES AND PROVIDE FEASIBLE ALTERNATIVES.
- 3.13 THE USE OF HAZARDOUS MATERIALS ARE TO BE AVOIDED. SUCH SUBSTANCES SHALL BE DISPOSED IN A CONTROLLED MANNER IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE LOCAL AND/OR REGIONAL WATER & ENVIRONMENTAL MANAGEMENT AUTHORITIES.
- 3.14 SAMPLES OF ALL MATERIALS SHALL BE SUBMITTED TO THE PROJECT MANAGER/ LANDSCAPE ARCHITECTS / CONTRACT ADMINISTRATOR(S) FOR REVIEW.
- 3.15 REQUIRED MOCK-UPS SHALL BE IN FULL SIZE, ERECTED IN AGREED LOCATIONS AND SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECTS / CONTRACT ARCHITECTS / CONTRACT ADMINISTRATOR(S) FOR REVIEW AND APPROVAL.
- 3.16 FOR SYMBOLS AND ABBREVIATIONS, REFER TO KEB002406-TD-GN-LA-03. ALL DRAWINGS HAVE TO BE READ IN CONJUNCTION WITH SPECIFICATION, ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND SERVICE'S ENGINEER'S DWGS AND SPECIFICATIONS.
- 3.17 KERB AND EDGE DESIGN AND CONSTRUCTION OF FOOTWAY AND CYCLE WAY SHALL COMPLY WITH HIGHWAYS DEPARTMENT STANDARD DRAWINGS H1104C AND ANY RELEVANT STANDARD DRAWINGS PROVIDED BY HIGHWAYS DEPARTMENT.
- 3.18 LEVELS ARE SHOWN IN METERS ABOVE THE HONG KONG PRINCIPAL DATUM (HKPD). FOR GENERAL REFERENCE, THE MEAN SEA LEVEL IS ABOUT 1.3 METERS ABOVE THE HKPD.

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- 4.01 THE COPYRIGHT OF THE DESIGN AND INFORMATION CONTAINED WITHIN THE DRAWINGS BELONG TO ASIA INFRASTRUCTURE SOLUTIONS.

ABBREVIATIONS:

BK	- BOTTOM OF KERB	PPC	- POLYESTER POWDER COATING
C/S	- CEMENT SAND	R	- RADIUS
DIA	- DIAMETER	RC	- REINFORCED CONCRETE
EVA	- EMERGENCY VEHICLE ACCESS	REV	- REVISION
FG	- FINISH GRADE	RHS	- RECTANGULAR HOLLOW SECTION
FL	- FINISH LEVEL	RL	- ROAD LEVEL
GMS	- GALVANISED MILD STEEL	SHS	- SQUARE HOLLOW SECTION
H	- HEIGHT	SOP	- SETTING OUT POINT
L	- LENGTH	SQ	- SQUARE
M	- METER	SS	- STAINLESS STEEL
MAX	- MAXIMUM	TBC	- TO BE CONFIRMED
MIN	- MINIMUM	THK	- THICK
MM	- MILLIMETER	TK	- TOP OF KERB
PA	- PLANTING AREA	TW	- TOP OF WALL
PVC	- POLYVINYL CHLORIDE	TYP	- TYPICAL
PC	- PRE-CAST		



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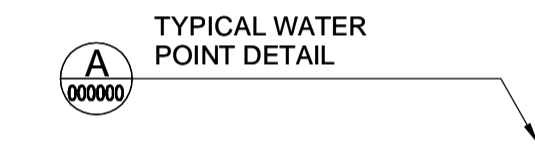
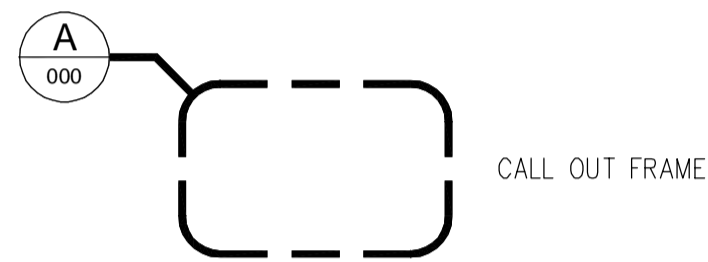
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Title					
PROPOSED TONG HANG FRESH WATER PUMPING STATION LAYOUT PLAN GENERAL NOTES					
Consultant					
 asia infrastructure solutions					
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GENERAL SYMBOLS

- PLAN FL/ SL MARK
- ELEVATION/SECTION FFL MARK
- ELEVATION/SECTION SSL MARK
- COORDINATE MARK

MATCH LINE MATCH LINE
 FOR CONTINUATION SEE DRAWING :
 xxxx

1 **BB** SHEET TITLE
 SCALE 1:



GENERAL ARRANGEMENT PLAN LEGEND

- SITE BOUNDARY
- HIGH STRENGTH SECURITY FENCE, REFER TO WSD STANDARD DRAWING "WSD6.13"
- VERTICAL GREENING
- PAVING AREA - BLOCK PAVER
- MAINTENANCE PATH - ASPHALT
- BUILDINGS AREA
- PLANTING AREA
- COMPENSATORY TREE
- 40M DIAMETER MANUAL IRRIGATION WATER POINT REFER TO KEB002406-T-GN-LA-13
- MAIN GATE FOR TYPE 1 CHAIN LINK FENCE, REFER TO WSD STANDARD DRAWING "WSD 6.1D"

SITE COVERAGE OF GREENERY LEGEND

- SITE BOUNDARY
- HIGH STRENGTH SECURITY FENCE, REFER TO WSD STANDARD DRAWING "WSD6.13"
- MAIN GATE FOR TYPE 1 CHAIN LINK FENCE, REFER TO WSD STANDARD DRAWING "WSD 6.1D"
- VERTICAL GREENING
- PLANTING AREA
- PLANTING AREA - VERTICAL GREENING
- PAVING AREA
- BUILDINGS AREA

MATERIALS PLAN LEGEND

- SITE BOUNDARY
- HIGH STRENGTH SECURITY FENCE, REFER TO WSD STANDARD DRAWING "WSD6.13"
- MAIN GATE FOR TYPE 1 CHAIN LINK FENCE, REFER TO WSD STANDARD DRAWING "WSD 6.1D"
- PAVING AREA - BLOCK PAVER (CP-01) (CP-02) (CP-03)
- MAINTENANCE PATH - ASPHALT (AS-01)

PLANTING PLAN - TREE LEGEND

- SITE BOUNDARY
- BUILDINGS AREA
- MAINTENANCE PATH - ASPHALT
- SHRUB
- COMPENSATORY TREE

PLANTING PLAN - SHRUB LEGEND

- SITE BOUNDARY
- BUILDINGS AREA
- MAINTENANCE PATH - ASPHALT
- SHRUB

MANUAL IRRIGATION PLAN LEGEND

- SITE BOUNDARY
- HIGH STRENGTH SECURITY FENCE, REFER TO WSD STANDARD DRAWING "WSD6.13"
- MAIN GATE FOR TYPE 1 CHAIN LINK FENCE, REFER TO WSD STANDARD DRAWING "WSD 6.1D"
- VERTICAL GREENING
- SHRUB
- COMPENSATORY TREE
- 40M DIAMETER MANUAL IRRIGATION WATER POINT REFER TO KEB002406-T-GN-LA-13

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Title

PROPOSED TONG HANG FRESH WATER
 PUMPING STATION LAYOUT PLAN
 - SYMBOLS AND ABBREVIATIONS

Consultant

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LEGEND

- SITE BOUNDARY
- FENCE
- PLANTING AREA
- PAVING AREA
- COMPENSATORY TREE
- MAINTENANCE PATH - ASPHALT

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PUMPING STATION LAYOUT PLAN
MASTER LANDSCAPE PLAN

Consultant



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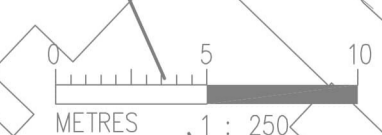
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- LEGEND
- SITE BOUNDARY
 - ++++ HIGH STRENGTH SECURITY FENCE, REFER TO WSD STANDARD DRAWING "WSD6.13"
 - VERTICAL GREENING
 - ▨ PAVING AREA – BLOCK PAVER
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– GENERAL ARRANGEMENT PLAN

Consultant



Designed	JC	Checked	MK
Drawn	CL	Approved	TKT

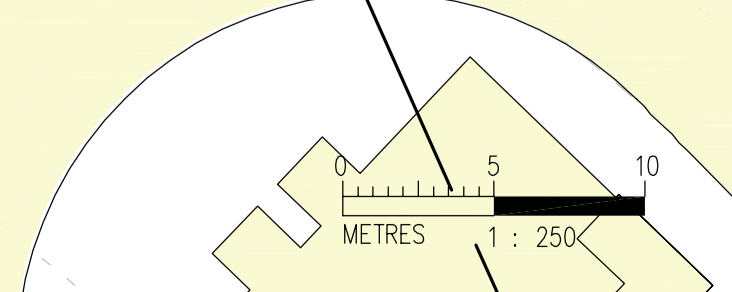
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Drawing No.

KEB002406-T-GN-LA-05

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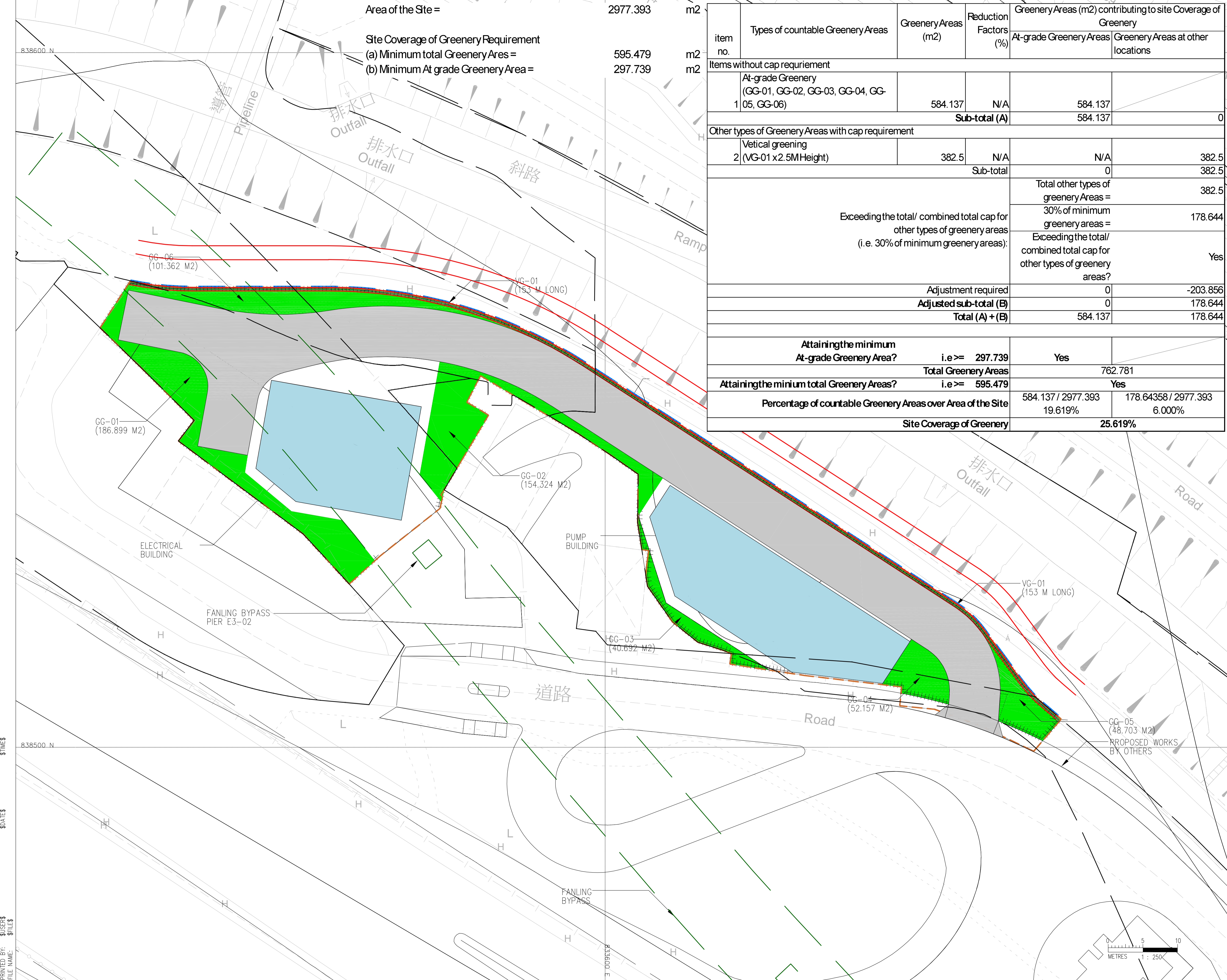
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Area of the Site = 2977.393 m²
 Site Coverage of Greenery Requirement
 (a) Minimum total Greenery Areas = 595.479 m²
 (b) Minimum At grade Greenery Area = 297.739 m²

item no.	Types of countable Greenery Areas	Greenery Areas (m ²)	Reduction Factors (%)	Greenery Areas (m ²) contributing to site Coverage of Greenery	
				At-grade Greenery Areas	Greenery Areas at other locations
Items without cap requirement					
	At-grade Greenery (GG-01, GG-02, GG-03, GG-04, GG-05, GG-06)	584.137	N/A	584.137	0
Sub-total (A)				584.137	0
Other types of Greenery Areas with cap requirement					
	Vertical greening 2 (VG-01 x 2.5M Height)	382.5	N/A	N/A	382.5
Sub-total				0	382.5
Exceeding the total/ combined total cap for other types of greenery areas (i.e. 30% of minimum greenery areas):				Total other types of greenery Areas = 30% of minimum greenery areas =	178.644
				Exceeding the total/ combined total cap for other types of greenery areas?	Yes
Adjustment required				0	-203.856
Adjusted sub-total (B)				0	178.644
Total (A) + (B)				584.137	178.644
Attaining the minimum At-grade Greenery Area?		i.e. >= 297.739	Yes		
Total Greenery Areas		762.781			
Attaining the minimum total Greenery Areas?		i.e. >= 595.479	Yes		
Percentage of countable Greenery Areas over Area of the Site		584.137 / 2977.393	19.619%	178.64358 / 2977.393	6.000%
Site Coverage of Greenery				25.619%	

- LEGEND
- SITE BOUNDARY
 - ===== HIGH STRENGTH SECURITY FENCE, REFER TO WSD STANDARD DRAWING "WSD6.13"
 - MAIN GATE FOR TYPE 1 CHAIN LINK FENCE, REFER TO WSD STANDARD DRAWING "WSD 6.1D"
 - VERTICAL GREENING
 - PLANTING AREA
 - PLANTING AREA - VERTICAL GREENING
 - PAVING AREA
 - BUILDINGS AREA
 - MAINTENANCE PATH - ASPHALT



Rev.	Date	Drawn	Description	Checked	Approved

Employer
 水務署
 Water Supplies Department

Project
 AGREEMENT NO. CE47/2023 (WS)
 IMPROVEMENT OF WATER SUPPLY TO NORTHERN NEW TERRITORIES
 - INVESTIGATION, DESIGN AND CONSTRUCTION

Title
 PROPOSED TONG HANG FRESH WATER PUMPING STATION LAYOUT PLAN
 - SITE COVERAGE OF GREENERY

Consultant
 asia infrastructure solutions

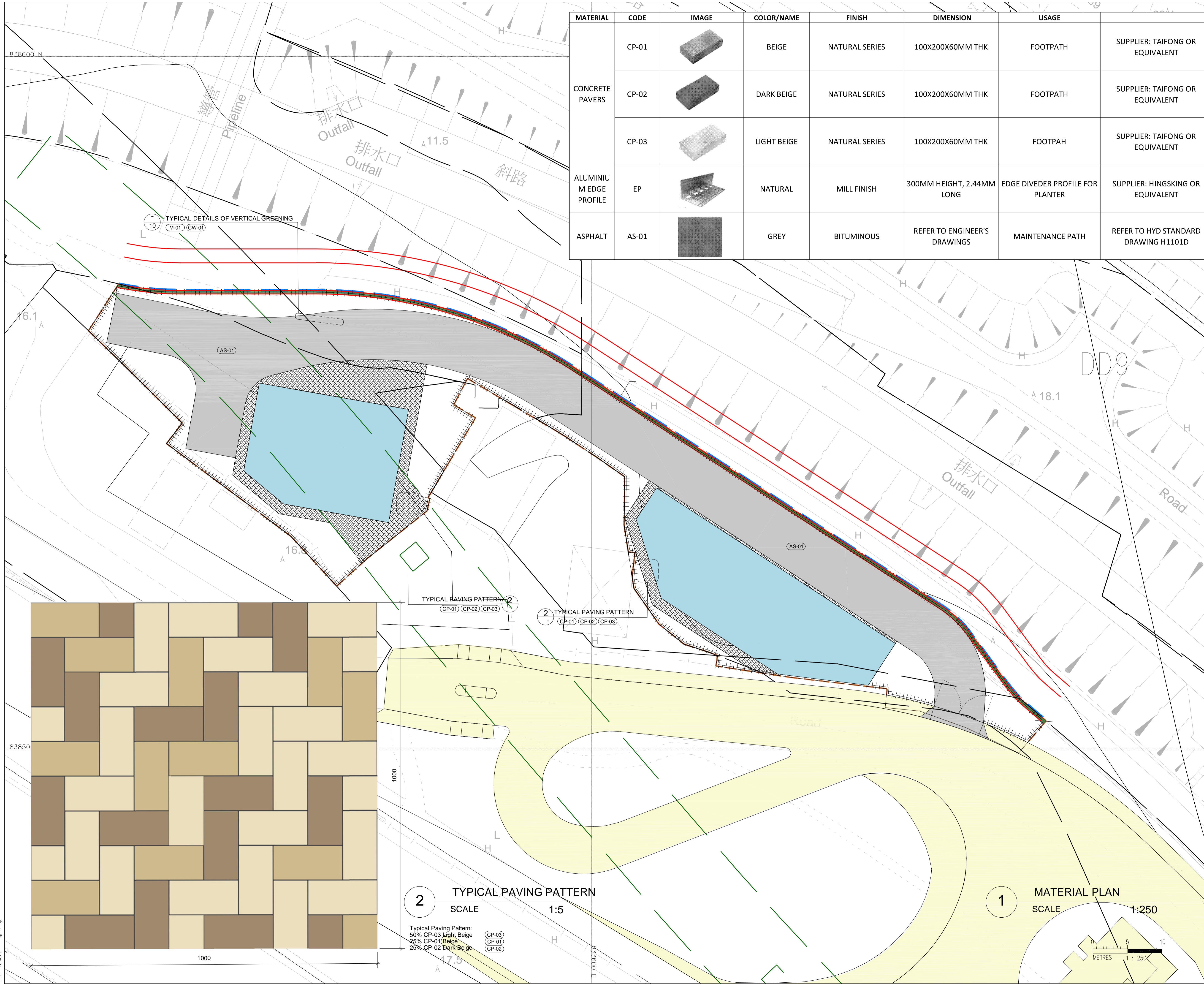
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Drawn	CL	Approved	TKT

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MATERIAL	CODE	IMAGE	COLOR/NAME	FINISH	DIMENSION	USAGE	
CONCRETE PAVERS	CP-01		BEIGE	NATURAL SERIES	100X200X60MM THK	FOOTPATH	SUPPLIER: TAIFONG OR EQUIVALENT
	CP-02		DARK BEIGE	NATURAL SERIES	100X200X60MM THK	FOOTPATH	SUPPLIER: TAIFONG OR EQUIVALENT
	CP-03		LIGHT BEIGE	NATURAL SERIES	100X200X60MM THK	FOOTPAH	SUPPLIER: TAIFONG OR EQUIVALENT
ALUMINIUM EDGE PROFILE	EP		NATURAL	MILL FINISH	300MM HEIGHT, 2.44MM LONG	EDGE DIVIDER PROFILE FOR PLANTER	SUPPLIER: HINGSKING OR EQUIVALENT
ASPHALT	AS-01		GREY	BITUMINOUS	REFER TO ENGINEER'S DRAWINGS	MAINTENANCE PATH	REFER TO HYD STANDARD DRAWING H1101D

LEGEND

- SITE BOUNDARY
- HIGH STRENGTH SECURITY FENCE, REFER TO WSD STANDARD DRAWING "WSD6.13"
- MAIN GATE FOR TYPE 1 CHAIN LINK FENCE, REFER TO WSD STANDARD DRAWING "WSD 6.1D"
- PAVING AREA - BLOCK PAVER (CP-01) (CP-02) (CP-03)
- MAINTENANCE PATH - ASPHALT (AS-01)

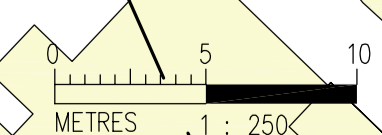
10 TYPICAL DETAILS OF VERTICAL GREENING (M-01) (CW-01)

2 TYPICAL PAVING PATTERN (CP-01) (CP-02) (CP-03)

2 TYPICAL PAVING PATTERN SCALE 1:5

Typical Paving Pattern:
50% CP-03 Light Beige
25% CP-01 Beige
25% CP-02 Dark Beige

1 MATERIAL PLAN SCALE 1:250



Rev.	Date	Drawn	Description	Checked	Approved

Employer

水務署
Water Supplies Department

Project
AGREEMENT NO. CE47/2023 (WS)
IMPROVEMENT OF WATER SUPPLY TO NORTHERN NEW TERRITORIES
- INVESTIGATION, DESIGN AND CONSTRUCTION

Title
PROPOSED TONG HANG FRESH WATER PUMPING STATION LAYOUT PLAN
- MATERIAL PLAN

Consultant

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AS SHOWN	TENDER DRAWING	-	-

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2024

CODE	SCIENTIFIC NAME	CHINESE COMMON NAME	ENGLISH COMMON NAME	TREE SIZE	EVERGREEN	LOWEST BRANCH HEIGHT	CROWN SPREAD	QUANTITY	TOLERANCE	NATIVE / EXOTIC
GAS	<i>Garcinia subelliptica</i>	菲島福木	Common Garcinia	Standard Tree	Evergreen	1M	3M	9	Salt spray, wind and pollution and shade tolerant	Exotic

LEGEND

- SITE BOUNDARY
- BUILDINGS AREA
- MAINTENANCE PATH - ASPHALT
- SHRUB
- COMPENSATORY TREE



Garcinia subelliptica (GAS)

Rev.	Date	Drawn	Description	Checked	Approved

Employer

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Project
 AGREEMENT NO. CE47/2023 (WS)
 IMPROVEMENT OF WATER SUPPLY TO
 NORTHERN NEW TERRITORIES
 - INVESTIGATION, DESIGN AND
 CONSTRUCTION

Title
 PROPOSED TONG HANG FRESH WATER
 PUMPING STATION LAYOUT PLAN
 - PLANTING PLAN - TREE

Consultant

Designed	JC	Checked	MK
Drawn	CL	Approved	TKT
Scale	A1	Status	Rev
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 KEB002406-T-GN-LA-08

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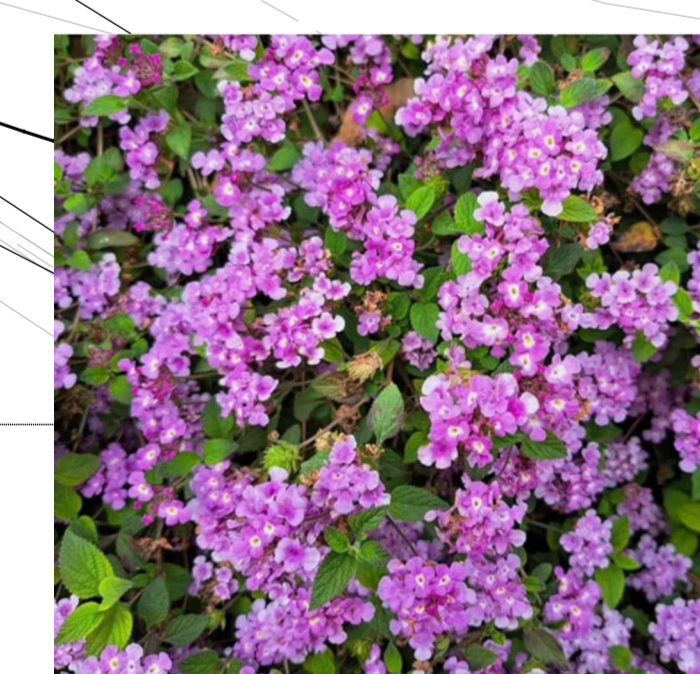
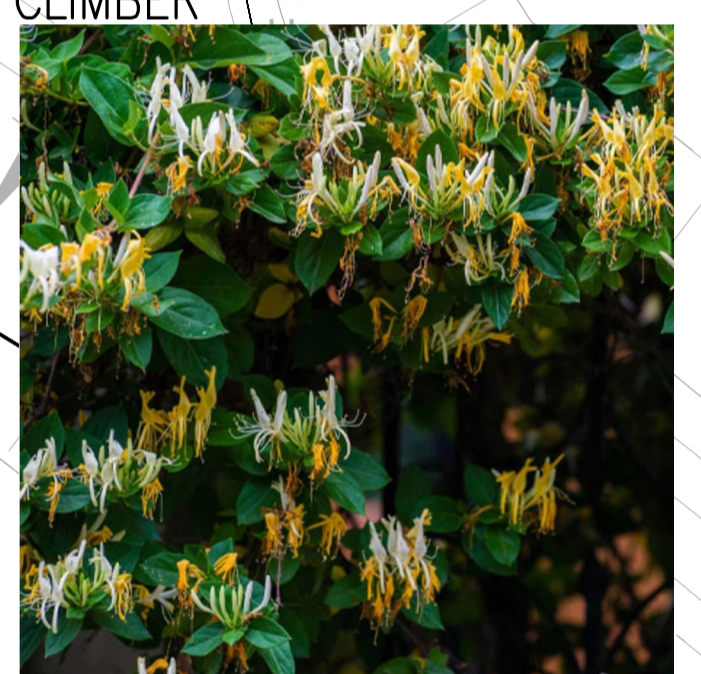
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SHRUBS										
CODE	SCIENTIFIC NAME	CHINESE COMMON NAME	ENGLISH COMMON NAME	PLANT SIZE(MM)	AREA (M2)	QUANTITY/M2	TOTAL QUANTITY	EVERGREEN	TOLERANCE	NATIVE / EXOTIC
FAC	<i>Fagraea ceilanica</i>	灰莉	Perfume Flower Tree	1000	152.6	1	153	Evergreen	Shade and wind tolerant	Exotic
MOD	<i>Monstera deliciosa</i>	龜背竹	Ceriman	800	41.3	1.25	52	Evergreen	Shade tolerant	Exotic
PHS	<i>Philodendron selloum</i>	春羽	Swiss Cheese Plant	800	34.1	1.25	43	Evergreen	Shade tolerant	Exotic

CLIMBER										
CODE	SCIENTIFIC NAME	CHINESE COMMON NAME	ENGLISH COMMON NAME	HEIGHT(MM)	LENGTH (M)	QUANTITY/M	TOTAL QUANTITY	EVERGREEN	TOLERANCE	NATIVE / EXOTIC
LOJ	<i>Lonicera japonica</i>	金銀花	Honeysuckle	Min. 1500	153	6	918	Evergreen	Drought, shade and wind tolerant	Native

LEGEND

- SITE BOUNDARY
- ▭ BUILDINGS AREA
- ▭ MAINTENANCE PATH - ASPHALT
- ▨ SHRUB



CODE	SCIENTIFIC NAME	CHINESE COMMON NAME	ENGLISH COMMON NAME	PLANT SIZE(MM)	AREA (M2)	QUANTITY/M2	TOTAL QUANTITY	EVERGREEN	TOLERANCE	NATIVE / EXOTIC
HYL	<i>Hymenocallis littoralis</i>	水鬼蕉	Spider Lily	400	130.2	2.50	326	Evergreen	Pollution and wind tolerant	Exotic
LAM	<i>Lantana montevidensis</i>	小葉馬纓丹	Trailing Lantana	300	171.9	3.33	573	Evergreen	Pollution, drought and wind tolerant	Exotic
OPJ	<i>Ophiopogon japonicus</i>	麥冬	Blur Grass	300	24.4	3.33	82	Evergreen	Drought tolerant	Native

Rev.	Date	Drawn	Description	Checked	Approved

Employer

水務署
Water Supplies Department

Project

AGREEMENT NO. CE47/2023 (WS)
IMPROVEMENT OF WATER SUPPLY TO
NORTHERN NEW TERRITORIES
- INVESTIGATION, DESIGN AND
CONSTRUCTION

Title

PROPOSED TONG HANG FRESH WATER
PUMPING STATION LAYOUT PLAN
-
PLANTING PLAN - SHRUBS AND
GROUNDCOVER

Consultant

asia
infrastructure
solutions

Designed	JC	Checked	MK
Drawn	CL	Approved	TKT

Scale

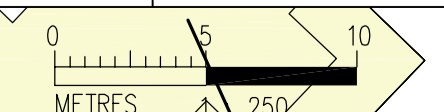
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Drawing No.

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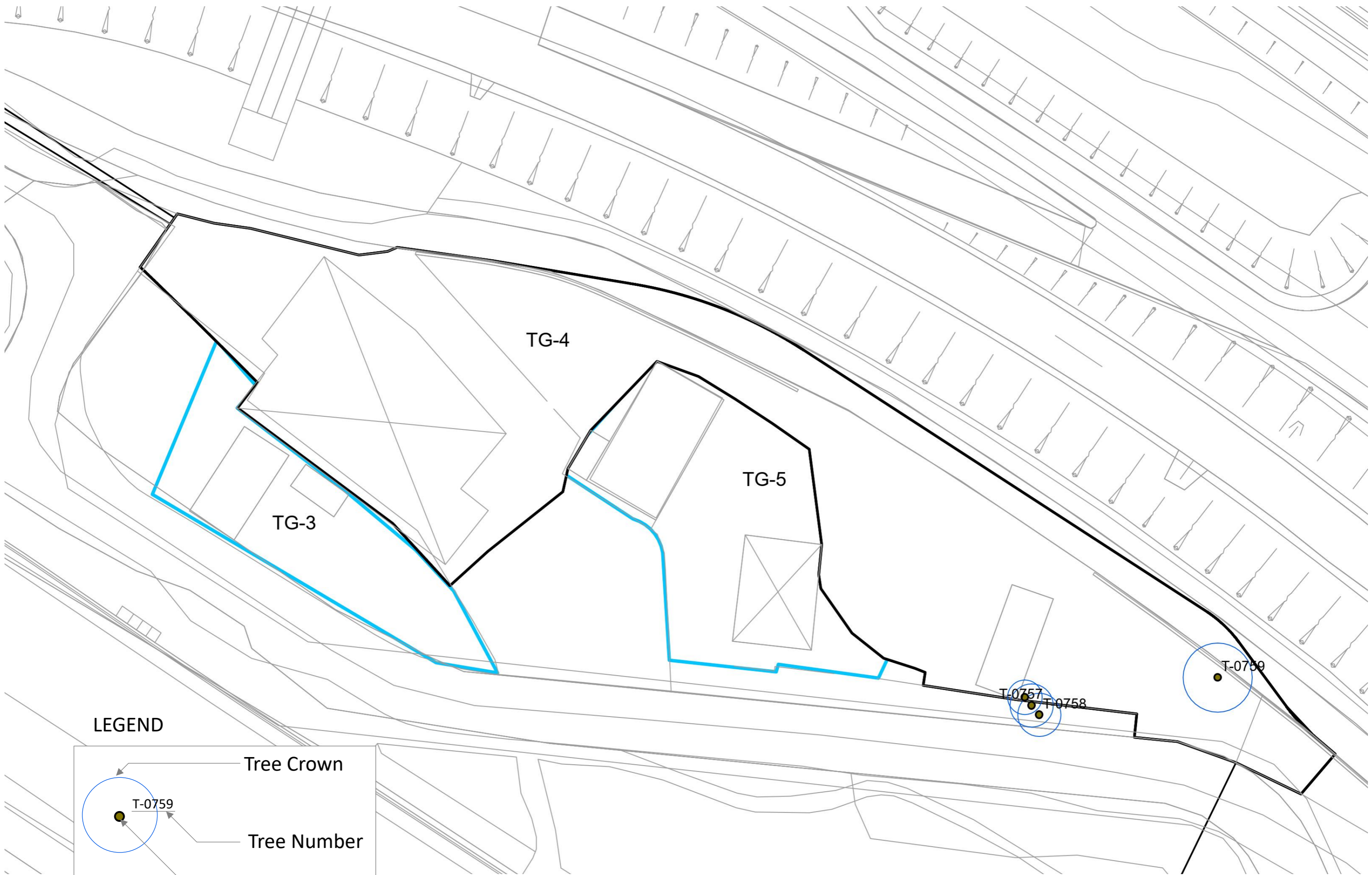
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Appendix A – Tree Survey

Appendix A1 - Tree Survey Plan



LEGEND

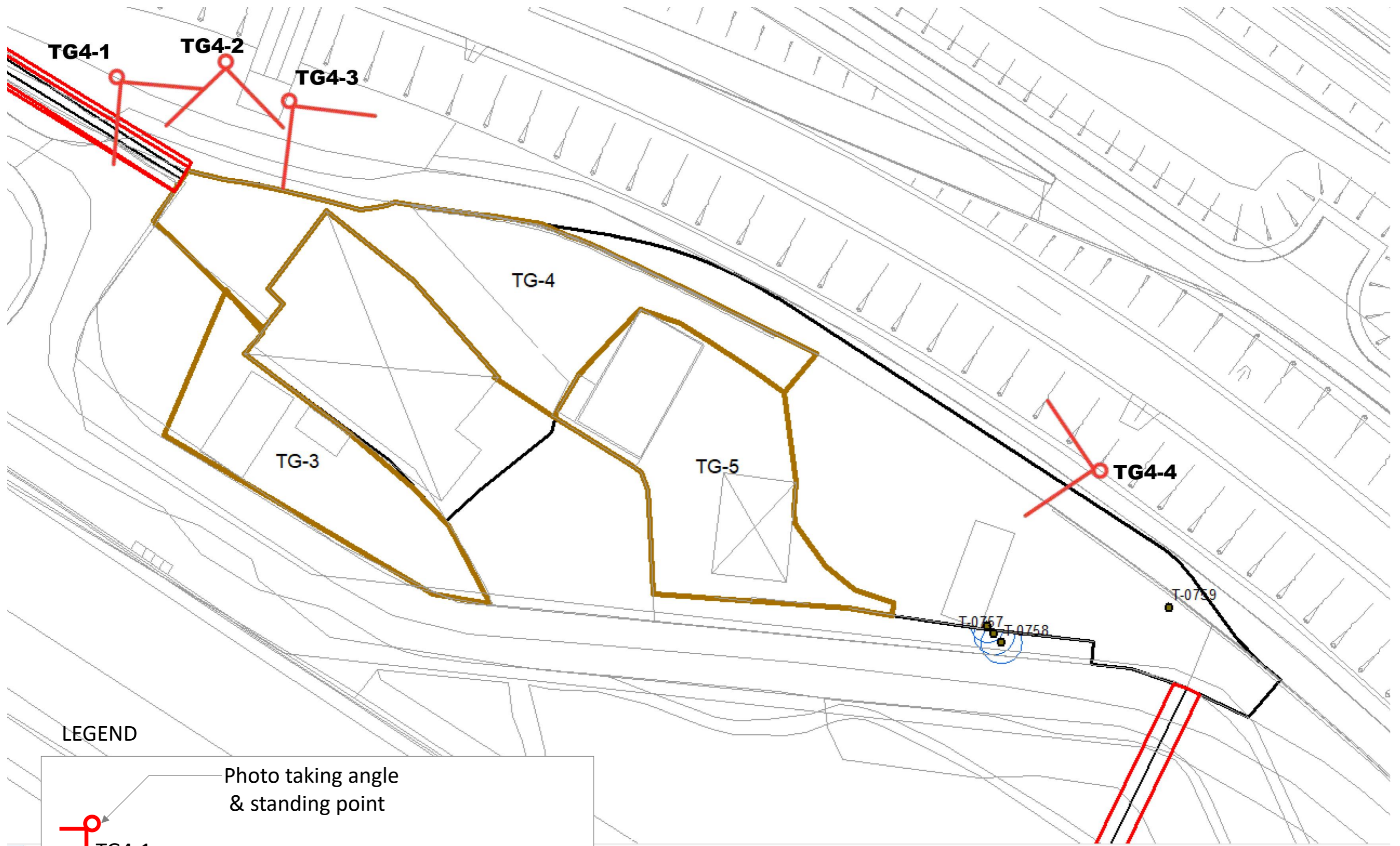
Tree Crown

T-0759




Tree Number

Tree Location

The legend is enclosed in a box. It shows a blue circle with a black dot inside. A line points from the text 'Tree Crown' to the blue circle. Another line points from the text 'Tree Number' to the black dot. A third line points from the text 'Tree Location' to the black dot. The text 'T-0759' is placed next to the black dot.



LEGEND

	Photo taking angle & standing point
	Photo number
	Tree Group number

Appendix A3 - Tree Assessment Schedule

WSD Agreement No. CE 47/2023 (WS) Improvement of Water Supply to Northern New Territories – Investigation, Design and Construction
 Tree Survey Schedule - undertaken by Wong Yim Wah (ISA-CA HK-0367A), updated to October 2024

Tree Ref. No.	Scientific Name	Common Chinese Name	Height (m)	Diameter at Breast Height (DBH) (mm)	Crown Spread (m)	Amenity Value	Health Condition	Structural condition	Form	Remarks on Tree Condition (Note 1)	Suitability for Transplanting	Remarks (Note 2)	Conservation Status	Recommendation	Justification	Maintenance department to provide comments on TPRP		N	E
																High (H)/Medium (M)/Low (L)	Good (G)/Average (A)/Poor (P)		
T-0756	<i>Roystonea regia</i>	大王椰子	5	156	4	M	A	A	A	rgs	L	7	nil	Fell	Direct landuse conflict	LandsD	n/a	838511	833630
T-0759	<i>Sterculia lanceolata</i>	假蒲葵	8	341	8	M	A	A	A	rgs	L	7	nil	Fell	Direct landuse conflict	LandsD	n/a	838513	833652

Tree Group No.	Location	Species Composition		QTY. (Note 1)	Dimension*			Amenity Value	Health*	Structural Condition*	Form*	Remarks on General Tree Condition (Note 1)	Suitability for Transplanting	Remarks (Note 2)	Conservation Status	Recommendation	Justification	Maintenance department to	
		Scientific Name	Common Chinese Name		High (H)/Medium (M)/Low (L)	Good (G)/Average (A)/Poor (P)	High (H)/Medium (M)/Low (L)*	Retain/Transplant/Fell	Before	After									
TG4	Cluster of tree scattered within a fenced up area	<i>Leucaena leucocephala</i>	銀合歡	1		8	6	L	A	A	P	l, ct, rgs	L	1, 2, 3, 7	Nil	Fell	Direct landuse conflict	Private	Private
		<i>Syzygium jambos</i>	蒲桃	4	150 - 400	7 - 9	5 - 8	M	A	A	A	ac, rgs	L	3, 7	Nil	Fell	Direct landuse conflict	Private	Private
		<i>Clausena lansium</i>	黃皮	1	120	4	2	L	A	A	A	ac, rgs	L	2, 4, 7	Nil	Fell	Direct landuse conflict	Private	Private
Total				6															

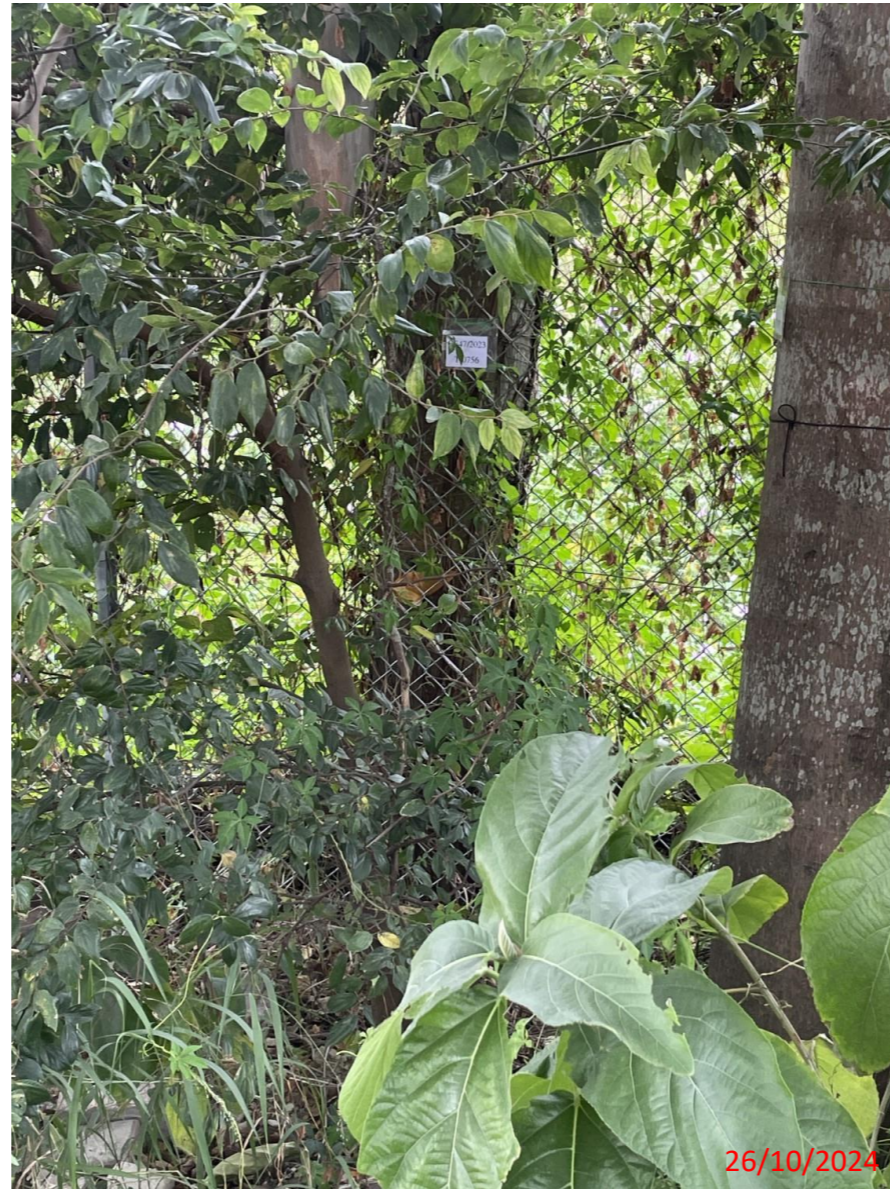
Note 1
 rgs: Restricted growing condition
 l_ Leaning
 ct: Contorted Trunk
 ac: Assymetrical crown

497

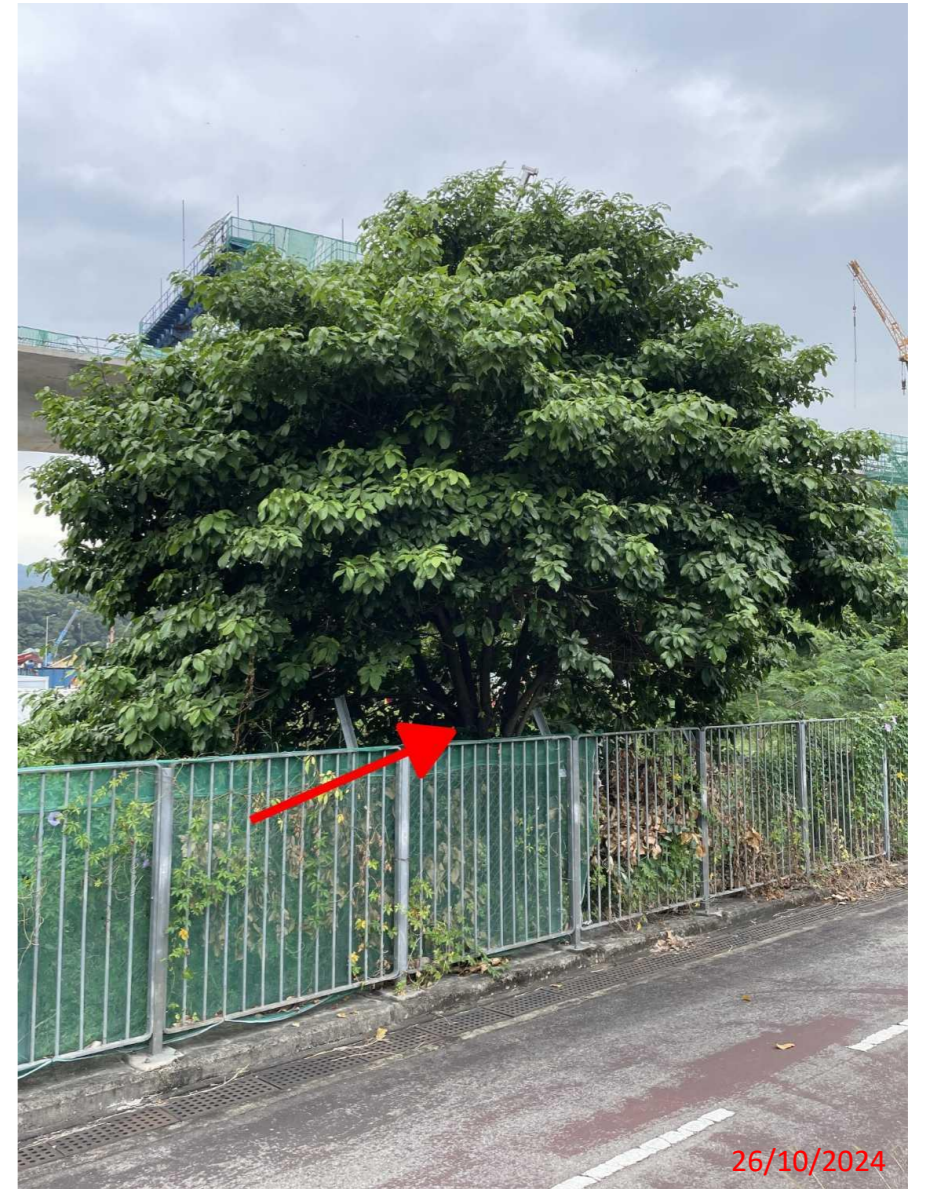
Note 2
 1 - Poor health/form/structural condition
 2 - Low amenity value
 3 - Exotic species
 4 - Fruit tree
 5 - Technical difficulty in forming a rootball of appropriate shape and size for successful transplanting because the size (dbh) and/or age of the tree
 6 - Sizeable tree, substantial financial and land resource would be required for successful on-site transplanting, and "off-site" transplanting would require severe reduction in crown spread and height, and hence potentially jeopardize the chance of recovery or preserving the amenity value of the tree
 7 - Technical difficulty in forming a rootball of appropriate shape and size for successful transplanting because the tree is rooted on slope or in close proximity to a slope and/or other tree/structure



T-756
Roystonea regia
- overall
(Remove)



T-756
Roystonea regia
- root flare
(Remove)



T-759
Sterculia lanceolata
- overall
(Remove)

Appendix A5 - Group Tree Photo



TG4-1



TG4-2



TG4-3



TG4-4



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