



Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

Landscape Plan

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Formal Submission

Drainage Services Department



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Drainage Services Department



Document Control

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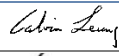



Client	Drainage Services Department
Client Address	Sewerage Project Division, Drainage Services Department, 44/F., Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong
Client Contact	Mr. Sunny Wong
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Project Team

Initials	Name	Role	Signature
CL	Calvin Leung	ET Leader	
FN	Fenelyn Nabuab	Senior Environmental Consultant	
RL	Ray Li	Assistant Environmental Consultant	
SMR	Sheila Marie Rabi	GIS Analyst	

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Abbreviations

AFCD	Agricultural Fisheries and Conservation Department
DEVB	Development Bureau
DEVB TC	Technical Circulars (Works) issued by Development Bureau
DSD	Drainage Services Department
EPD	Environmental Protection Department
ET	Environmental Team
ETWB	Environment, Transport and Works Bureau
ETWB TCW	Technical Circular (Works) issued by Environment, Transport and Works Bureau
GLTM	Greening, Landscape and Tree Management Section, DEVB
LCSD	Leisure and Cultural Services Department
TPRP	Tree Preservation and Removal Proposal
TPZ	Tree Protection Zone

1. INTRODUCTION

1.1 Project Background

- 1.1.1 To enhance the capacity of the trunk drainage system and reduce the flood risk in Ngong Ping, long term drainage improvement works are proposed to be implemented under "PWP Item No. 4163CD – Drainage Improvement Works at Ngong Ping" (hereafter referred to as "the Project").
- 1.1.2 The Project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap.499). An Environmental Impact Assessment (EIA) Report and an Environmental Monitoring and Audit (EM&A) Manual (hereafter referred to as the "approved EM&A Manual") (Register No. AEIAR-169/2013) was approved by the Environmental Protection Department (EPD) on 21 April 2013. An Environmental Permit was issued on 7 August 2013. Variations of EP (VEP) was subsequently applied for and the current EP (EP No. EP-456/2013/A) (hereafter referred to as the "EP") was issued on 29 March 2019. These documents are available in the EIAO Register.
- 1.1.3 The Project is one of the projects under "Contract No. DC/2019/06 – Drainage Improvement Works in Northern New Territories (remaining works), Southern Hong Kong Island & Ngong Ping".
- 1.1.4 The scopes of works under the Project include:
- Construction and operation of a new underground DN 1500-1950 drain pipe of about 440 m long at the Northern side of the Po Lin Monastery (Interception Drain);
 - Construction and operation of new underground box culvert of about 223 m long at Northwest of the Po Lin Monastery near Lin Ping Drive (Loop System); and
 - Construction and operation of a new underground DN 1800 drain pipe of about 198m long at Northern side of the Ngong Ping 360 Terminal and columbarium (Flood Relief Drain).
- 1.1.5 As stipulated in **Condition 2.6 of the EP**, "the Permit Holder shall submit to the Director for approval, at least two months before the commencement of construction of the Project, three hard copies and one electronic copy of a landscape plan to the Director for approval. The landscape plan shall show the locations, size, number and species of planting, design details, implementation programme, maintenance and management schedule and drawings in the scale of 1:1000 or other appropriate scale showing the landscape and visual mitigation measures of the Project as set out in the approved EIA Report, in particular the landscape and compensatory planting. Before submission to the Director, the landscape plan shall be certified

by the ET Leader and verified by the IEC as conforming to the information, requirements and recommendations set out in the approved EIA Report (Register No. AEIAR-169/2013)."

1.1.6 The General Layout Plan of the Project is shown in **Appendix A**.

1.2 Purpose, Scope, and Structure of the Landscape Plan

1.2.1 This Landscape Plan is prepared in fulfillment of **Condition 2.6 of the EP**.

1.2.2 The Landscape Plan is prepared to describe the proposed mitigation measures to be adopted by the Project to minimize the potential landscape and visual impacts of the Project, which include the following:

- adoption of construction methods to minimize both landscape and visual impacts, particularly in sensitive locations;
- localized refinement of the Project Area and drainage alignment to minimize loss of landscape resources, where practical;
- minimizing working areas as far as possible;
- protection and retention of existing vegetation where possible; and
- reinstatement of disturbed areas and compensatory planting.

1.2.3 Succeeding this introductory section, the remainder of the Landscape Plan is arranged as follows:

- Section 2 describes environmental legislations, standards and guidelines related to landscape design;
- Section 3 describes landscape and visual mitigation measures recommended in the EIA Report and approved EM&A Manual;
- Section 4 describes tree preservation and treatment proposal;
- Section 5 describes management and maintenance for landscape works;
- Section 6 details the implantation programme; and
- Section 7 summarizes the findings and recommends the way forward of the project.

2. LEGISLATIONS, STANDARDS, AND GUIDELINES

This Landscape Plan was prepared and shall be undertaken in accordance with the guidelines, standards, documents, and government ordinances and regulations as described below:

- Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) Section 16 and Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), particularly Annexes 3, 10, 11, 18, 20 and 21;
- EIAO Guidance Note 8/2010;
- Ngong Ping Outline Zoning Plan. S/I-NP/6;
- Planning Department - Landscape Value Mapping of Hong Kong;
- Hong Kong Planning Standards and Guidelines, particularly Chapter 4: Recreation, Open Space and Greening, Chapter 10 Conservation and Chapter 11: Urban Design Guidelines;
- Forests and Countryside Ordinance (Cap. 96);
- Town Planning Ordinance (Cap. 131);
- Country Parks Ordinance (Cap. 208);
- Plant Varieties Protection Ordinance (Cap 490);
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
- Agriculture, Fisheries and Conservation Department Nature Conservation Practice Note No. 01, 02 (Rev. Jun 2006) and 03;
- Agriculture, Fisheries and Conservation Department Publication "Checklist of Hong Kong Plants 2012";
- Agriculture, Fisheries and Conservation Department Publication "Rare and Precious Plants of Hong Kong 2003";
- All relevant guidelines on "Tree Maintenance and Management" and "Greening works" issued by the Greening, Landscape and Tree Management (GLTM) Section of the Development Bureau;
- Civil Engineering and Development Department "Project Administration Handbook for Civil Engineering Works 2020"
- DEVB TCW No. 4/2020 – Tree Preservation;
- ETWB TCW No. 5/2005 – Protection of natural streams/rivers from adverse impacts arising from construction works;
- DEVB TCW No. 5/2020 – Registration and Preservation of Old and Valuable Trees;
- DEVB TCW No. 6/2015 – Maintenance of Vegetation and Hard Landscape Features;
- ETWB TCW No. 13/2003A – Guidelines and Procedures for Environmental Impact Assessment of Government Projects and Proposals Planning for Provision of Noise Barriers;
- HyDTC No. 2/2010 – Control in the Use of Shotcrete (Sprayed Concrete) in Slope Works;
- WBTC No. 17/2000 – Improvement to the Appearance of slopes in connection with WBTC 25/93;
- WBTC No. 25/93 – Control of Visual Impact of Slopes;
- Land Administration Office Instruction (LAOI) Section D-12 – Tree Preservation;

- GEO Publication No. 1/2011 "Technical Guidelines on Landscape Treatment for Slopes";
and
- GEO Publication (1999) – Use of Vegetation as Surface Protection on Slopes.

3. LANDSCAPE AND VISUAL MITIGATION MEASURES RECOMMENDED IN THE EIA REPORT AND APPROVED EM&A MANUAL

3.1 Proposed Mitigation Measures

3.1.1 Reduction of potential landscape and visual impacts has been considered during the development of the project design. The measures described in **Section 2.5 of the EIA Report** endeavored to both avoid impacts on highly sensitive landscape resources, particularly in the Lantau North Country Park and to locate, design and reduce the physical extent of the works as far as possible, so as to minimize the degree of general physical and visual impact.

3.1.2 The proposed mitigation measures during construction and operation phases of the Project as described in **Section 6.2.1.2 of the approved EM&A Manual** and **Section 7.11.1.3 of the EIA Report** are summarized in **Table 3.1** and shall be implemented as far as practicable. Indicative locations of the landscape and visual mitigation measure are presented in the Mitigation Measure Plan (Figures D.1 to D.9 of **Appendix D**).

Table 3.1: Proposed Mitigation Measures during Construction and Operation Phases

ID No.*	Type	Landscape / Visual Mitigation Measure	Funding / Implementation	Management / Maintenance
Construction Phase				
CM1	Site Practice – Landscape	<i>No-intrusion Zone</i> To maximize protection of existing resources including watercourses, existing trees, ground vegetation and the associated understory habitats a “No-intrusion Zone” will be designated to various areas within and along the site boundary (Figures D.2, D.4-D.6, and D.8 of Appendix D). Rigid and durable construction barriers (Appendix E.1) shall be placed for each individual no-intrusion zone. Construction equipment, vehicle movements and encroachment of personnel are prohibited inside these areas. Regular checks will be carried out to ensure that the work site boundaries are not exceeded, hoarding is properly maintained and that no damage is being caused to these protected areas.	DSD	Contractor
CM2	Site Practice – Visual	<i>Erection of Screen Hoardings</i> A temporary screen hoarding shall be erected around the north side of the Site Office (SO) area to screen activities from local receivers. (Figure D.7 of Appendix D). It shall be designed and to be compatible with the existing rural context, with visually unobtrusive design and colours where appropriate (Appendix E.2).	DSD	Contractor

ID No.*	Type	Landscape / Visual Mitigation Measure	Funding / Implementation	Management / Maintenance
CM3	Site Practice – Visual	<i>Control of night-time lighting</i> No night-time work shall be programmed avoiding light pollution to visual receivers. Moreover, LED flood light/street light at around 5-6 posts with a maximum height of 7 m shall be mounted in the Site Office (Figure D.7 of Appendix D).	DSD	Contractor
Operation Phase				
OM1	Design / Planning – Landscape / Visual	<i>Compensatory Tree Planting</i> Suitable land pockets within the Project Area will be used for the implementation of compensatory mitigation to offset the net loss of key landscape resources and improve visual amenity. A Compensatory Tree Planting Proposal including locations of tree compensation will be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No. 3/2006.	DSD	DSD/ DLO/ AFCD
OM2	Design / Planning – Landscape / Visual	<i>Horizontal Greening</i> Following installation of underground culverts, pit excavation or utilization of land for works or stockpiling, the ground shall be backfilled, leveled and soiled as necessary for reinstatement prior to hydroseeding.	DSD	DSD / DLO / AFCD
OM3	Design / Planning – Landscape / Visual	<i>Reinstatement of Natural Water Courses</i> Where water courses have been affected by the works new, naturalized stream paths shall be provided as far as applicable, using excavated local rocks and stones, in order to create a pleasing visual impression and potential enhanced ecological habitat.	DSD	DSD

3.1.3 Due to the nature of the Project there will be no permanent above ground structures. Only five small elements will be visible following completion (i.e. drainage pipe Intakes A, B and C and Outfalls A and B). These are all low-lying structures located below surrounding ground level and generally inconspicuous. Hence, no photomontages have been adopted.

3.1.4 As the proposed mitigation measures have successfully applied long enough, the level of uncertainty for their effective implementation is expected to be insignificant. Nevertheless, the EM&A programme shall be implemented to ensure all mitigation measures are effective.

3.2 Implementation Schedule for Environmental Mitigation Measures

The recommended mitigation measures, both the location and timing for the measures, and the parties responsible for implementing the measures and for maintenance for landscape and visual impact are summarized in **Table 3.2**.

Table 3.2: Implementation Schedule for Environmental Mitigation Measures – Landscape and Visual Impact

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Objectives of Measures and Main Concern to Address	Location	Implementation Agent	Relevant Standard or Requirement	Implementation Stages		
							D/PC	C	O
7.11.1.1 & 7.11.1.2	-	Potential reduction to environmental impacts, including landscape and visual impacts, as detailed in Section 2.5 of the EIA Report , to both avoid impacts on highly sensitive landscape resources, particularly in the Lantau North Country Park and to locate, design and reduce the physical extent of the works as far as possible, so as to minimize the degree of general physical and visual impact. A major consideration in minimizing impacts has been the selection of a pipe jacking construction method, which significantly reduces the area and volume of ground excavation required for below ground drainage systems.	To minimize landscape impacts during the construction phase	All project areas	DSD	EIAO	✓		
7.11.1.3 & Table 7.17	6.2.1.2 & Table 6.1	To maximize protection of existing resources including watercourses existing trees, ground vegetation and the associated understory habitats a “No-intrusion Zone” will be designated to various areas within and along the site boundary with rigid and durable fencing for each individual no-intrusion zone. Regular checks will be carried out to ensure that the work site boundaries are not exceeded, hoarding is properly maintained and that no damage is being caused to these protected areas.	To maximize protection of existing resources including watercourses existing trees	No-intrusion Zone along the site boundary	Main Contractor	EIAO		✓	
7.11.1.3 & Table 7.17	6.2.1.2 & Table 6.1	A temporary screen hoarding shall be erected around the north side of the Site Office (SO) area to screen activities from local receivers. It shall be designed and to be compatible with the existing rural context, with visually unobtrusive design and colours where appropriate.	To screen activities from local receivers.	Around the north side of the Site Office (SO) area	Main Contractor	EIAO		✓	
7.11.1.3 & Table 7.17	6.2.1.2 & Table 6.1	No night-time work shall be programmed avoiding light pollution to visual receivers.	To control the nighttime lighting to the visual receivers	All works area	Main Contractor	EIAO		✓	
7.11.1.3 & Table 7.18	6.2.1.2 & Table 6.2	Suitable land pockets within the project area will be used for the implementation of compensatory mitigation to offset the net loss of key landscape resources and improve visual amenity. A compensatory tree planting proposal including locations of tree compensation will be submitted separately to seek relevant government department’s approval, in accordance with ETWB TCW No. 3/2006.	To offset the net loss of key landscape resources and improve visual amenity	Compensatory tree planting locations	DSD	ETWB TCW No. 3/2006			✓
7.11.1.3 & Table 7.18	6.2.1.2 & Table 6.2	Following installation of underground culverts, pit excavation or utilization of land for works or stockpiling, the ground shall be backfilled, leveled and soiled as necessary for reinstatement prior to hydroseeding.	To improve landscape and visual amenity	Compensatory planting locations in Figure D.9 of Appendix D .	Main Contractor	EIAO			✓
7.11.1.3 & Table 7.18	6.2.1.2 & Table 6.2	Where water courses have been affected by the works, new and naturalised streams paths shall be provided as far as applicable, using excavated local rocks and stones, in order to create a pleasing visual impression and potential enhanced ecological habitat.	To improve landscape and visual amenity	Water courses have been affected by the works	DSD	EIAO			✓
7.11.2.2	-	Application and approval for removal for all trees shall be obtained in accordance with ETWB TCW No. 3/2006. The actual numbers of trees to be retained felled and transplanted shall be subject to this process prior the construction.	To remove the tree to be affected due to the Project	All works area	DSD	ETWB TCW No. 3/2006	✓		
7.11.2.3 & 7.11.2.4	-	There are 73 ⁽¹⁾ trees proposed to be felled under the works including dead trees or that with a potential public safety concern. On-site compensatory planting of about 73 ⁽²⁾ new heavy standard trees will be undertaken as well as hydroseeding. The proposed compensatory planting plan is presented in Appendix D which shall be determined and agreed separately with government during the Tree Felling Application process under ETWB TC No. 3/2006.	To compensate the tree loss due to the construction of the Project	All works area	DSD	ETWB TCW No. 3/2006	✓		

Notes:

- Value used is with reference to the Tree Preservation and Removal Proposal (TPRP) (Document No. 5183077-OR0013-01) section 4.3
- Value used is with reference to the Tree Preservation and Removal Proposal (TPRP) (Document No. 5183077-OR0013-01) section 5.1.2

4. TREE PRESERVATION AND TREATMENT PROPOSAL

In the Adoptive Design Review in Pre-Contract Stage of the Project, a Tree Preservation and Removal Proposal (TPRP) (Document No. 5183077-OR0013-01) was prepared by Atkins China Ltd. (ACL) which detailed the proposed treatment (e.g. retain, transplant, compensatory planting, etc.) of the trees within the Project site. The TPRP was issued to DSD (DP, STD 2, LA), AFCD/NCO (Lantau), Senior Land Executive of Island District of LandsD (SLE). Furthermore, it has obtained no adverse comments from LandsD and was approved by the tree vetting panel of DSD in September 2019.

Consequently, the details of the succeeding sections relating to the current proposed tree preservation and treatment plan were prepared in reference to the approved TPRP.

4.1 Tree Survey

4.1.1 Relative to the tree survey findings of 612 numbers (nos.) of trees during the EIA Study, the current total nos. of trees that are anticipated to be affected by the construction works according to the updated TPRP is decreased to 300 nos. as the Project area was reduced to minimize the construction works area and lessen the number of trees that will be directly affected.

4.1.2 The trees that were currently identified are mostly native species that are either planted or self-seeded. None of these recorded trees, however, are listed in the LCSD's Register of Old and Valuable or are eligible for listing under the criteria stipulated in the **DEVB TC(W) No. 5/2020 – Registration and Preservation of Old and Valuable Trees**. Moreover, none of these recorded trees are listed in the "Rare and Precious Plants of Hong Kong" issued by Hong Kong Herbarium covering the species listed under the **Forests and Countryside Ordinance (Cap. 96)** and the **Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586)**.

4.1.3 The tree assessment schedule is presented in **Appendix B**.

4.2 Tree Treatment

4.2.1 The potential impact of the proposed drainage works on the recorded trees within the Project area will mainly result from groundbreaking, excavation and backfilling. Of the 300 nos. of trees recorded, 227 trees could be avoided by the proposed works and could be retained on site provided with protection. The other 73 nos. of trees that could be affected are proposed to be felled as they are unsuitable for transplantation due to the following reasons:

- Site condition and poor health and structural condition of the affected trees;
- Trees are located close to the drainage channel / electric facility / growing on slopes;
- Technical difficulties in logistics arrangement;
- Cannot attain rootball formation reasonable size.

4.2.2 **Table 4.1** summarizes the recommended treatment of all existing trees within the surveyed area.

Table 4.1: Tree Treatment Recommendation of the Assessed Trees

Tree Management Recommendation		
Retain	Transplant	Fell
227	0	73

4.2.3 The locations of trees which will be affected by the construction works are presented in in the Tree Recommendation Plan (Figures C1.a to C1.h of **Appendix C.1**) while the summary of the corresponding recommended treatment for each tree species is provided in **Appendix C.2**.

4.3 Compensatory Tree Planting

4.3.1 **DEVB TC(W) No. 4/2020 – Tree Preservation** specifies the implementation of compensatory tree planting of a ratio not less than 1:1 in terms of number and aggregated DBH, as far as practicable.

4.3.2 A minimum of 73 nos. of trees shall be planted in compliance with the planting ratio of 1:1 in terms of number. As aforementioned in **Section 4.1. of this Plan**, with the reduction in the proposed size of the construction works area, a consequent reduction in the number of trees to be affected by the Project is expected. Thus, the 89 nos. of trees initially suggested in **Section 7.11.2.3 of the EIA Report** for compensatory planting was reduced to 73 nos.

4.3.3 *Notwithstanding the minimum ratio of compensatory planting, reasonable amount of compensatory trees should be provided to suit site condition and land use with greening opportunity optimized, where feasible.* With the limited site area and lack of available land suitable for compensatory planting, only 73 nos. of standard trees are proposed for compensatory planting. This is to provide sufficient growing space for the compensatory trees (taking into consideration also the retained trees) from establishment to maturity to maximize tree health and stability and avoid planting that would lead to over-congestion in the future.

4.3.4 Characteristics of standard trees as below shall follow the **General Specification for Civil Engineering (2006 Edition) - Section 3 Landscape Softworks and Establishment Works** issued by CEDD:

- a. A sturdy straight stem at least 1800 mm high from the root collar to the lowest branch,
- b. Stem diameter exceeding 45 mm but not exceeding 75 mm measured at a height of 1 m from the root collar,
- c. According to species, either a well-balanced branching head or a well-defined straight and upright leader with branches growing out from the stem with reasonable symmetry, and a minimum length of 600 mm,
- d. Total height above the root collar exceeding 2750 mm but not exceeding 3500 mm,
- e. A rootball at least 450 mm in diameter and 300 mm deep

- f. When container grown trees are required, grown in a container at least 500 mm in diameter and 500 mm deep, and
- g. Free of pests, fungi and disease.

4.3.5 To enhance biodiversity and prevent monoculture, some preferable tree species for compensatory planting were recommended by the Landscape Unit of DSD as listed in **Table 4.2**. The design plan will be confirmed with Landscape Unit/ DSD and Ngong Ping STW and incorporated in the Final TPRP Report.

Table 4.2: Proposed Species for Compensatory Tree Planting

	Scientific Name	Chinese Common Name	Size	Spacing (m) ¹	Total ²
1	<i>Litsea cubeba</i>	木薑子	Standard	3.5	33
2	<i>Gordonia axillaris</i>	大頭茶	Standard	3.5	33
3	<i>Antidesma bunius</i>	五月茶	Standard	3.5	7
Notes:					
1. Spacing of compensatory tree planting is proposed to be minimum 3.5 meter in order to allow sufficient space for future development.					
2. The total no. of compensatory tree proposed is 73. The compensation ratio in terms of number is 1:1.					

4.3.6 The proposed locations of the compensatory trees are shown in **Appendix D**.

4.4 Tree Protection, Maintenance and Establishment Period

Total no. of 227 trees located in the immediate vicinity of the proposed industrial sites will be retained and preserved in accordance to the tree protection measures detailed in the **Section 26 of the General Specifications for Civil Engineering Works (2006 Edition)** as well as the guidelines issues by the DEVB, and the maintenance methodology described on the following.

4.4.1 Upon Possession of the Site

4.4.1.1 "The Contractor shall assign a Qualified Tree Specialist of the site supervisory staff to oversee and supervise tree works related to arboricultural operations and preservation of trees within the Site.

4.4.1.2 The assigned component person shall prepare and submit a "Tree Preservation Plan" in accordance to the requirements of the applicable statutory and non-statutory requirements for the Engineer approval before the commencement of any construction work.

4.4.2 Construction Stage

4.4.2.1 Before the commencement of any site work including ground clearance, an updated tree survey shall be undertaken by the Main Contractor to update the latest status and management recommendation of the trees potentially affected by the project in accordance with the approved "Tree Preservation and Removal Proposal".

- 4.4.2.2** The tree protection zone (TPZ) shall cover all trees recommended to be “retained”. Subject to the site condition, the TPZ will extend to the area under the dripline of the tree canopy and a 1.5m high robust protection fence as far as practicable during the construction period.
- 4.4.2.3** The design detail of the TPZ is referenced to Greening, Landscape and Tree Management (GLTM) Section of the Development Bureau’s Proper Planting Practice -Design for Tree Protection Zone and the detail of the protective fencing is referenced to the **Section 26 of the General Specification for Civil Engineering Works**.
- 4.4.2.4** No dumping, storage of material, level change, and excavation, cutting of roots / branches or parking is allowed within the TPZ; and the Contractor shall promptly implement the approved “Tree Preservation Plan” as well as other tree maintenance measures recommended in the GLTMS’s website, in particularly those related to construction project.
- 4.4.2.5** If excavation or movement of machinery within the TPZ is unavoidable, the extent of any proposed root pruning and/or crown reduction/uplifting of the preserved trees should be reviewed by a Qualified Tree Specialist, and the potential risk in health and structural condition of the subject tree assessed and documented for the Engineer Approval.
- 4.4.2.6** Any tree surgery works should be meticulously executed in accordance to the latest and applicable guidelines issued by the GLTM and under supervision of the Qualified Tree specialist or competent person approved under **Section 6.1.2**; and the excavation must be done by hand tools as far as practicable and no roots of 25 mm diameter or above should be severed.
- 4.4.3 Post-Construction Stage**
- 4.4.3.1** A 12-month establishment period will be provided. The contractor shall be responsible for the maintenance of all trees within the project site and all compensatory trees outside the project site, if any, during this establishment period.
- 4.4.3.2** The Contractors shall work out a maintenance and management schedule with the regular site supervision (especially before and after the adverse weather), which shall be agreed by relevant departments.
- 4.4.3.3** During establishment period, proper records of establishment works like watering, grass cutting, replacement of dead plants etc. should be kept to facilitate site checking at the end of period.
- 4.4.4 After Establishment Period**
- 4.4.4.1** After the 12-month establishment period, the Contractor will cease his maintenance responsibilities on all trees within the Project site, and the 73 nos. of trees newly planted at Ngong Ping will be handed over to the maintenance unit of Ngong Ping STW from ST2 of DSD.

5. MANAGEMENT AND MAINTENANCE

The responsibility of the management and maintenance for greening provision was determined in accordance with **DEVB TCW No. 6/2015 – Maintenance of Vegetation and Hard Landscape Features**. General maintenance operations will include watering, fertilizing, weeding, pruning, mulching, pest control, replacement, as appropriate. The proposed maintenance department is shown in **Table 5.1**. As aforementioned in **Section 4.4.4.1 of this Plan**, the maintenance and management responsibilities will be handed over to the maintenance unit of Ngong Ping STW after the 12-month establishment period. The maintenance and management hand over schedule is presented in **Table 6.1**.

Table 5.1: Proposed Management and Maintenance Departments

Location	Proposed Maintenance Departments
Proposed areas of compensatory planting	ST2 of DSD

6. IMPLEMENTATION PROGRAMME

6.1 Approval of the Landscape Plan

As required by **EP-456/2013/A Condition 2.6**, at least two months before the commencement of construction the Landscape Plan should be submitted to the Director for approval.

6.2 Landscape and Visual Mitigation Measures

As per **EP-456/2013/A Condition 2.7**, all landscape and visual mitigation measures shall be implemented for the Project in accordance with the approved landscape plan. Landscape and visual mitigation measures shall be undertaken during the construction and operation stages of the Project.

6.3 Construction and Operational Phase Audit

According to **Section 6.3.1.2 of the EM&A Manual**, all measures undertaken shall be regularly audited by Registered Landscape Architect, as a member of the Environmental Team (ET) to ensure strict compliance of the mitigation measures. Site inspections shall be carried out at least once every two weeks throughout the construction period and once every two months during the operational phase, which will comprise the 12 months of the Contractor's maintenance period.

6.4 Summary

Summary of the maintenance and management schedule, and landscape and visual mitigation and audit works implementation programme is presented in **Table 6.1**.

Table 6.1: Tentative Maintenance and Management Schedule and Landscape and Visual Mitigation and Audit Works Implementation Programme

	2020												2021																2022											
	Aug			Sep				Nov				Dec		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Jan		Feb
	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3			
Tentative construction works commencement																																								
Implementation of construction stage mitigation measures (CM1, CM2, CM3) (all throughout construction phase)																																								
Compensatory Tree Planting (OM1)																																								
*Horizontal Greening (OM2)																																								
*Reinstatement of Natural Water Courses (OM3)																																								
Establishment Period (12-month maintenance of all trees within the project site and all compensatory trees)																																								
Audit of mitigation measures (once every two weeks throughout the construction period and once every two months during the operational phase)																																								
Handing over of maintenance responsibilities from ST2 of DSD to maintenance unit of Ngong Ping STW																																								
Note: *Backfilling and reinstatement works are carried out progressively during the construction phase after relevant construction works are completed in specific Works Areas.																																								

	2022																				2023																		
	Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		
	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3	W1	W3																
Implementation of construction stage mitigation measures (CM1, CM2, CM3) (all throughout construction phase)																																							
Compensatory Tree Planting (OM1)																																							
*Horizontal Greening (OM2)																																							
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Establishment Period (12-month maintenance of all trees within the project site and all compensatory trees)																																							
Audit of mitigation measures (once every two weeks throughout the construction period and once every two months during the operational phase)																																							
Handing over of maintenance responsibilities maintenance unit to Ngong Ping STW																																							

Note:
 *Backfilling and reinstatement works are carried out progressively during the construction phase after relevant construction works are completed in specific Works Areas.

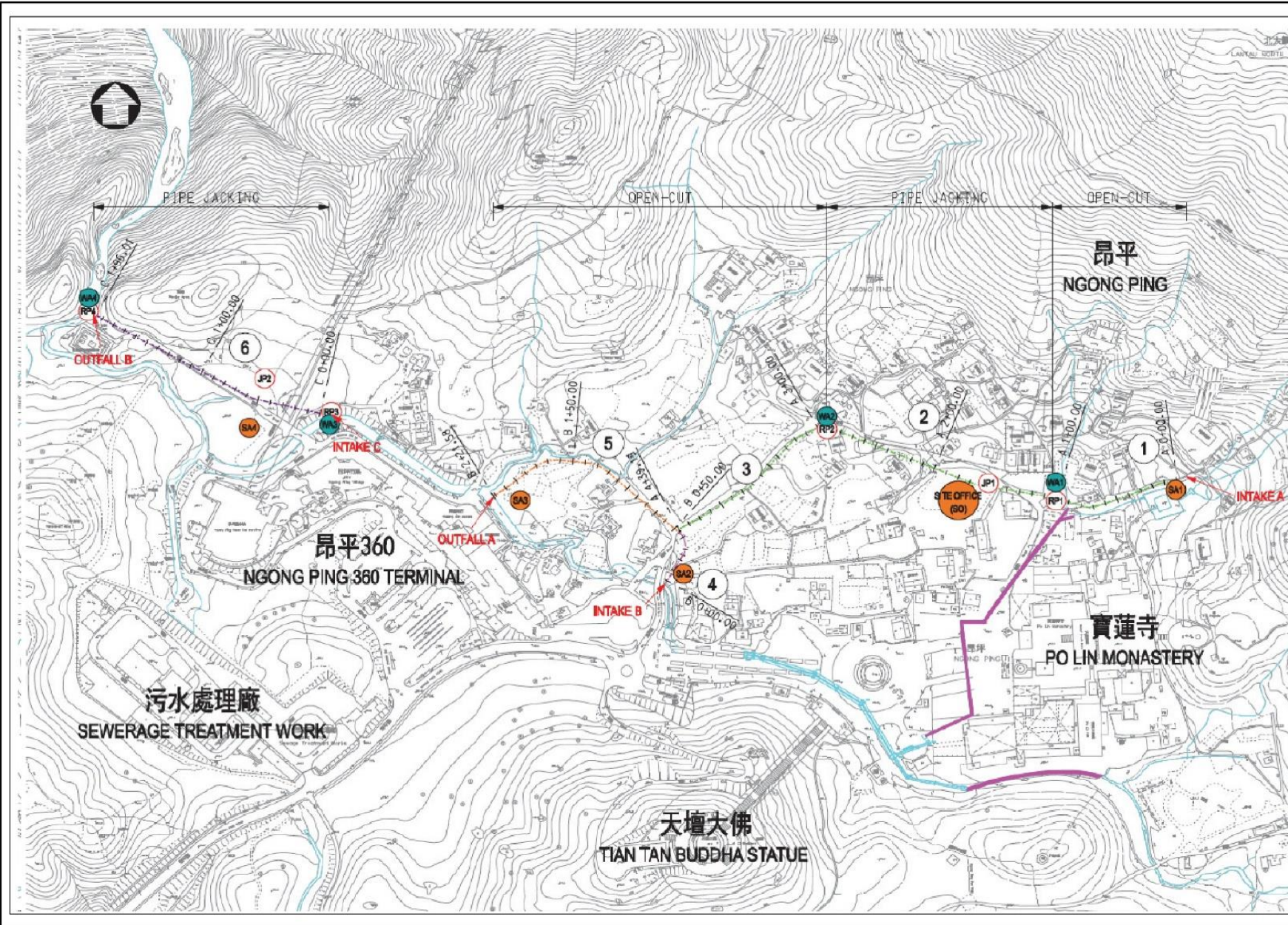


7. SUMMARY AND CONCLUSIONS

This Landscape Plan is prepared and submitted to satisfy the requirements of **Condition 2.6 of EP No. EP-456/2013/A** and will be updated after the comments from relevant Government departments are received as well as updates of site conditions.

Appendix A

General Layout Plan



LEGENDS:

- PROPOSED 1500-1950mm INTERCEPTION PIPE IN 3 SECTIONS:
 - ① A0+00 - A1+20,
 - ② A1+20 - A3+00,
 - ③ A3+00 - A4+40
(TRENCH 2.5M WIDE)
- PROPOSED 2.5m(W) x 2.5m(H) BOX CULVERT: B0+00 - B0+45
(TRENCH 5.5M WIDE),
 - ④
- PROPOSED 4.0m(W) x 2.5m(H) BOX CULVERT: B0+45 - B2+22
(TRENCH 6.0M WIDE)
 - ⑤
- PROPOSED 1800mm FLOOD RELIEF DRAIN: C0+00 - C1+88
 - ⑥
- RP RECEIVING PIT
 - RP1
 - RP2
 - RP3
- JP JACKING PIT
 - JP1
- SA STOCKPILING AREA
 - SA1
 - SA2
 - SA3
- WA WORKS AREA
 - WA1
 - WA2

Drainage Services Department
The Government of the Hong Kong Special Administrative Region



Project Title:	
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping	
Figure Title:	
General Layout Plan	
Figure No:	Rev.
1	0
Prepared by:	Checked:
SMR	FMN
Date:	Status:
07/09/2020	Draft

Appendix B

Tree Assessment Schedule

Table B.1: Tree schedule of Ngong Ping Drainage Works

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
1	T-555	<i>Acronychia pedunculata</i>	4.5	163.6581804	3	Poor	Poor	Poor	-	Retain	-
2	T-455	<i>Acacia confusa</i>	8	310	7	Fair	Fair	Fair	Low	Retain	-
3	T-1124	<i>Acacia confusa</i>	10	232.0021552	7.5	Fair	Poor	Poor	Low	Retain	-
4	T-1125	<i>Acacia confusa</i>	5	193.4554212	1.5	-	-	-	-	Retain	-
5	T-1129	<i>Acacia confusa</i>	11	175	6.5	Fair	Fair	Fair	Low	Retain	-
6	T-1130	<i>Acacia confusa</i>	10	259.4224354	7.5	Fair	Fair	Fair	Low	Retain	-
7	T-1132	<i>Acacia confusa</i>	9	186.0779407	6.5	Fair	Fair	Fair	Low	Retain	-
8	T-1133	<i>Acacia confusa</i>	8.5	216.5640783	8	Fair	Fair	Fair	Low	Retain	-
9	T-1231	<i>Acacia confusa</i>	9.5	120	4	Fair	Fair	Fair	Low	Retain	-
10	T-1232	<i>Acacia confusa</i>	9	155	6	Fair	Fair	Fair	Low	Retain	-
11	T-1253	<i>Acacia confusa</i>	11	360	12	Fair	Poor	Poor	Low	Retain	-
12	T-1272	<i>Acacia confusa</i>	9.5	346.1849217	8.5	Fair	Poor	Poor	Low	Fell	A,B,D,F,G,H
13	T-1324A	<i>Acacia confusa</i>	6	421.9004622	4	Poor	Poor	Poor	-	Retain	-
14	T-1324B	<i>Acacia confusa</i>	3.5	170	2	Poor	Poor	Poor	-	Retain	-
15	T-1326	<i>Acacia confusa</i>	4	95	6	Fair	Fair	Fair	-	Retain	-
16	T-1327	<i>Acacia confusa</i>	9.5	330	6.5	Poor	Poor	Poor	-	Retain	-
17	T-1329	<i>Acacia confusa</i>	10.5	310	9	Poor	Poor	Poor	-	Retain	-
18	T-1330	<i>Acacia confusa</i>	11	516.139516	8	Poor	Poor	Poor	-	Retain	-
19	T-1335	<i>Acacia confusa</i>	7	240	7.5	Fair	Fair	Fair	Low	Retain	-
20	T-1328	<i>Acacia mangium</i>	3	220	1	Poor	Poor	Poor	-	Retain	-
21	T-1331	<i>Acacia mangium</i>	1.8	100	0.5	Poor	Poor	Poor	-	Retain	-
22	T-1001	<i>Alstonia scholaris</i>	3	189.7366596	2.5	Fair	Fair	Fair	Low	Retain	-
23	T-1017	<i>Aporosa dioica</i>	4	105	1	Poor	Poor	Poor	Low	Retain	-
24	T-117	<i>Artocarpus heterophyllus</i>	4	254.9509757	2	Poor	Poor	Poor	Low	Fell	A, B,D, G, H
25	T-118	<i>Artocarpus heterophyllus</i>	3.5	215	2	Poor	Poor	Poor	Low	Fell	A, B,D, G, H
26	T-359	<i>Bischofia javanica</i>	4	240	4	Fair	Poor	Poor	Low	Retain	-
27	T-360	<i>Bischofia javanica</i>	4.5	235	2.5	Fair	Poor	Poor	Low	Retain	-
28	T-361	<i>Bischofia javanica</i>	5	225	0.5	Fair	Poor	Poor	Low	Retain	-
29	T-362	<i>Bischofia javanica</i>	4	220	4	Fair	Poor	Poor	Low	Retain	-
30	T-363	<i>Bischofia javanica</i>	1.8	310	4.5	Fair	Poor	Poor	Low	Retain	-
31	T-368	<i>Bischofia javanica</i>	5	156	4.5	Fair	Poor	Poor	Low	Retain	-
32	T-369	<i>Bischofia javanica</i>	6	152	4.5	Fair	Poor	Poor	Low	Retain	-
33	T-371	<i>Bischofia javanica</i>	3.5	95	1	Fair	Poor	Poor	Low	Retain	-
34	T-372	<i>Bischofia javanica</i>	8	200	3	Fair	Poor	Poor	Low	Retain	-
35	T-153	<i>Celtis sinensis</i>	3	108	2.5	Fair	Poor	Fair	Low	Retain	-

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
36	T-156	<i>Celtis sinensis</i>	4	100	1.5	Poor	Poor	Poor	Low	Retain	-
37	T-169	<i>Celtis sinensis</i>	4	330	5.5	Poor	Poor	Poor	Low	Retain	-
38	T-367	<i>Celtis sinensis</i>	2.5	177	4	Fair	Poor	Poor	Low	Retain	-
39	T-470	<i>Celtis sinensis</i>	5	110	3.5	Poor	Poor	Poor	-	Retain	-
40	T-471	<i>Celtis sinensis</i>	5	163	1.2	Poor	Poor	Poor	-	Retain	-
41	T-482	<i>Celtis sinensis</i>	6.5	114	3.5	Poor	Fair	Fair	-	Retain	-
42	T-496	<i>Celtis sinensis</i>	8	155	5.5	Fair	Fair	Fair	-	Retain	-
43	T-510	<i>Celtis sinensis</i>	5	114	1	Poor	Poor	Poor	-	Retain	-
44	T-523	<i>Celtis sinensis</i>	7	209.6115455	5	Fair	Poor	Poor	-	Retain	-
45	T-549	<i>Celtis sinensis</i>	8	202	7.5	Fair	Fair	Fair	-	Retain	-
46	T-562	<i>Celtis sinensis</i>	6.5	144	4.5	Fair	Fair	Fair	-	Retain	-
47	T-563	<i>Celtis sinensis</i>	6	149	5	Fair	Fair	Fair	-	Retain	-
48	T-1110	<i>Celtis sinensis</i>	4.5	115	3.5	Fair	Fair	Fair	Low	Retain	-
49	T-1256	<i>Celtis sinensis</i>	10	313	6	Fair	Poor	Poor	Low	Retain	-
50	T-1257	<i>Celtis sinensis</i>	11	360	7	Fair	Fair	Fair	Low	Retain	-
51	T-022	<i>Cinnamomum camphora</i>	7	170	4	Fair	Fair	Fair	Low	Retain	-
52	T-023	<i>Cinnamomum camphora</i>	11	322	8.5	Fair	Fair	Fair	Low	Retain	-
53	T-028	<i>Cinnamomum camphora</i>	6.5	160	3.5	Poor	Poor	Poor	Low	Retain	-
54	T-032	<i>Cinnamomum camphora</i>	8	330	6.5	Poor	Poor	Poor	Low	Retain	A,B,D,F,G,H,I
55	T-067	<i>Cinnamomum camphora</i>	13	395	7	Poor	Poor	Poor	Low	Fell	A,B,D,F,G,H,I
56	T-075	<i>Cinnamomum camphora</i>	7	250	2	Poor	Poor	Poor	Low	Fell	A,B,D,F,G,H,I
57	T-086	<i>Cinnamomum camphora</i>	7.5	180	6.5	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
58	T-087	<i>Cinnamomum camphora</i>	8	222	6	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
59	T-088	<i>Cinnamomum camphora</i>	10	311	8	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
60	T-090	<i>Cinnamomum camphora</i>	7.5	230	5	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
61	T-091	<i>Cinnamomum camphora</i>	6.5	254.5584412	7	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
62	T-092	<i>Cinnamomum camphora</i>	7	210	7	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
63	T-093	<i>Cinnamomum camphora</i>	8	220	6.5	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
64	T-094	<i>Cinnamomum camphora</i>	9.5	420	6	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
65	T-325	<i>Cinnamomum camphora</i>	8	140	4.5	Fair	Poor	Poor	Low	Retain	-
66	T-327	<i>Cinnamomum camphora</i>	8	217.4856317	6	Fair	Poor	Poor	Low	Retain	-
67	T-330	<i>Cinnamomum camphora</i>	11	292	9	Fair	Poor	Fair	Low	Fell	A, B,D, G, H
68	T-339	<i>Cinnamomum camphora</i>	9.5	198	7	Fair	Poor	Fair	Low	Fell	A, B,D, G, H
69	T-485	<i>Cinnamomum camphora</i>	6	262	6.5	Poor	Poor	Poor	-	Retain	-
70	T-532	<i>Cinnamomum camphora</i>	8.5	176	5	Fair	Poor	Fair	-	Retain	-
71	T-534	<i>Cinnamomum camphora</i>	8	178	4.5	Fair	Poor	Fair	-	Retain	-
72	T-535	<i>Cinnamomum camphora</i>	5	234	5.5	Fair	Poor	Fair	-	Retain	-

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
73	T-559	<i>Cinnamomum camphora</i>	7	250.7987241	3	Poor	Poor	Poor	-	Retain	-
74	T-569	<i>Cinnamomum camphora</i>	8	201.4571915	4.5	Fair	Fair	Fair	-	Retain	-
75	T-1003	<i>Cinnamomum camphora</i>	4.5	160	4	Fair	Fair	Fair	Low	Retain	-
76	T-1004	<i>Cinnamomum camphora</i>	4.5	249.0983741	5	Fair	Fair	Fair	Low	Retain	-
77	T-1011	<i>Cinnamomum camphora</i>	4	95	3	Fair	Poor	Fair	Low	Retain	-
78	T-1012	<i>Cinnamomum camphora</i>	5	120	3	Fair	Fair	Fair	Low	Retain	-
79	T-1018	<i>Cinnamomum camphora</i>	12	288	8	Fair	Fair	Fair	Low	Retain	-
80	T-1153	<i>Cinnamomum camphora</i>	6	300	7	Fair	Poor	Poor	Low	Retain	-
81	T-1187	<i>Cinnamomum camphora</i>	5	220	6	Fair	Fair	Fair	Low	Retain	-
82	T-1273	<i>Cinnamomum camphora</i>	10	320	6	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H
83	T-1297	<i>Cinnamomum camphora</i>	9	262	6	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H
84	T-1298	<i>Cinnamomum camphora</i>	10	381	9.5	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H
85	T-098	<i>Crateva unilocularis</i>	4.5	302	6	Fair	Poor	Fair	Low	Retain	-
86	T-112	<i>Crateva unilocularis</i>	4	210	6	Poor	Poor	Poor	Low	Fell	A, B,D,G,H
87	T-113	<i>Crateva unilocularis</i>	5	270	6.5	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H
88	T-114	<i>Crateva unilocularis</i>	4	170	6	Poor	Poor	Poor	Low	Fell	A, B,D, G, H
89	T-115	<i>Crateva unilocularis</i>	5	220	5	Poor	Poor	Poor	Low	Fell	A,B,D,F,G,H
90	T-116	<i>Crateva unilocularis</i>	2.5	220	1	Poor	Poor	Poor	Low	Fell	A, B,D, G, H
91	T-493	<i>Cratogeomys cochinchinense</i>	4	182.4390309	4.5	Poor	Poor	Fair	-	Retain	-
92	T-073	Dead Tree	6	80	2	-	-	-	-	Fell	I, H, J
93	T-210	Dead Tree	3	150	0.3	-	Poor	-	-	Retain	-
94	T-323	Dead Tree	4.5	145	4	-	-	-	-	Retain	-
95	T-329	Dead Tree	8	210	0.3	-	-	-	-	Fell	J
96	T-332	Dead Tree	2	258	0.3	-	-	-	-	Fell	J
97	T-466	Dead Tree	4	95.60334722	0.3	Poor	Poor	Poor	-	Retain	-
98	T-548	Dead Tree	3	100	0.2	Poor	Poor	Poor	-	Retain	-
99	T-570	Dead Tree	1.8	120	1	Poor	Poor	Poor	-	Retain	-
100	T-1015	Dead Tree	6.5	110	3.5	-	-	-	-	Retain	-
101	T-1234	Dead Tree	3	95	3.5	-	-	-	-	Retain	-
102	T-1334	<i>Dimocarpus longan</i>	7	254.7547841	7.5	Fair	Fair	Fair	Low	Retain	-
103	T-1009	<i>Elaeocarpus hainanensis</i>	7.5	155	5	Fair	Fair	Fair	Low	Retain	-
104	T-355	<i>Erythrina variegata</i>	4	124.1974235	2	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
105	T-356	<i>Erythrina variegata</i>	3.5	104.0432602	2	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
106	T-357	<i>Erythrina variegata</i>	3	110.1135777	2.5	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
107	T-358	<i>Erythrina variegata</i>	3	103.0776406	2	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
108	T-364	<i>Erythrina variegata</i>	5.5	347.8505426	2	Fair	Poor	Poor	Low	Retain	-
109	T-365	<i>Erythrina variegata</i>	4	145	2.5	Fair	Poor	Poor	Low	Retain	-

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
110	T-370	<i>Erythrina variegata</i>	7	170	6	Fair	Fair	Fair	Low	Retain	-
111	T-373	<i>Erythrina variegata</i>	5	146.7140075	3.5	Fair	Poor	Fair	Low	Retain	-
112	T-451	<i>Erythrina variegata</i>	5.5	331.8132005	4	Fair	Fair	Fair	Low	Fell	A, B,D, G, H
113	T-453	<i>Erythrina variegata</i>	5.5	330	6	Fair	Fair	Fair	Low	Fell	A, B,D, G, H
114	T-096	<i>Eucalyptus robusta</i>	13	600	9	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
115	T-317	<i>Eucalyptus robusta</i>	10	362.3534186	8	Fair	Fair	Fair	Low	Retain	-
116	T-1233	<i>Ficus hispida</i>	3.5	120	2	Fair	Poor	Poor	Low	Retain	-
117	T-476	<i>Glochidion zeylanicum</i>	1.8	142.126704	1	Poor	Poor	Poor	-	Retain	-
118	T-527	<i>Ilex graciliflora</i>	4.5	122	2.5	Poor	Fair	Fair	-	Retain	-
119	T-1117	<i>Ilex rotunda</i>	4	105.1189802	2.5	Fair	Fair	Fair	Low	Retain	-
120	T-1152	<i>Ilex rotunda</i>	5	215.5087005	6	Fair	Poor	Poor	Low	Retain	-
121	T-1239	<i>Ilex rotunda</i>	4.5	147.8715659	3.5	Fair	Fair	Fair	Low	Retain	-
122	T-540	<i>Ilex viridis</i>	7	128.015624	2.5	Poor	Poor	Poor	-	Retain	-
123	T-544	<i>Ilex viridis</i>	6	98	2	Poor	Poor	Poor	-	Retain	-
124	T-551	<i>Ilex viridis</i>	6	163	4.5	Poor	Poor	Poor	-	Retain	-
125	T-553	<i>Ilex viridis</i>	5.5	130	4	Poor	Poor	Poor	-	Retain	-
126	T-582	<i>Ilex viridis</i>	4	114.6734494	2.5	Poor	Poor	Poor	-	Retain	-
127	T-584	<i>Ilex viridis</i>	6	99.2975327	3	Poor	Poor	Poor	-	Retain	-
128	T-585	<i>Ilex viridis</i>	3.5	102	2	Poor	Poor	Poor	-	Retain	-
129	T-1010	<i>Ligustrum liukuense</i>	5	95	5.5	Fair	Poor	Poor	Poor	Retain	-
130	T-1013	<i>Ligustrum liukuense</i>	6	108	4	Fair	Poor	Poor	Low	Retain	-
131	T-1227	<i>Ligustrum lucidum</i>	4	105	2.5	Fair	Fair	Fair	Low	Retain	-
132	T-467	<i>Ligustrum sinense</i>	4	164.2102311	3	Poor	Poor	Poor	-	Retain	-
133	T-473	<i>Ligustrum sinense</i>	4	149.6262009	1.5	Poor	Poor	Poor	-	Retain	-
134	T-499	<i>Ligustrum sinense</i>	6.5	105	3	Poor	Fair	Poor	-	Retain	-
135	T-516	<i>Ligustrum sinense</i>	6	95	2.5	Poor	Poor	Poor	-	Retain	-
136	T-519	<i>Ligustrum sinense</i>	5.5	123	2.5	Poor	Poor	Poor	-	Retain	-
137	T-550	<i>Ligustrum sinense</i>	6	111	4.5	Poor	Poor	Fair	-	Retain	-
138	T-580	<i>Ligustrum sinense</i>	4.5	146.273716	3	Poor	Poor	Poor	-	Retain	-
139	T-588	<i>Ligustrum sinense</i>	5	112	3.5	Poor	Poor	Fair	-	Retain	-
140	T-205	<i>Litchi chinensis</i>	7.5	245	6.5	Poor	Poor	Poor	Low	Retain	-
141	T-1006	<i>Litsea cubeba</i>	6	178	4	Fair	Fair	Fair	Low	Retain	-
142	T-239	<i>Livistona chinensis</i>	6	250	5	Fair	Poor	Fair	Low	Retain	-
143	T-252	<i>Livistona chinensis</i>	5	225	3	Fair	Fair	Fair	Low	Retain	-
144	T-253	<i>Livistona chinensis</i>	6.5	238	3.5	Fair	Fair	Fair	Low	Retain	-
145	T-254	<i>Livistona chinensis</i>	5	225	3.5	Fair	Fair	Fair	Low	Retain	-
146	T-255	<i>Livistona chinensis</i>	5	221	3	Fair	Fair	Fair	Low	Retain	-

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
147	T-089	<i>Machilus pauhoi</i>	5	140	4	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H,I
148	T-095	<i>Machilus pauhoi</i>	6.5	103	7	Fair	Poor	Poor	Low	Fell	A,B,D,F,G,H,I
149	T-157	<i>Machilus pauhoi</i>	7	170	4	Poor	Poor	Poor	Low	Retain	-
150	T-161	<i>Machilus pauhoi</i>	7	180	8	Fair	Poor	Fair	Low	Retain	-
151	T-162	<i>Machilus pauhoi</i>	5.5	112	2	Poor	Poor	Poor	Low	Retain	-
152	T-318	<i>Machilus pauhoi</i>	5	100	3	Fair	Fair	Fair	Low	Retain	-
153	T-319	<i>Machilus pauhoi</i>	8	271	5	Fair	Fair	Fair	Low	Retain	-
154	T-321	<i>Machilus pauhoi</i>	4.5	190	2	Fair	Poor	Poor	Low	Retain	-
155	T-333	<i>Machilus pauhoi</i>	8	100	2.5	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
156	T-337	<i>Machilus pauhoi</i>	4	95	2	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
157	T-338	<i>Machilus pauhoi</i>	5	120	2	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
158	T-340	<i>Machilus pauhoi</i>	4.5	120	3	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
159	T-341	<i>Machilus pauhoi</i>	8	145	6	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
160	T-342	<i>Machilus pauhoi</i>	7.5	220	5	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
161	T-344	<i>Machilus pauhoi</i>	8	150	5	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
162	T-345	<i>Machilus pauhoi</i>	5.5	125	3.5	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
163	T-346	<i>Machilus pauhoi</i>	6	120	3	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
164	T-347	<i>Machilus pauhoi</i>	7.5	134	4	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
165	T-349	<i>Machilus pauhoi</i>	7	149	4.5	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
166	T-350	<i>Machilus pauhoi</i>	7	182	5	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
167	T-351	<i>Machilus pauhoi</i>	8.5	189	6	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
168	T-414	<i>Machilus pauhoi</i>	8	240.8318916	7	Fair	Fair	Fair	Low	Fell	A, B,D, G, H
169	T-461	<i>Machilus pauhoi</i>	7	160	6.5	Fair	Fair	Fair	Low	Retain	-
170	T-468	<i>Machilus pauhoi</i>	6.5	190	4.5	Poor	Poor	Poor	-	Retain	-
171	T-469	<i>Machilus pauhoi</i>	5	111.1260546	3	Poor	Poor	Poor	-	Retain	-
172	T-477	<i>Machilus pauhoi</i>	8.5	154	4.5	Poor	Poor	Poor	-	Retain	-
173	T-488	<i>Machilus pauhoi</i>	6.5	110	2.5	Poor	Poor	Poor	-	Retain	-
174	T-492	<i>Machilus pauhoi</i>	8	108	3.5	Poor	Poor	Poor	-	Retain	-
175	T-495	<i>Machilus pauhoi</i>	7	98	3.5	Poor	Poor	Poor	-	Retain	-
176	T-498	<i>Machilus pauhoi</i>	5	102	1.5	Poor	Poor	Fair	-	Retain	-
177	T-500	<i>Machilus pauhoi</i>	8	103.0776406	1.5	Poor	Fair	Poor	-	Retain	-
178	T-504	<i>Machilus pauhoi</i>	7.5	96	3.5	Poor	Poor	Poor	-	Retain	-
179	T-506	<i>Machilus pauhoi</i>	8	122	4	Fair	Poor	Fair	-	Retain	-
180	T-512	<i>Machilus pauhoi</i>	5.5	111.4001795	3	Poor	Poor	Poor	-	Retain	-
181	T-513	<i>Machilus pauhoi</i>	9	118	4.5	Poor	Poor	Poor	-	Retain	-
182	T-517	<i>Machilus pauhoi</i>	6	122	3	Poor	Poor	Poor	-	Retain	-
183	T-521	<i>Machilus pauhoi</i>	6	166	6.5	Fair	Fair	Fair	-	Retain	-

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
184	T-1014	<i>Machilus pauhoi</i>	7	100	4	Fair	Poor	Poor	Low	Retain	-
185	T-1020	<i>Machilus pauhoi</i>	7.5	110	2	Fair	Poor	Poor	Low	Retain	-
186	T-1100	<i>Machilus pauhoi</i>	5	134.5362405	4.5	Fair	Fair	Fair	Low	Retain	-
187	T-1112	<i>Machilus pauhoi</i>	3	180	2	Fair	Poor	Poor	Low	Retain	-
188	T-1114	<i>Machilus pauhoi</i>	5	105	3	Fair	Fair	Fair	Low	Retain	-
189	T-1128	<i>Machilus pauhoi</i>	5	119.1637529	3.5	Fair	Fair	Fair	Low	Retain	-
190	T-1131	<i>Machilus pauhoi</i>	8	170	5.5	Fair	Fair	Fair	Low	Retain	-
191	T-1199	<i>Machilus pauhoi</i>	4.5	110	3.5	Fair	Fair	Fair	Low	Retain	-
192	T-1200	<i>Machilus pauhoi</i>	2.5	130	3	Fair	Fair	Fair	Low	Retain	-
193	T-1220	<i>Machilus pauhoi</i>	2.5	124.5993579	1.5	Fair	Poor	Poor	Low	Retain	-
194	T-1224	<i>Machilus pauhoi</i>	5	280	4	Fair	Poor	Poor	Low	Retain	-
195	T-1235	<i>Machilus pauhoi</i>	4	95	2.5	Fair	Fair	Fair	Low	Retain	-
196	T-1274	<i>Machilus pauhoi</i>	3	145	4	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
197	T-1283	<i>Machilus pauhoi</i>	5	165	4	Fair	Poor	Poor	Low	Fell	A,B,D,F,G,H
198	T-1284	<i>Machilus pauhoi</i>	7	120	4.5	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H
199	T-1294	<i>Machilus pauhoi</i>	7	130	3	Fair	Poor	Poor	Low	Fell	A,B,D,F,G,H
200	T-1296	<i>Machilus pauhoi</i>	7	135	4.5	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H
201	T-159	<i>Machilus chekiangensis</i>	5	130	2	Poor	Poor	Poor	Low	Retain	-
202	T-209	<i>Machilus chekiangensis</i>	4.5	110	3	Poor	Poor	Poor	Low	Retain	-
203	T-211	<i>Machilus chekiangensis</i>	5	100	6	Poor	Poor	Poor	Low	Retain	-
204	T-212	<i>Machilus chekiangensis</i>	7.5	220	3	Poor	Poor	Poor	Low	Retain	-
205	T-213	<i>Machilus chekiangensis</i>	7	210	3	Poor	Poor	Poor	Low	Retain	-
206	T-214	<i>Machilus chekiangensis</i>	5	170	4.5	Poor	Poor	Poor	Low	Retain	-
207	T-215	<i>Machilus chekiangensis</i>	6.5	282	7	Fair	Poor	Fair	Low	Retain	-
208	T-228	<i>Machilus chekiangensis</i>	6	140	4	Fair	Poor	Fair	Low	Retain	-
209	T-230	<i>Machilus chekiangensis</i>	2	95	3	Fair	Poor	Poor	Low	Retain	-
210	T-258	<i>Machilus chekiangensis</i>	3	103	2	Poor	Poor	Poor	Low	Retain	-
211	T-309	<i>Machilus chekiangensis</i>	5.5	120	3	Fair	Poor	Poor	Low	Retain	-
212	T-311	<i>Machilus chekiangensis</i>	7	135	3	Fair	Fair	Fair	Low	Retain	-
213	T-312	<i>Machilus chekiangensis</i>	6	160	4	Fair	Poor	Poor	Low	Retain	-
214	T-313	<i>Machilus chekiangensis</i>	5.5	110	3.5	Fair	Fair	Fair	Low	Retain	-
215	T-314	<i>Machilus chekiangensis</i>	5	125	4	Fair	Fair	Fair	Low	Retain	-
216	T-315	<i>Machilus chekiangensis</i>	6	108	3	Fair	Fair	Fair	Low	Retain	-
217	T-316	<i>Machilus chekiangensis</i>	3	130	4.5	Fair	Fair	Fair	Low	Retain	-
218	T-320	<i>Machilus chekiangensis</i>	4.5	110	2.5	Fair	Poor	Poor	Low	Retain	-
219	T-328	<i>Machilus chekiangensis</i>	7.5	120	3	Fair	Fair	Fair	Low	Retain	-
220	T-336	<i>Machilus chekiangensis</i>	8	160	5.5	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
221	T-415	<i>Machilus chekiangensis</i>	6.5	110	5	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
222	T-416	<i>Machilus chekiangensis</i>	7	95	4	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
223	T-543	<i>Machilus chekiangensis</i>	7	135	3.5	Fair	Fair	Fair	-	Retain	-
224	T-546	<i>Machilus chekiangensis</i>	7.5	165	6	Poor	Poor	Poor	-	Retain	-
225	T-557	<i>Machilus chekiangensis</i>	8	177	6.5	Fair	Poor	Fair	-	Retain	-
226	T-1250	<i>Machilus chekiangensis</i>	6	287.2281323	7.5	Fair	Fair	Fair	Low	Retain	-
227	T-1251	<i>Machilus chekiangensis</i>	7	200	5	Fair	Fair	Fair	Low	Retain	-
228	T-158	<i>Mallotus paniculatus</i>	5.5	125	4	Poor	Poor	Poor	Low	Retain	-
229	T-227	<i>Mallotus paniculatus</i>	3.5	200	3	Poor	Poor	Poor	Low	Retain	-
230	T-234	<i>Mallotus paniculatus</i>	7.5	120	6	Fair	Poor	Fair	Low	Retain	-
231	T-237	<i>Mallotus paniculatus</i>	6.5	170	6	Fair	Poor	Fair	Low	Retain	-
232	T-238	<i>Mallotus paniculatus</i>	7.5	124	7	Fair	Poor	Fair	Low	Retain	-
233	T-240	<i>Mallotus paniculatus</i>	6.5	95	4.5	Poor	Poor	Poor	Low	Retain	-
234	T-324	<i>Mallotus paniculatus</i>	4.5	135	3	Fair	Poor	Poor	Low	Retain	-
235	T-331	<i>Mallotus paniculatus</i>	3.5	120	2	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
236	T-462	<i>Mallotus paniculatus</i>	8	135	4	Fair	Fair	Fair	Low	Retain	-
237	T-487	<i>Mallotus paniculatus</i>	5	104	1	Poor	Poor	Poor	-	Retain	-
238	T-518	<i>Mallotus paniculatus</i>	5	118	4.5	Poor	Poor	Poor	-	Retain	-
239	T-520	<i>Mallotus paniculatus</i>	6	111.7318218	4	Poor	Poor	Poor	-	Retain	-
240	T-524	<i>Mallotus paniculatus</i>	4.5	98	4	Poor	Poor	Poor	-	Retain	-
241	T-525	<i>Mallotus paniculatus</i>	4.5	112	3.5	Poor	Fair	Poor	-	Retain	-
242	T-526	<i>Mallotus paniculatus</i>	5	103	6	Poor	Fair	Fair	-	Retain	-
243	T-556	<i>Mallotus paniculatus</i>	2.3	156	1.5	Poor	Poor	Fair	-	Retain	-
244	T-560	<i>Mallotus paniculatus</i>	5	96	1.5	Poor	Poor	Poor	-	Retain	-
245	T-561	<i>Mallotus paniculatus</i>	6.5	95	2.5	Poor	Poor	Poor	-	Retain	-
246	T-564	<i>Mallotus paniculatus</i>	7	126	5	Poor	Poor	Poor	-	Retain	-
247	T-565	<i>Mallotus paniculatus</i>	5.5	127.9413928	5	Poor	Poor	Poor	-	Retain	-
248	T-1005	<i>Mallotus paniculatus</i>	6.5	170	5	Fair	Poor	Poor	Low	Retain	-
249	T-1007	<i>Mallotus paniculatus</i>	5.5	110	3.5	Fair	Poor	Poor	Low	Retain	-
250	T-1016	<i>Mallotus paniculatus</i>	10	152	6	Fair	Fair	Fair	Low	Retain	-
251	T-1021	<i>Mallotus paniculatus</i>	5.5	110	3	Fair	Fair	Fair	Low	Retain	-
252	T-1213	<i>Mallotus paniculatus</i>	3.5	105	2.5	Fair	Poor	Poor	Low	Retain	-
253	T-1223	<i>Mallotus paniculatus</i>	6.5	117	4	Fair	Poor	Poor	Low	Retain	-
254	T-1225	<i>Mallotus paniculatus</i>	7.5	124	4	Fair	Fair	Fair	Low	Retain	-
255	T-1236	<i>Mallotus paniculatus</i>	4.5	95	1.5	Fair	Poor	Poor	Low	Retain	-
256	T-1254	<i>Mallotus paniculatus</i>	6	99	0.5	Fair	Poor	Poor	Low	Retain	-
257	T-1255	<i>Mallotus paniculatus</i>	6	111	0.5	Fair	Poor	Poor	Low	Retain	-

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
258	T-1269	<i>Mallotus paniculatus</i>	5	100	4.5	Fair	Poor	Fair	Low	Fell	A,B,D,F,G,H
259	T-1271	<i>Mallotus paniculatus</i>	2	140	1	Fair	Poor	Poor	Low	Fell	A, B,D, G, H
260	T-1276	<i>Mallotus paniculatus</i>	7.5	140	2.5	Fair	Poor	Poor	Low	Fell	A,B,D,F,G,H
261	T-1323	<i>Mallotus paniculatus</i>	3	120	2.5	Poor	Poor	Poor	-	Retain	-
262	T-1324	<i>Mallotus paniculatus</i>	6.5	110	1.5	Poor	Poor	Fair	-	Retain	-
263	T-216	<i>Melia azedarach</i>	4	100	3	Fair	Poor	Fair	Low	Retain	-
264	T-1002	<i>Melia azedarach</i>	3.5	95	4	Fair	Fair	Fair	Low	Retain	-
265	T-188	<i>Michelia x alba</i>	2.5	120	1	Poor	Poor	Poor	Low	Retain	-
266	T-530	<i>Osmanthus fragrans</i>	3.5	108	1	Poor	Poor	Poor	-	Retain	-
267	T-531	<i>Osmanthus fragrans</i>	5	149.4021419	3.5	Poor	Poor	Poor	-	Retain	-
268	T-1111	<i>Osmanthus fragrans</i>	3.5	164.0121947	2.5	Fair	Fair	Fair	Low	Retain	-
269	T-1008	<i>Pittosporum tobira</i>	6	110	4	Fair	Fair	Fair	Low	Retain	-
270	T-1118	<i>Polyspora axillaris</i>	3	110.1135777	1.5	Poor	Poor	Poor	Low	Retain	-
271	T-541	<i>Sapium discolor</i>	10	100	4	Fair	Poor	Fair	-	Retain	-
272	T-581	<i>Sapium discolor</i>	7	96	5	Poor	Poor	Poor	-	Retain	-
273	T-078	<i>Schefflera heptaphylla</i>	9.5	120	3.5	Poor	Poor	Poor	Low	Fell	A,B,D,F,G,H,I
274	T-081	<i>Schefflera heptaphylla</i>	10	128	3	Fair	Poor	Poor	Low	Fell	A,B,D,F,G,H,I
275	T-082	<i>Schefflera heptaphylla</i>	8	132	3.5	Poor	Poor	Poor	Low	Retain	A,B,D,F,G,H,I
276	T-232	<i>Schefflera heptaphylla</i>	5	110	3	Fair	Poor	Fair	Low	Retain	-
277	T-233	<i>Schefflera heptaphylla</i>	4.5	141	3	Fair	Poor	Fair	Low	Retain	-
278	T-261	<i>Schefflera heptaphylla</i>	4	108	3	Fair	Poor	Fair	Low	Retain	-
279	T-322	<i>Schefflera heptaphylla</i>	2.5	120	2	Fair	Poor	Poor	Low	Fell	-
280	T-334	<i>Schefflera heptaphylla</i>	5.5	120	4	Poor	Poor	Poor	Low	Fell	A, B,D, G, H
281	T-335	<i>Schefflera heptaphylla</i>	8	228.035085	7	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
282	T-343	<i>Schefflera heptaphylla</i>	6.5	195	7	Fair	Fair	Fair	Low	Fell	A, B,D, G, H, K
283	T-348	<i>Schefflera heptaphylla</i>	5	168	6	Fair	Fair	Fair	Low	Retain	A, B,D, G, H, K
284	T-1154	<i>Schefflera heptaphylla</i>	6	110	4	Fair	Poor	Poor	Low	Retain	-
285	T-1188	<i>Schefflera heptaphylla</i>	3	110	2	Fair	Fair	Fair	Low	Retain	-
286	T-1226	<i>Schefflera heptaphylla</i>	5.5	130	4.5	Fair	Fair	Fair	Low	Fell	-
287	T-1282	<i>Schefflera heptaphylla</i>	11.5	380	8	Fair	Fair	Fair	Low	Fell	-
288	T-1285	<i>Schefflera heptaphylla</i>	5.5	95	3	Fair	Poor	Poor	Low	Retain	-
289	T-583	<i>Schima superba</i>	5	106	3	Poor	Poor	Poor	-	Fell	-
290	T-079	<i>Ternstroemia gymnanthera</i>	6	122.5765067	3	Poor	Poor	Poor	Low	Retain	A,B,D,F,G,H,I
291	T-1019	<i>Turpinia montana</i>	8	180.2775638	4	Fair	Fair	Fair	Low	Retain	-
292	T-187	<i>Vitex quinata</i>	2	111.0180166	2.5	Poor	Poor	Poor	Low	Retain	-
293	T-229	<i>Vitex quinata</i>	6.5	110	6	Poor	Poor	Poor	Low	Retain	-
294	T-231	<i>Vitex quinata</i>	6	180	5	Fair	Poor	Fair	Low	Fell	-

	Tree No.	Scientific Name	Height (m)	DBH (mm)	Crown Spread (m)	Form	Health Condition	Structural condition	Amenity Value	Treatment	Remarks
295	T-354	<i>Vitex quinata</i>	4	100	3.5	Fair	Poor	Poor	Low	Retain	A, B,D, G, H
296	T-366	<i>Vitex quinata</i>	3	138	2	Fair	Poor	Poor	Low	Retain	-
297	T-472	<i>Vitex quinata</i>	5.5	104	4	Poor	Poor	Poor	-	Retain	-
298	T-489	<i>Vitex quinata</i>	4.5	96	2	Poor	Poor	Poor	-	Fell	-
299	T-1295	<i>Vitex quinata</i>	6.5	135	3.5	Fair	Poor	Fair	Low	Retain	A,B,D,F,G,H
300	T-1249	<i>Zanthoxylum avicennae</i>	8	95	4	Fair	Fair	Fair	Low	Retain	-

Note and Justification for Suitability for Transplanting:

A - Low survival rate after transplantation

B - Poor condition

C - Common undesirable species that are characterised by their aggressive and invasive growing habits

D - Affected by the proposed construction works

E - Provision of drainage, sewerage and fresh / salt watermain networks and firefighting mains

F - Not available and suitable to the permanent receptor site and not cost effective for transplantation

G - Sits close to the electric facility / drainage channel / concrete kerb

H - Technical difficulty in forming a rootball of appropriate shape and size to enhance transplanting success because the tree is growth on slope or presence of other tree/structure nearby

J - Dead tree

K - This tree sits very close to adjacent tree, the root system is potentially crossed under the soil.

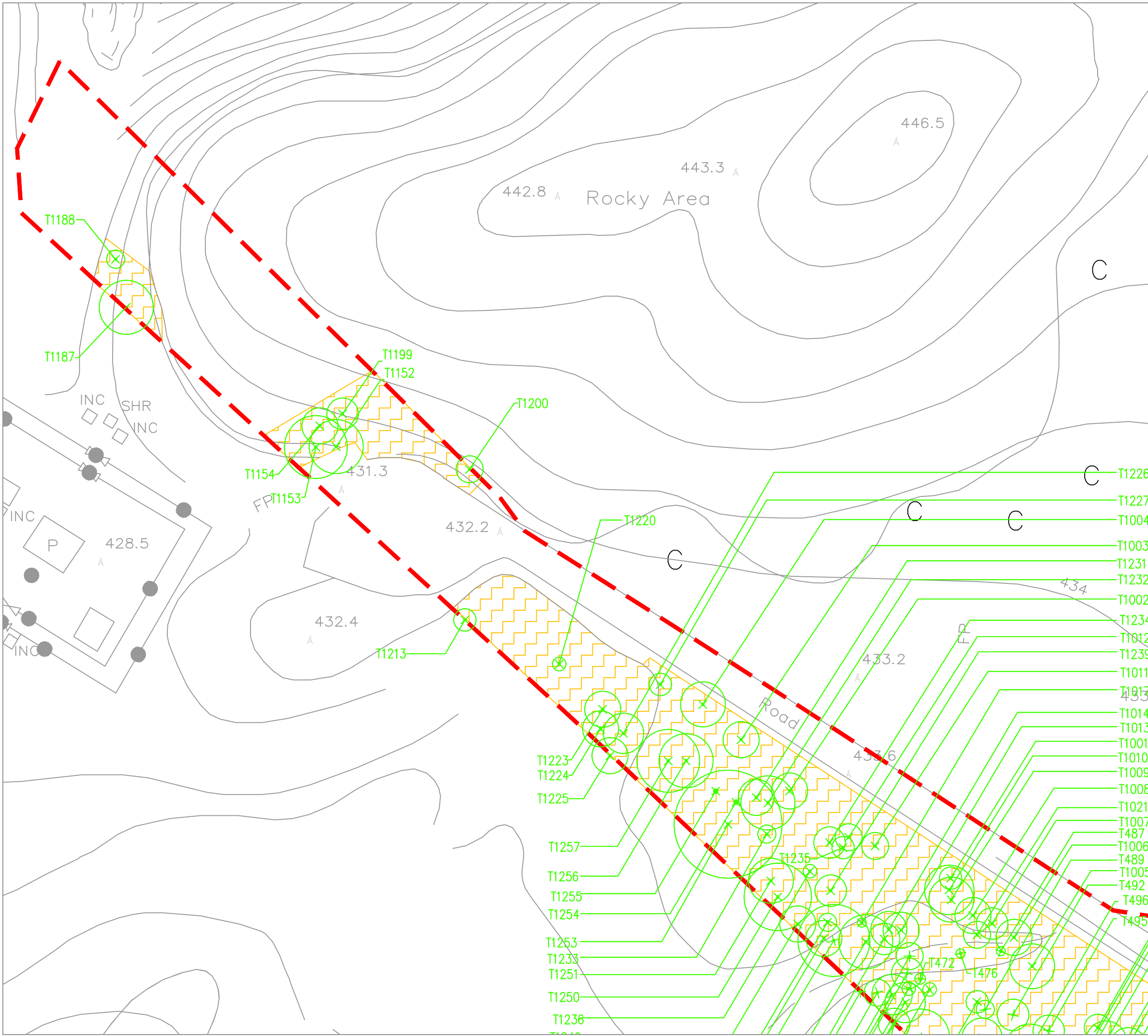
Appendix C

Tree Recommendation Plan and
Summary of Recommended
Treatment for Each Tree Species

C.1 Tree Recommendation Plan

- C1.a Tree Recommendation Plan (Sheet 1)
- C1.b Tree Recommendation Plan (Sheet 2)
- C1.c Tree Recommendation Plan (Sheet 3)
- C1.d Tree Recommendation Plan (Sheet 4)
- C1.e Tree Recommendation Plan (Sheet 5)
- C1.f Tree Recommendation Plan (Sheet 6)
- C1.g Tree Recommendation Plan (Sheet 7)
- C1.h Tree Recommendation Plan (Sheet 8)

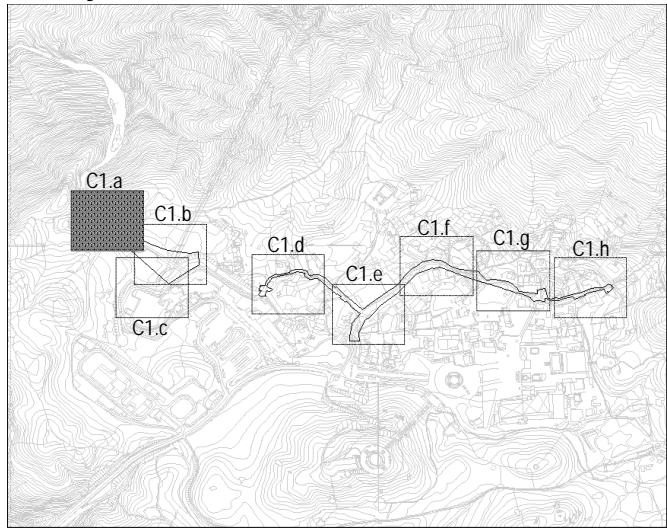
C.2 Summary of Recommended Treatment for Each Tree Species



Legend:

- WORKS BOUNDARY
- x EXISTING TREES TO BE RETAINED
- x EXISTING TREES TO BE FELLED
- LLLL INACCESSIBLE AREA
- TREE PROTECTION ZONE

Key Plan



Drainage Services Department
The Government of the Hong Kong Special Administrative Region

FUGRO

Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

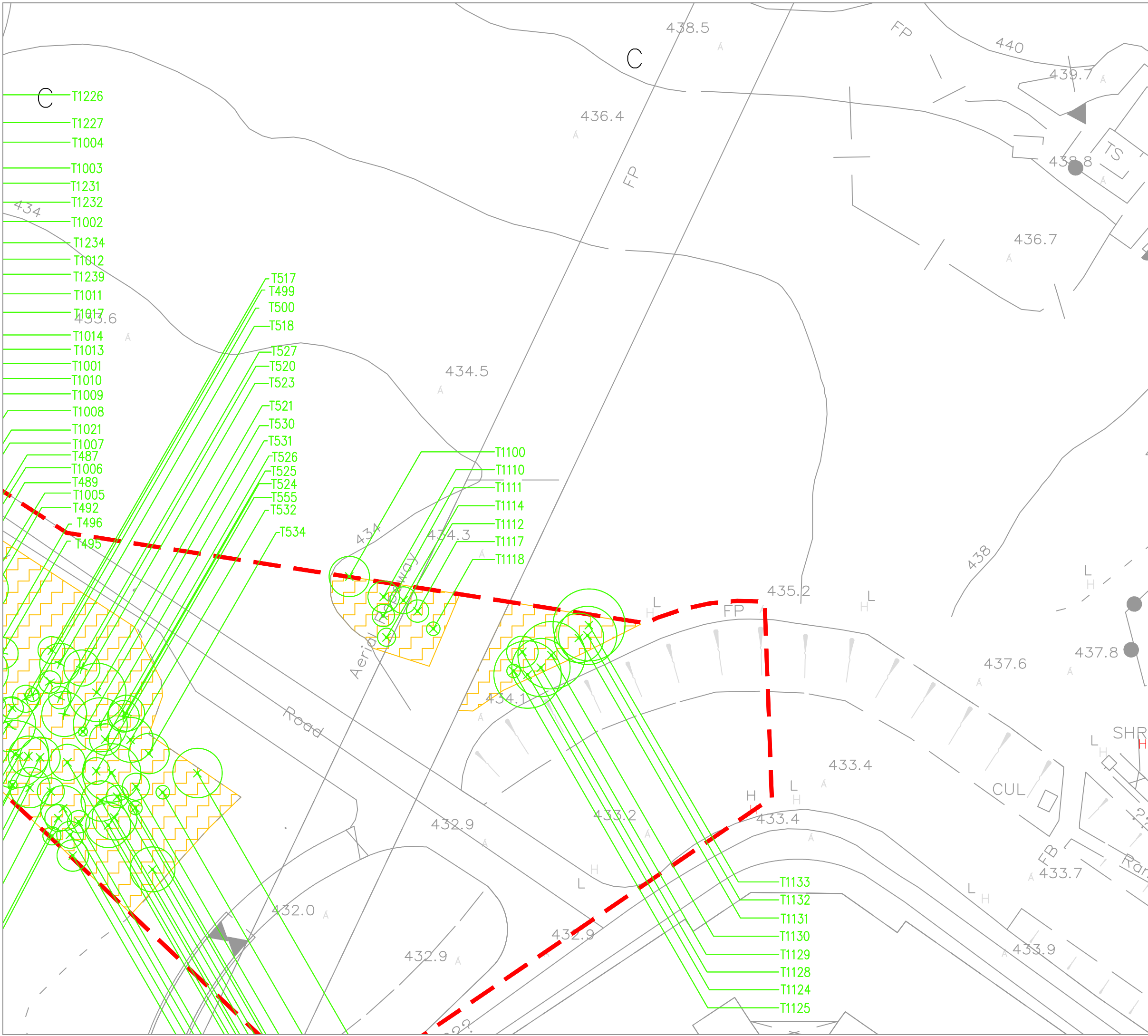
Figure Title: Tree Recommendation Plan
(Sheet 1 of 8)

Figure No.: C1.a	Rev.: 1
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Prepared by: SMR	Checked by: FMN
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Scale:
1:400 (A3)

Date:
06/01/2021



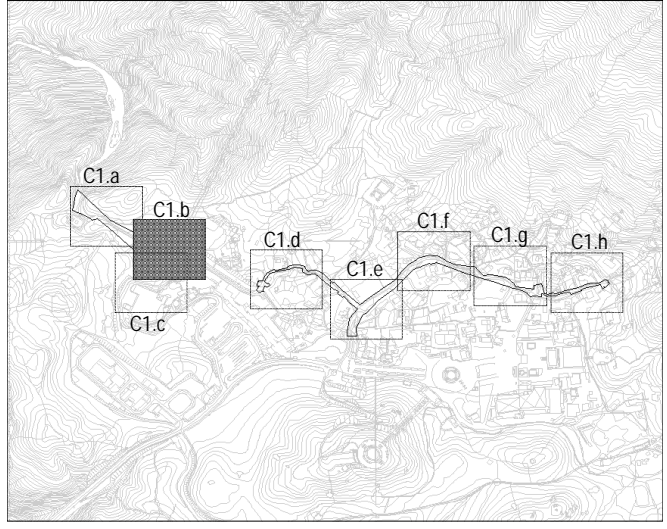
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- T1002
- T1234
- T1012
- T1239
- T1011
- T1017
- T1014
- T1013
- T1001
- T1010
- T1009
- T1008
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- T532
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- T1110
- T1111
- T1114
- T1112
- T1117
- T1118

- T1133
- T1132
- T1131
- T1130
- T1129
- T1128
- T1124
- T1125

Legend:

- WORKS BOUNDARY
- x EXISTING TREES TO BE RETAINED
- x EXISTING TREES TO BE FELLED
- INACCESSIBLE AREA
- TREE PROTECTION ZONE

Key Plan



Drainage Services Department
The Government of the Hong Kong Special Administrative Region

FUGRO

Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

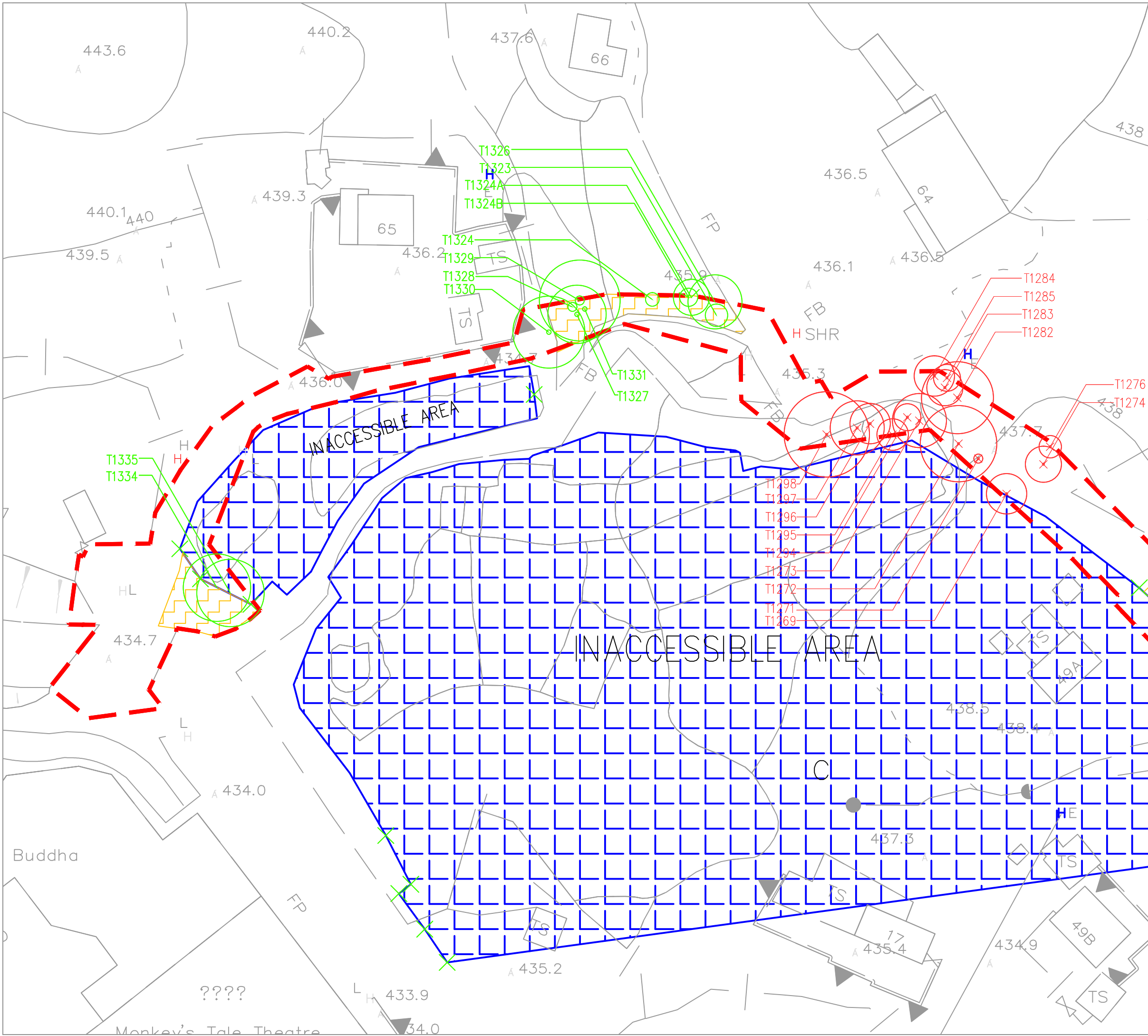
Figure Title: Tree Recommendation Plan
(Sheet 2 of 8)

Figure No.: C1.b	Rev.: 1
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Prepared by: SMR	Checked by: FMN
----------------------------	---------------------------

Scale:
1:400 (A3)

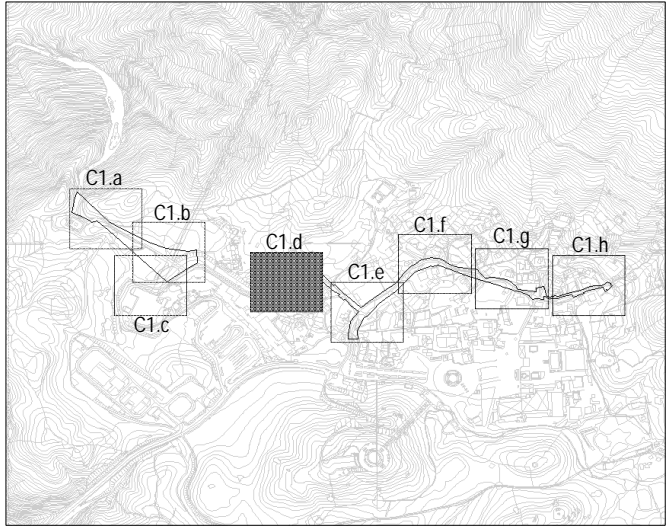
Date:
06/01/2021



Legend:

- WORKS BOUNDARY
- × EXISTING TREES TO BE RETAINED
- × EXISTING TREES TO BE FELLED
- INACCESSIBLE AREA
- TREE PROTECTION ZONE

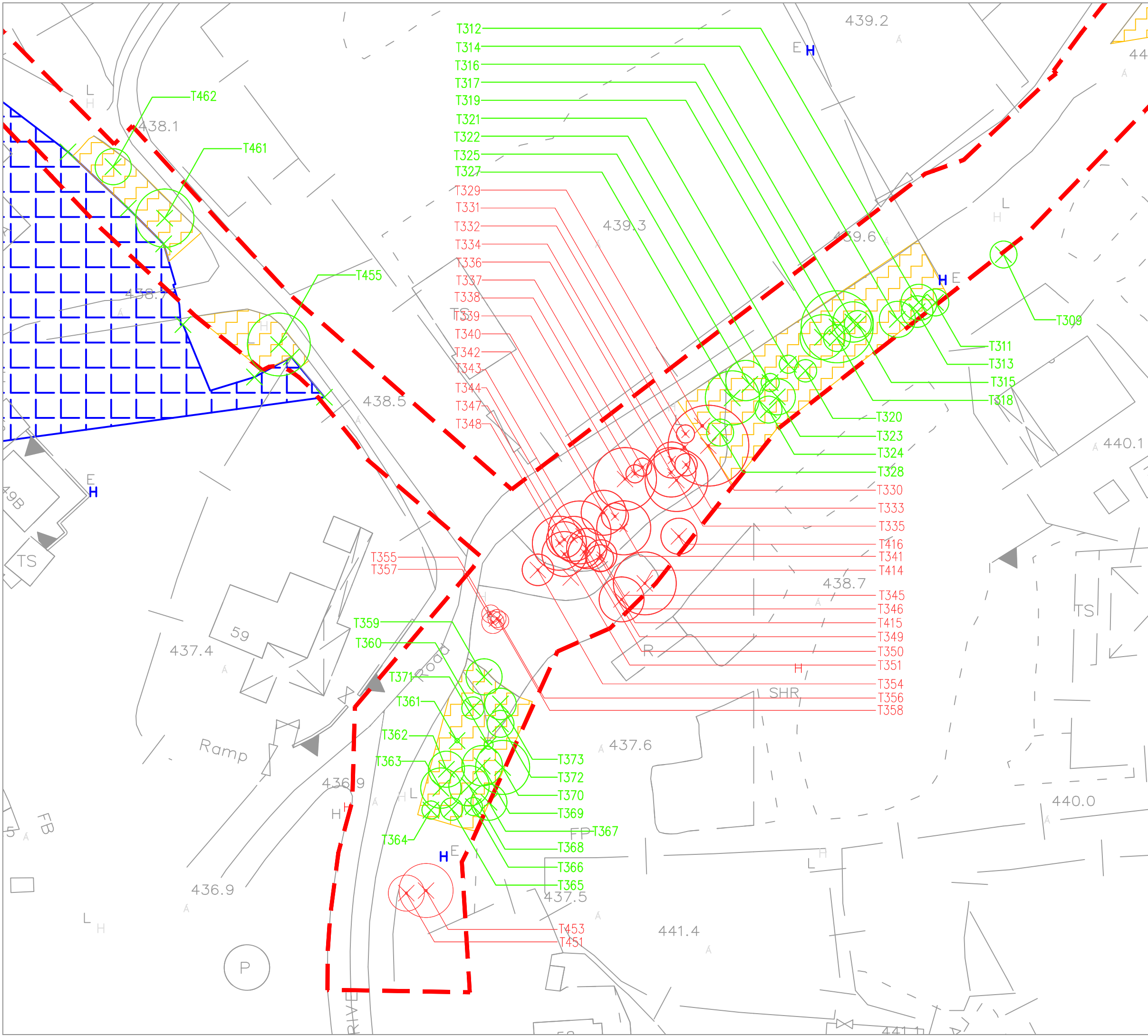
Key Plan



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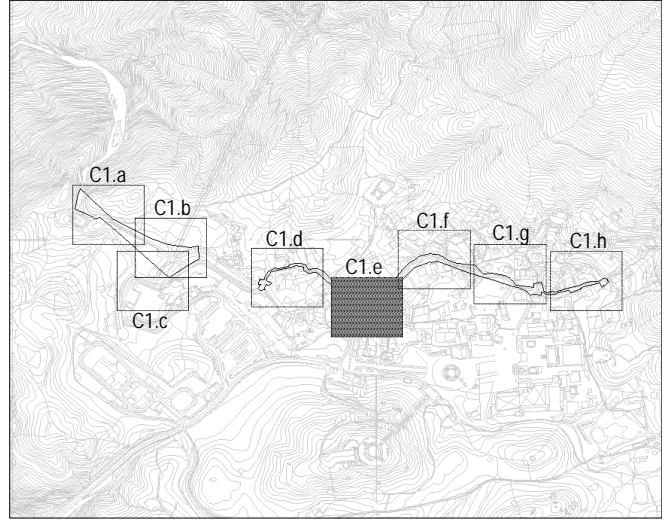
Project Title: Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping	
Figure Title: Tree Recommendation Plan (Sheet 4 of 8)	
Figure No.: C1.d	Rev.: 1
Prepared by: SMR	Checked by: FMN
Scale: 1:400 (A3)	
Date: 06/01/2021	



Legend:

- WORKS BOUNDARY
- X EXISTING TREES TO BE RETAINED
- X EXISTING TREES TO BE FELLED
- INACCESSIBLE AREA
- TREE PROTECTION ZONE

Key Plan



Drainage Services Department
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Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

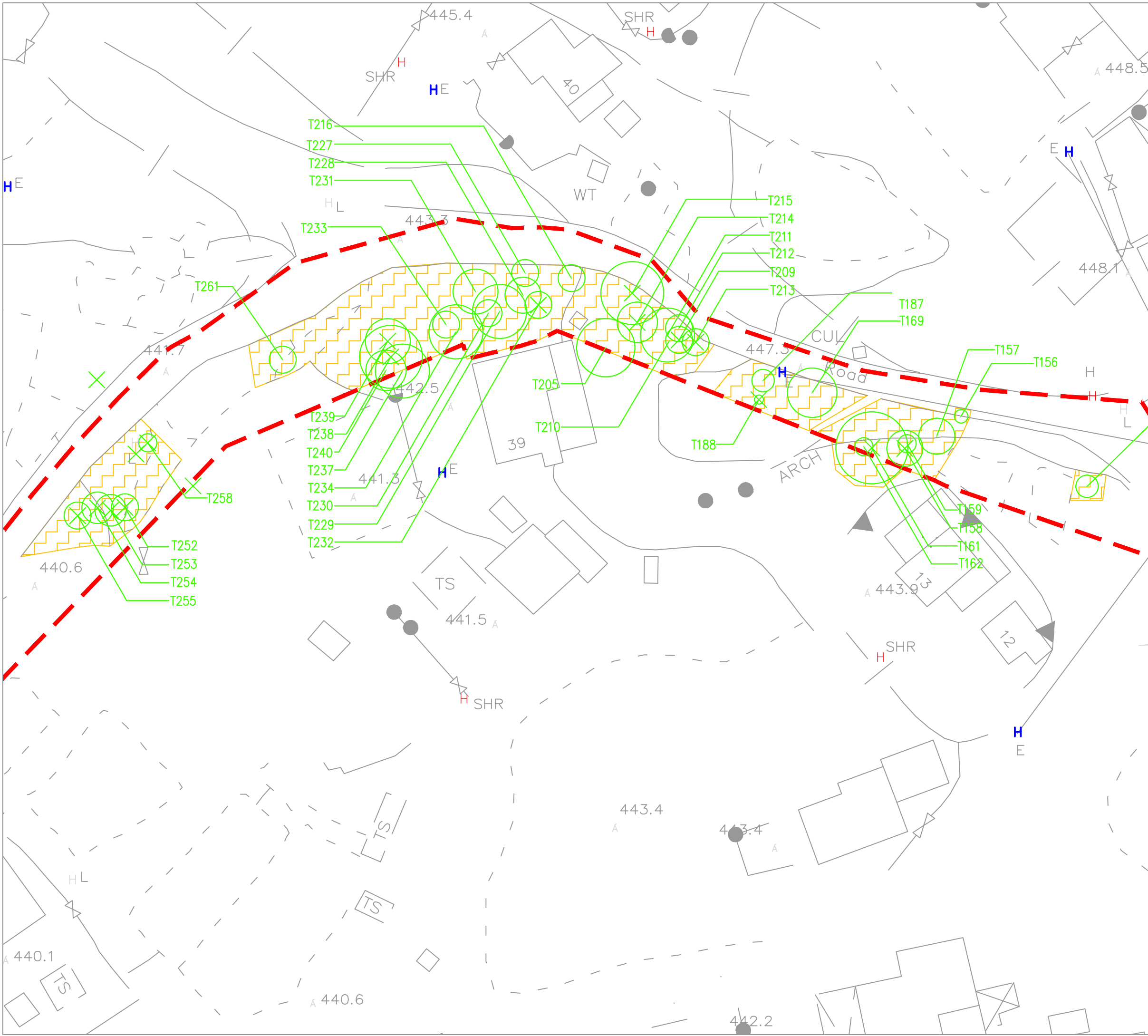
Figure Title: Tree Recommendation Plan
(Sheet 5 of 8)

Figure No.: C1.e	Rev.: 1
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Prepared by: SMR	Checked by: FMN
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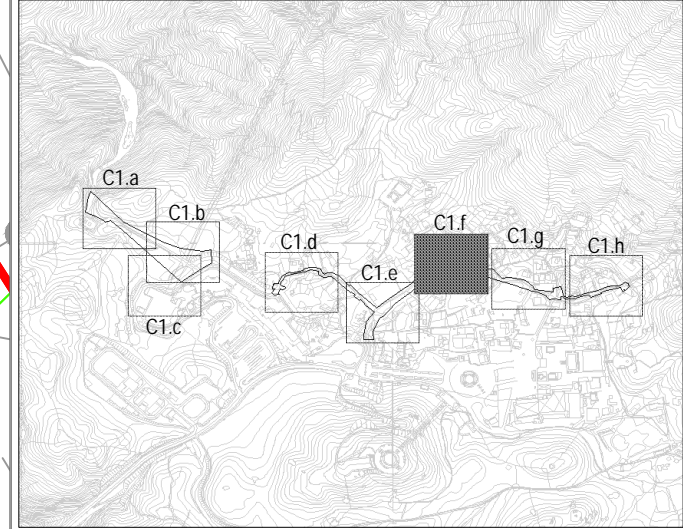
Date:
06/01/2021



Legend:

- WORKS BOUNDARY
- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE FELLED
- LLLL INACCESSIBLE AREA
- TREE PROTECTION ZONE

Key Plan



Drainage Services Department
The Government of the Hong Kong Special Administrative Region



Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

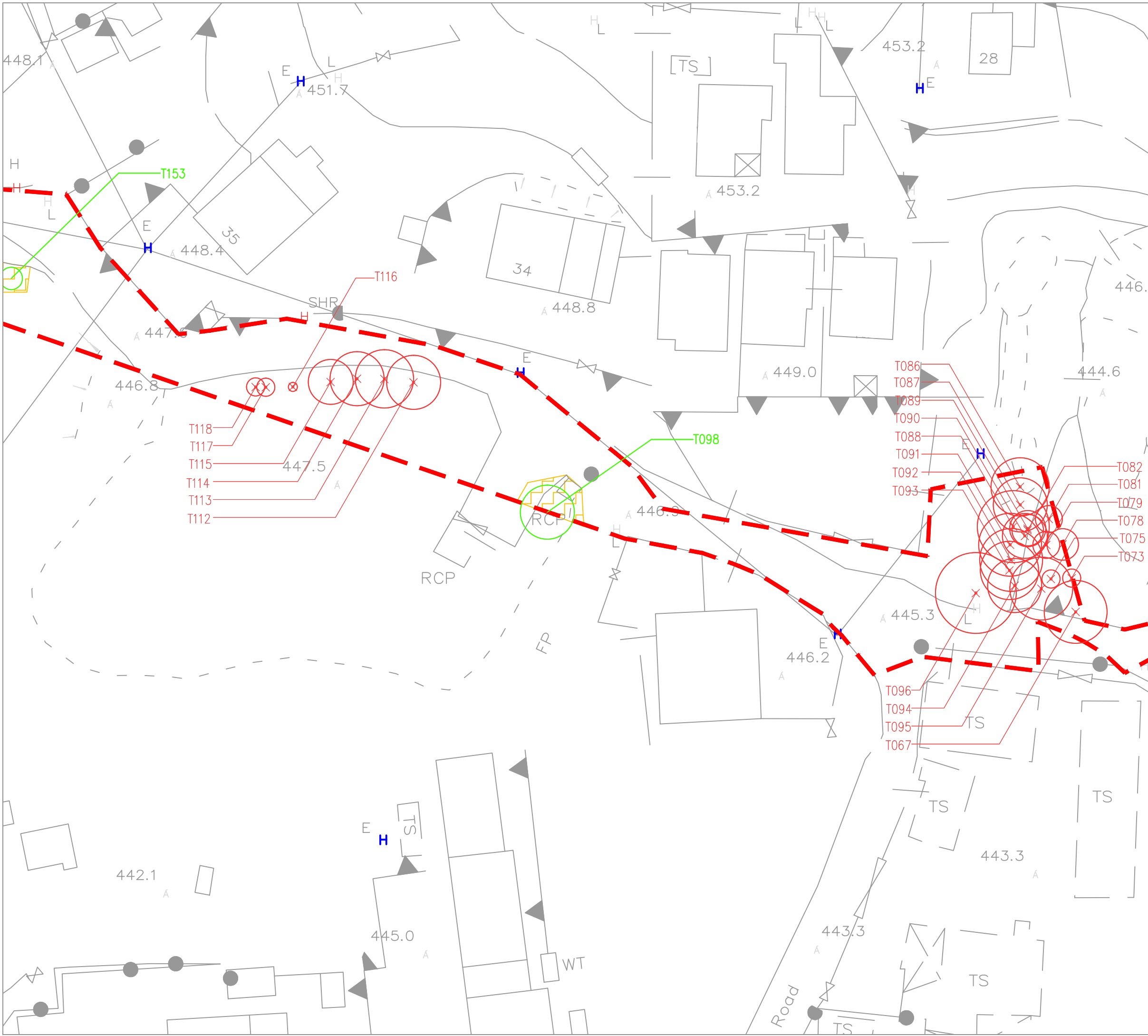
Figure Title: Tree Recommendation Plan
(Sheet 6 of 8)

Figure No.: C1.f	Rev.: 1
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Prepared by: SMR	Checked by: FMN
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Scale:
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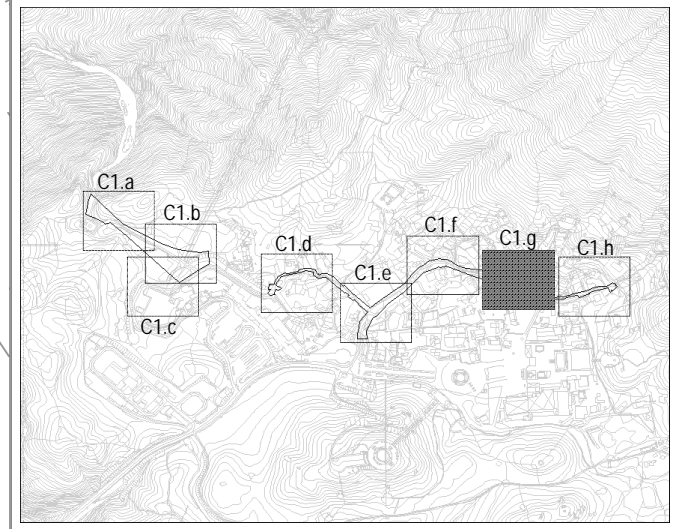
Date:
06/01/2021



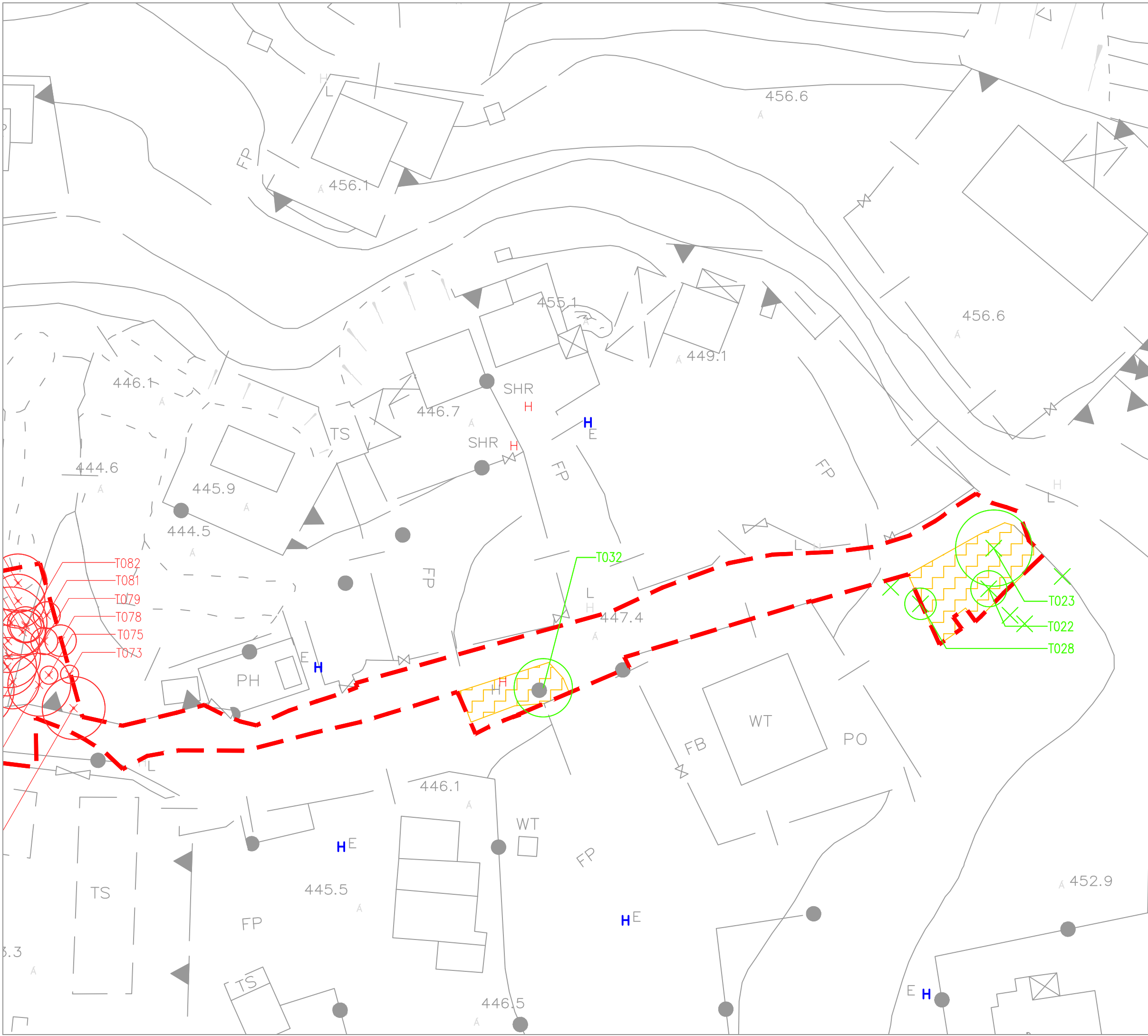
Legend:

- WORKS BOUNDARY
- x EXISTING TREES TO BE RETAINED
- x EXISTING TREES TO BE FELLED
- LLLL INACCESSIBLE AREA
- TREE PROTECTION ZONE

Key Plan



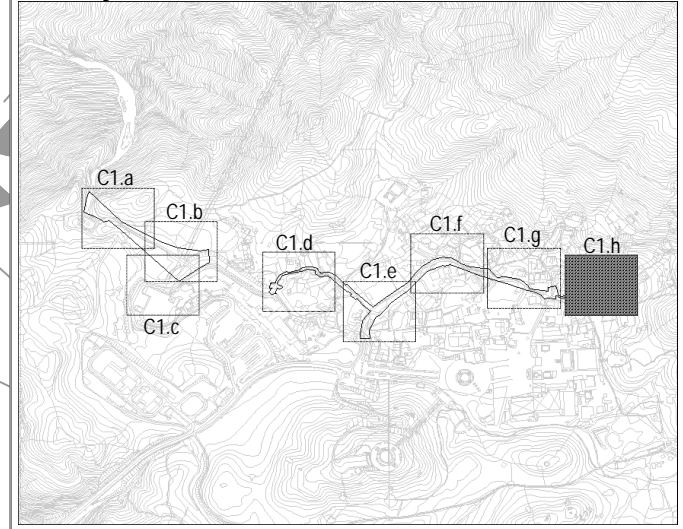
Project Title: Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping	
Figure Title: Tree Recommendation Plan (Sheet 7 of 8)	
Figure No.: C1.g	Rev.: 1
Prepared by: SMR	Checked by: FMN
Scale: 1:400 (A3)	
Date: 06/01/2021	



Legend:

- WORKS BOUNDARY
- x EXISTING TREES TO BE RETAINED
- x EXISTING TREES TO BE FELLED
- LLLL INACCESSIBLE AREA
- TREE PROTECTION ZONE

Key Plan



Drainage Services Department
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Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

Figure Title: Tree Recommendation Plan
(Sheet 8 of 8)

Figure No.: C1.h	Rev.: 1
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Prepared by: SMR	Checked by: FMN
----------------------------	---------------------------

Scale:
1:400 (A3)

Date:
06/01/2021

Table C.1: Summary of recommended treatment for each tree species.

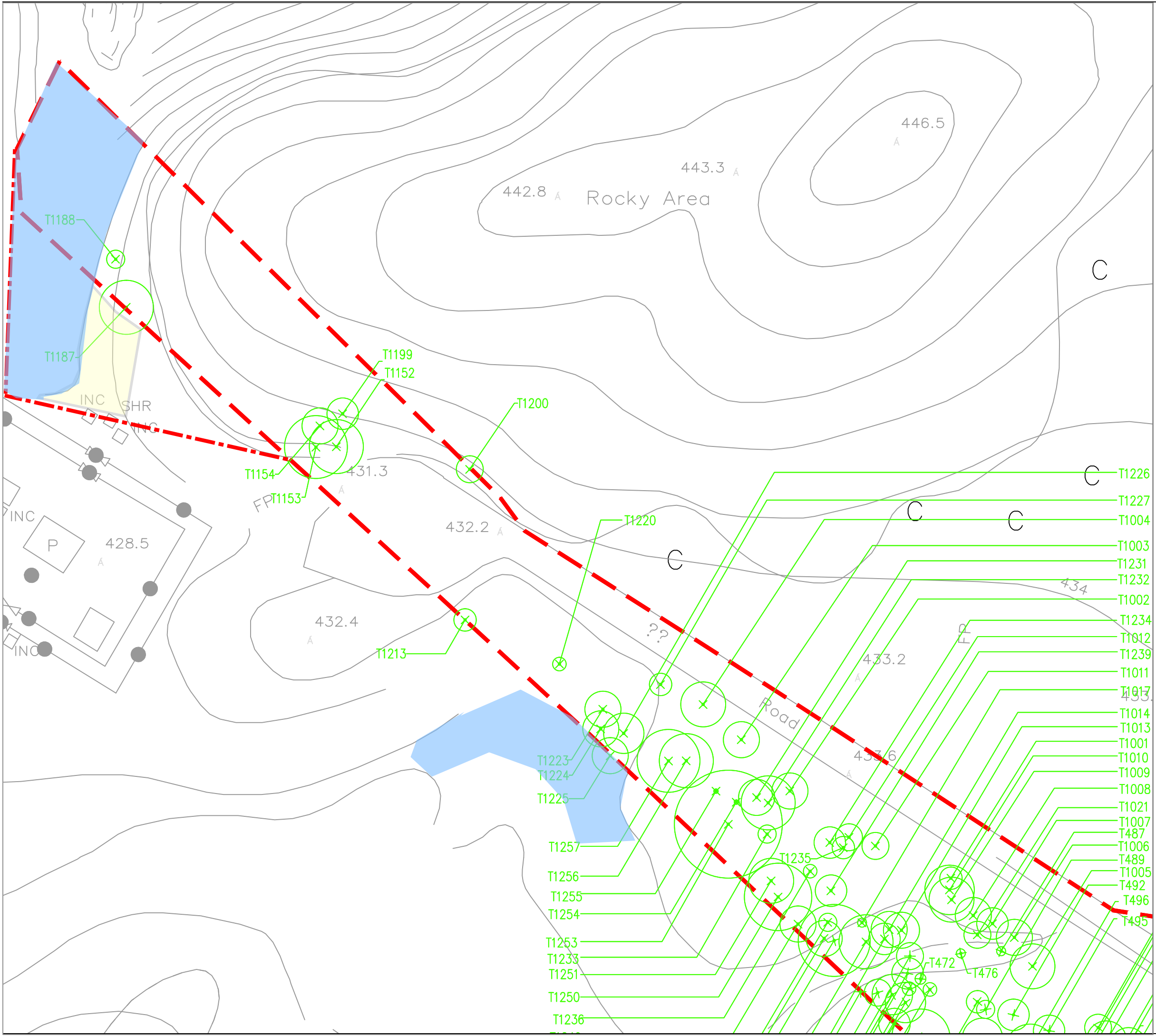
Botanical Name	Chinese Name	Total	Retain	Fell	Transplant
<i>Acronychia pedunculata</i>	山油柑	1	1	0	0
<i>Acacia confusa</i>	台灣相思	18	17	1	0
<i>Acacia mangium</i>	大葉相思	2	2	0	0
<i>Alstonia scholaris</i>	黑板樹	1	1	0	0
<i>Aporosa dioica</i>	銀柴	1	1	0	0
<i>Artocarpus heterophyllus</i>	菠蘿蜜	2	0	2	0
<i>Bischofia javanica</i>	秋楓	9	9	0	0
<i>Celtis sinensis</i>	朴樹	16	16	0	0
<i>Cinnamomum camphora</i>	樟	34	19	15	0
<i>Crateva unilocularis</i>	樹頭菜	6	1	5	0
<i>Cratoxylum cochinchinense</i>	黃牛木	1	1	0	0
Dead Tree	死樹	10	7	3	0
<i>Dimocarpus longan</i>	龍眼	1	1	0	0
<i>Elaeocarpus hainanensis</i>	水石榕	1	1	0	0
<i>Erythrina variegata</i>	刺桐	10	4	6	0
<i>Eucalyptus robusta</i>	大葉桉	2	1	1	0
<i>Ficus hispida</i>	對葉榕	1	1	0	0
<i>Glochidion zeylanicum</i>	香港算盤子	1	1	0	0
<i>Ilex graciliflora</i>	細花冬青	1	1	0	0
<i>Ilex rotunda</i>	鐵冬青	3	3	0	0
<i>Ilex viridis</i>	綠冬青	7	7	0	0
<i>Ligustrum liukiense</i>	日木女貞	2	2	0	0
<i>Ligustrum lucidum</i>	女貞	1	1	0	0
<i>Ligustrum sinense</i>	山指甲	8	8	0	0
<i>Litchi chinensis</i>	荔枝	1	1	0	0
<i>Litsea cubeba</i>	木薑子	1	1	0	0
<i>Livistona chinensis</i>	蒲葵	5	5	0	0
<i>Machilus pauhoi</i>	刨花潤楠	54	33	21	0
<i>Machilus chekiangensis</i>	浙江潤楠	27	24	3	0
<i>Mallotus paniculatus</i>	白楸	35	31	4	0
<i>Melia azedarach</i>	楝	2	2	0	0
<i>Michelia x alba</i>	白蘭	1	1	0	0
<i>Osmanthus fragrans</i>	桂花	3	3	0	0
<i>Pittosporum tobira</i>	海桐	1	1	0	0
<i>Polyspora axillaris</i>	大頭茶	1	1	0	0
<i>Sapium discolor</i>	山烏桕	2	2	0	0

Botanical Name	Chinese Name	Total	Retain	Fell	Transplant
<i>Schefflera heptaphylla</i>	鴨腳木	16	7	9	0
<i>Schima superba</i>	木荷	1	1	0	0
<i>Ternstroemia gymnanthera</i>	厚皮香	1	0	1	0
<i>Turpinia montana</i>	山香圓	1	1	0	0
<i>Vitex quinata</i>	山牡荊	8	6	2	0
<i>Zanthoxylum avicennae</i>	筲欖花椒	1	1	0	0
Total		300	227	73	0

Appendix D

Mitigation Measure Plan

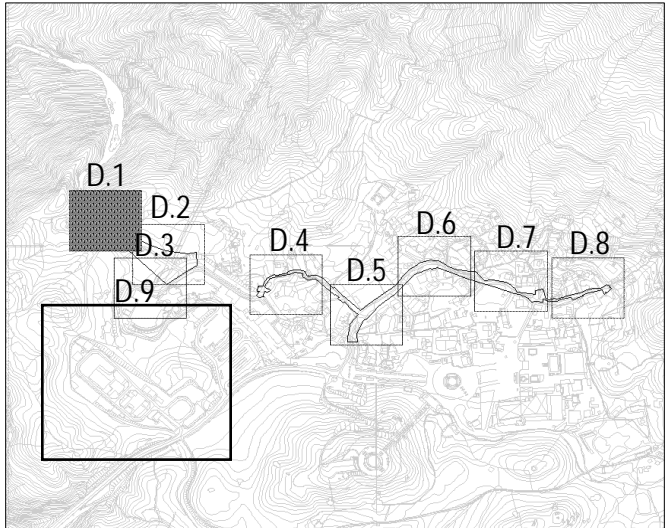
- D.1 Mitigation Measure Plan (Sheet 1)
- D.2 Mitigation Measure Plan (Sheet 2)
- D.3 Mitigation Measure Plan (Sheet 3)
- D.4 Mitigation Measure Plan (Sheet 4)
- D.5 Mitigation Measure Plan (Sheet 5)
- D.6 Mitigation Measure Plan (Sheet 6)
- D.7 Mitigation Measure Plan (Sheet 7)
- D.8 Mitigation Measure Plan (Sheet 8)
- D.9 Mitigation Measure Plan (Sheet 9)



Legend:

- ⊗ EXISTING TREES TO BE FELLED
- ⊗ EXISTING TREES TO BE RETAINED
- HYDROSEEDING
- REINSTATEMENT OF NATURAL WATER COURSES
- WORKS BOUNDARY

Key Plan



Drainage Services Department
The Government of the Hong Kong Special Administrative Region

FUGRO

Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

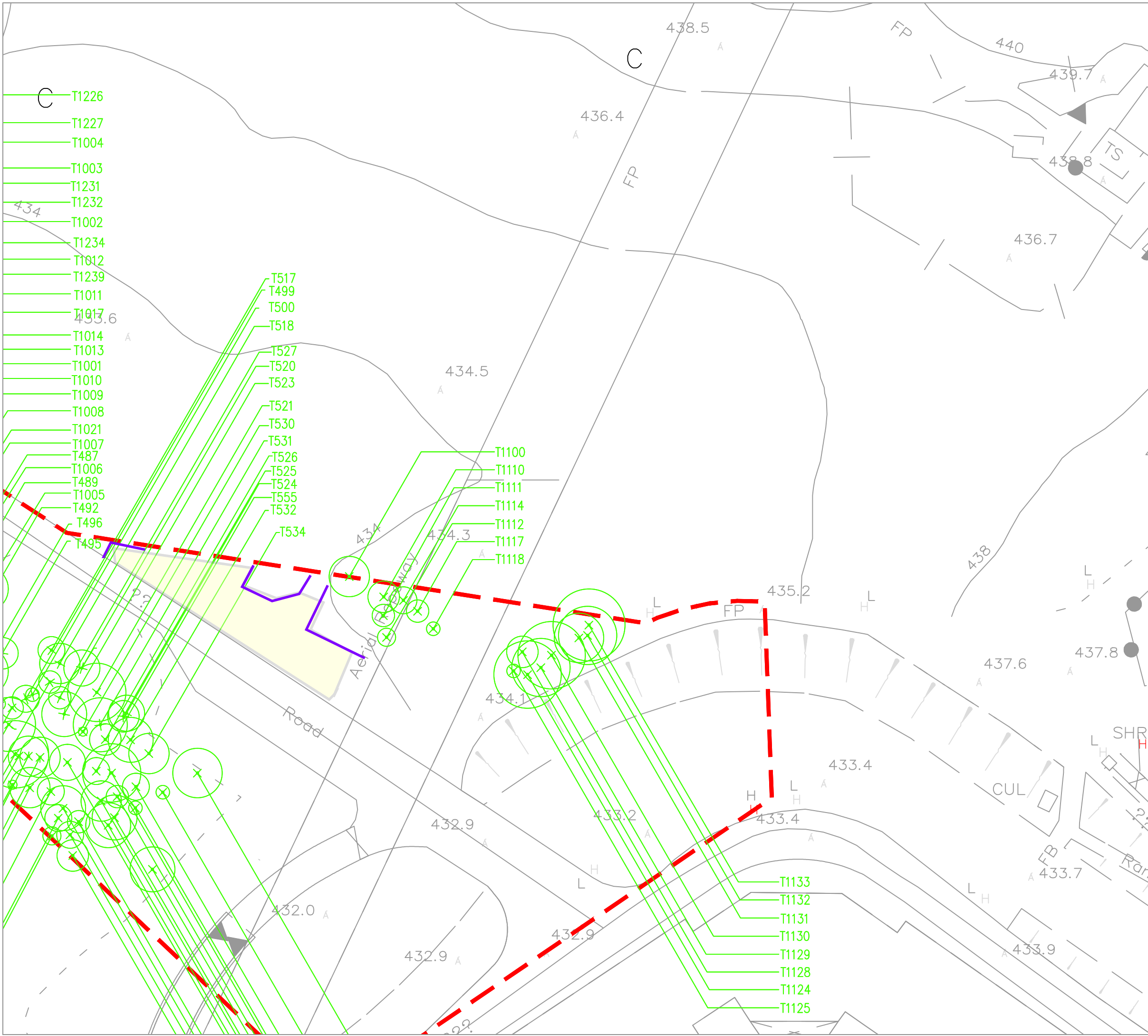
Figure Title: Mitigation Measure Plan
(Sheet 1 of 9)

Figure No.: D.1	Rev.: 2
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Prepared by: SMR	Checked by: FMN
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Scale: 1:400 (A3)

Date: 18/01/2021

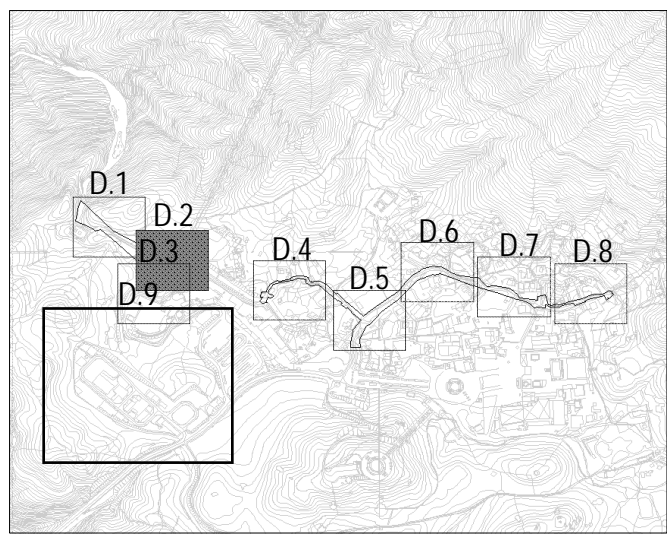


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- T1128
- T1124
- T1125

Legend:

- ⊗ EXISTING TREES TO BE FELLED
- ⊕ EXISTING TREES TO BE RETAINED
- HYDROSEEDING
- NO-INTRUSION ZONE
- WORKS BOUNDARY

Key Plan



Drainage Services Department
The Government of the Hong Kong Special Administrative Region

FUGRO

Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

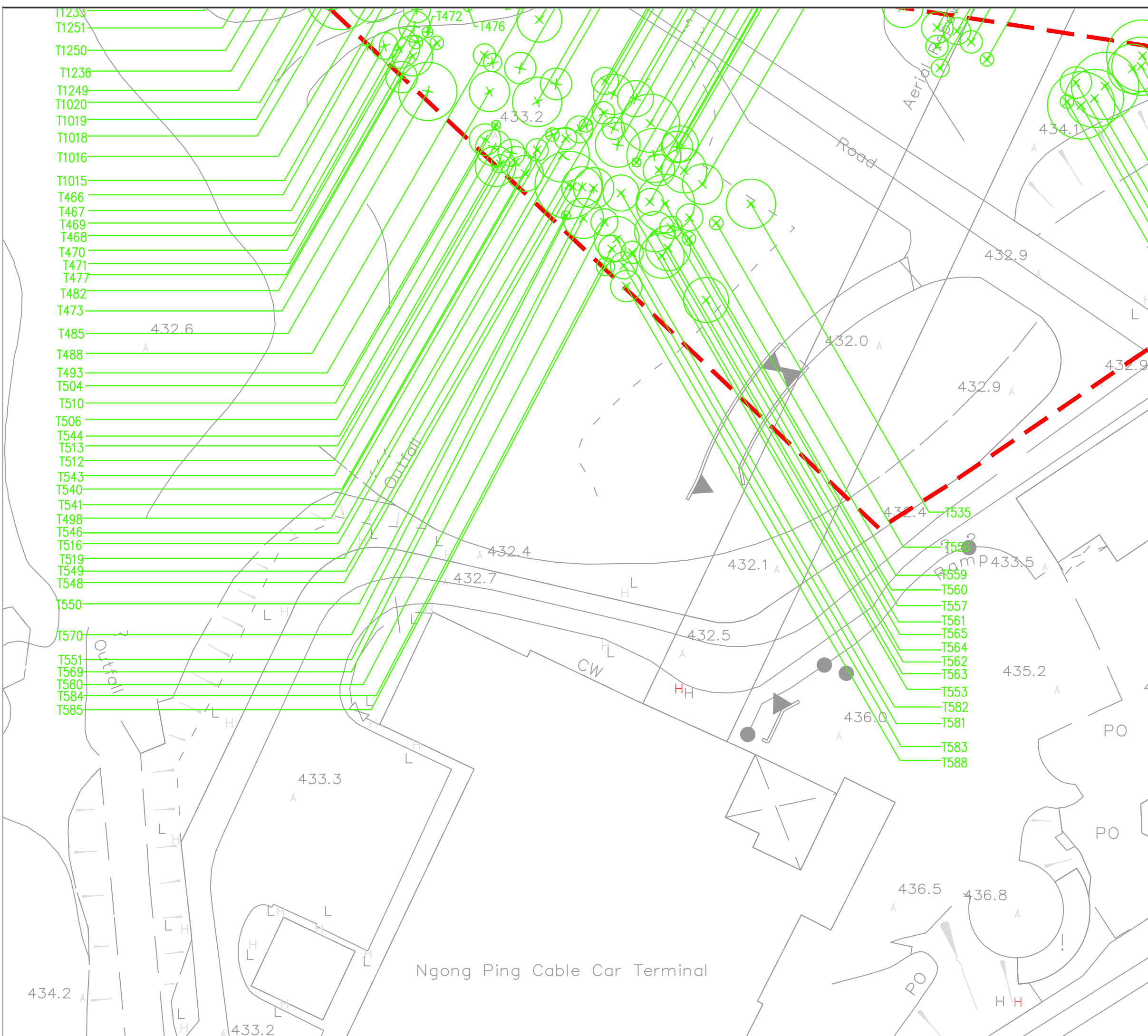
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(Sheet 2 of 9)

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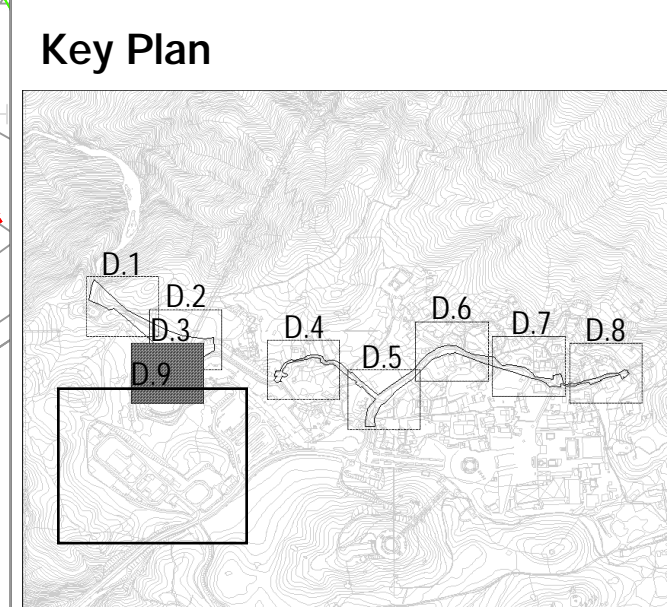


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- T583
- T588

Legend:

- ⊗ EXISTING TREES TO BE FELLED
- ⊗ EXISTING TREES TO BE RETAINED
- - - WORKS BOUNDARY



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Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

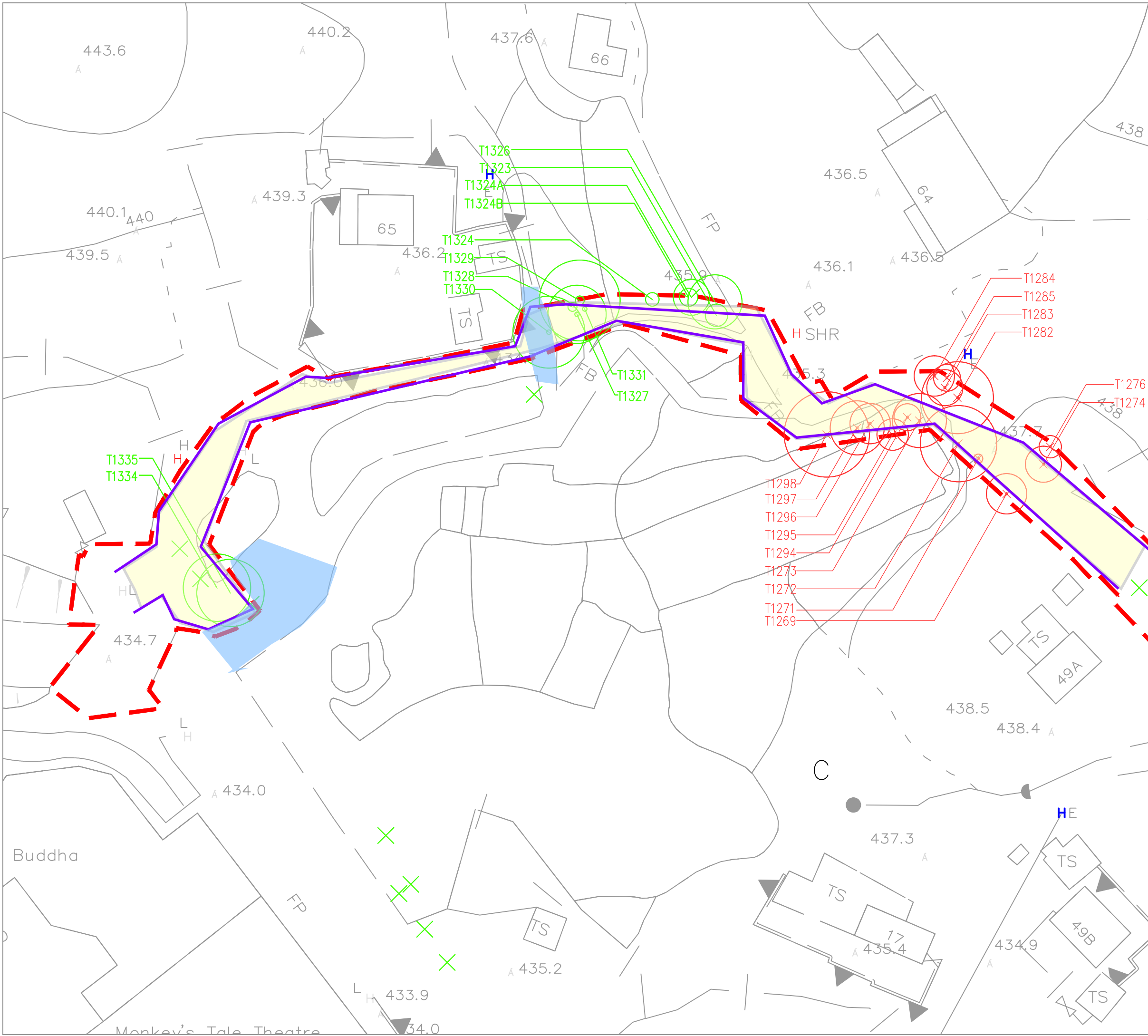
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Mitigation Measure Plan
(Sheet 3 of 9)

Figure No.: D.3	Rev.: 2
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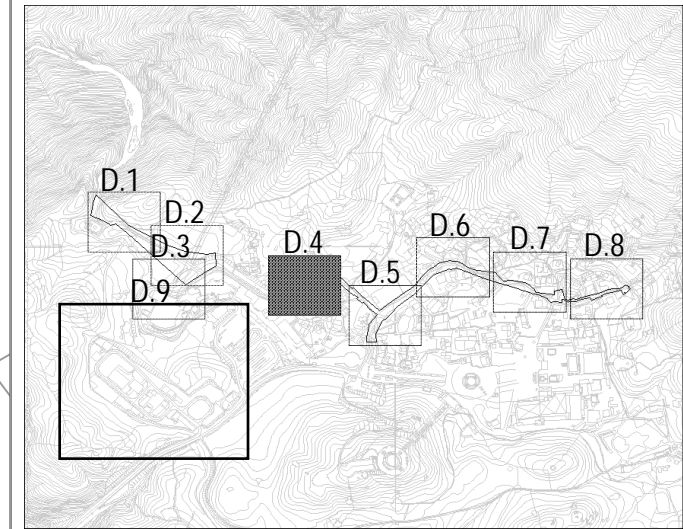
Date:
18/01/2021



Legend:

- ⊗ EXISTING TREES TO BE FELLED
- ⊗ EXISTING TREES TO BE RETAINED
- HYDROSEEDING
- NO-INTRUSION ZONE
- REINSTATEMENT OF NATURAL WATER COURSES
- WORKS BOUNDARY

Key Plan



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The Government of the Hong Kong Special Administrative Region

FUGRO

Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

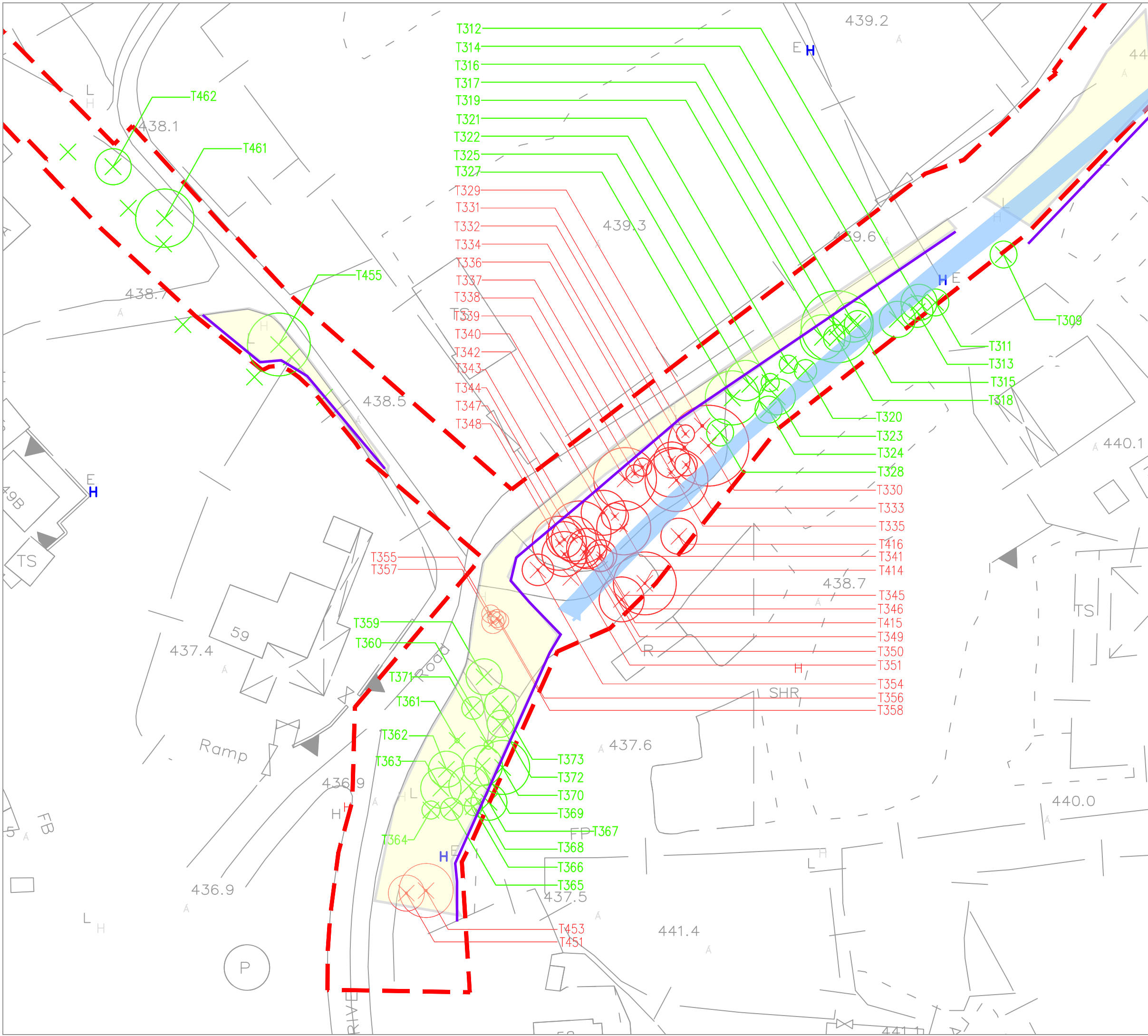
Figure Title: Mitigation Measure Plan
(Sheet 4 of 9)

Figure No.: D.4	Rev.: 2
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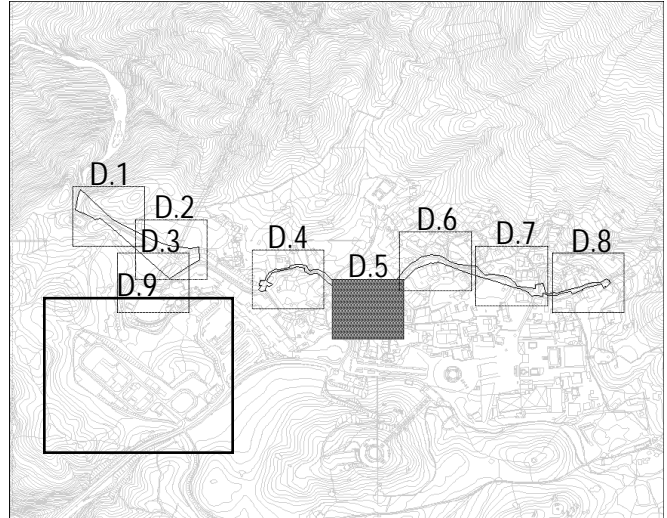
Date: 18/01/2021



Legend:

- ⊗ EXISTING TREES TO BE FELLED
- ⊗ EXISTING TREES TO BE RETAINED
- HYDROSEEDING
- NO-INTRUSION ZONE
- REINSTATEMENT OF NATURAL WATER COURSES
- WORKS BOUNDARY

Key Plan



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Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

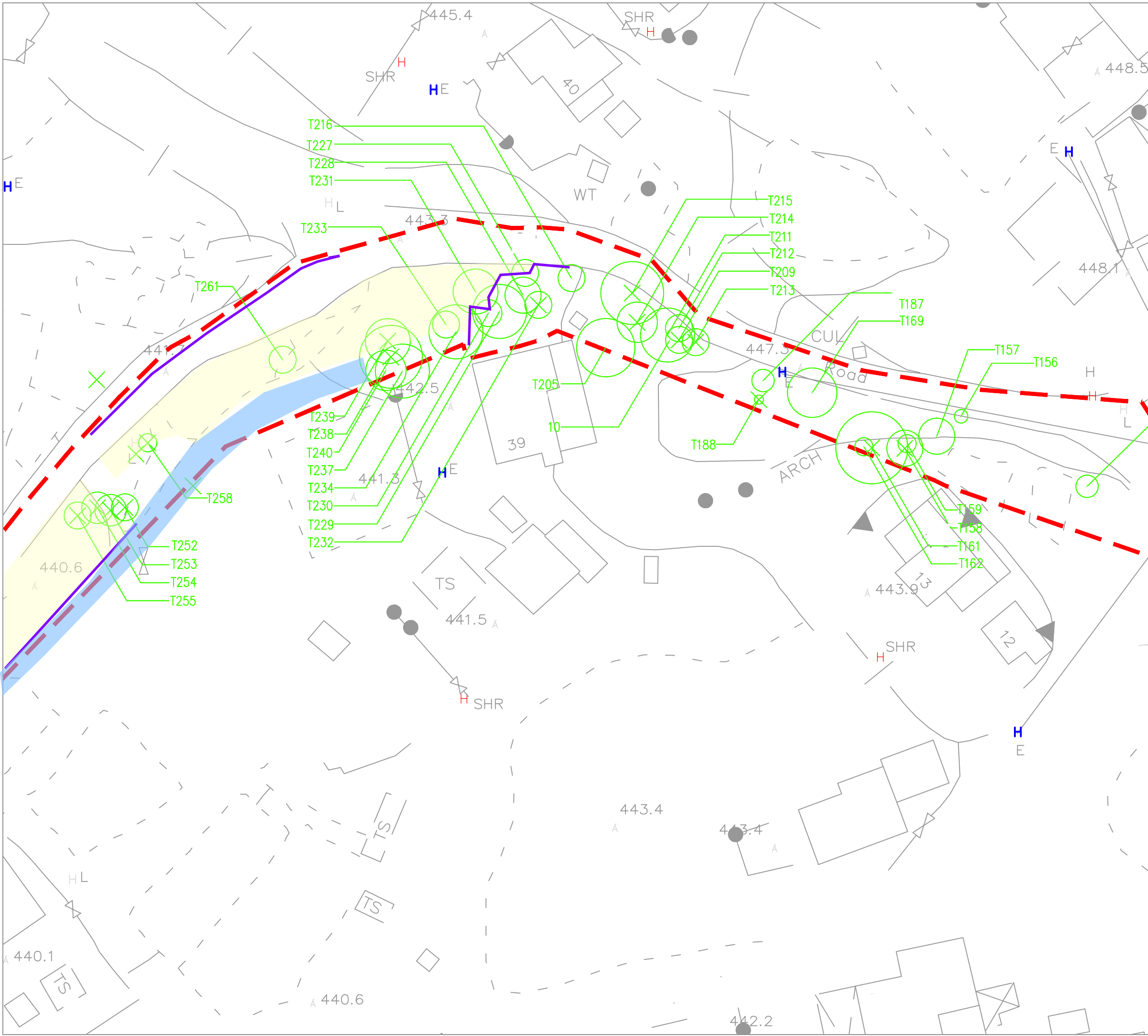
Figure Title: Mitigation Measure Plan
(Sheet 5 of 9)

Figure No.: D.5	Rev.: 2
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

Prepared by: SMR	Checked by: FMN
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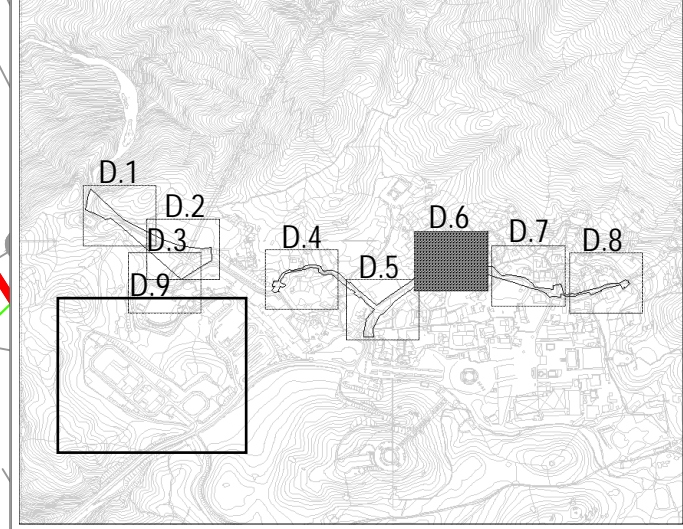
Date:
18/01/2021



Legend:

-  EXISTING TREES TO BE FELLED
-  EXISTING TREES TO BE RETAINED
-  HYDROSEEDING
-  NO-INTRUSION ZONE
-  REINSTATEMENT OF NATURAL WATER COURSES
-  WORKS BOUNDARY

Key Plan



Project Title:
 Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

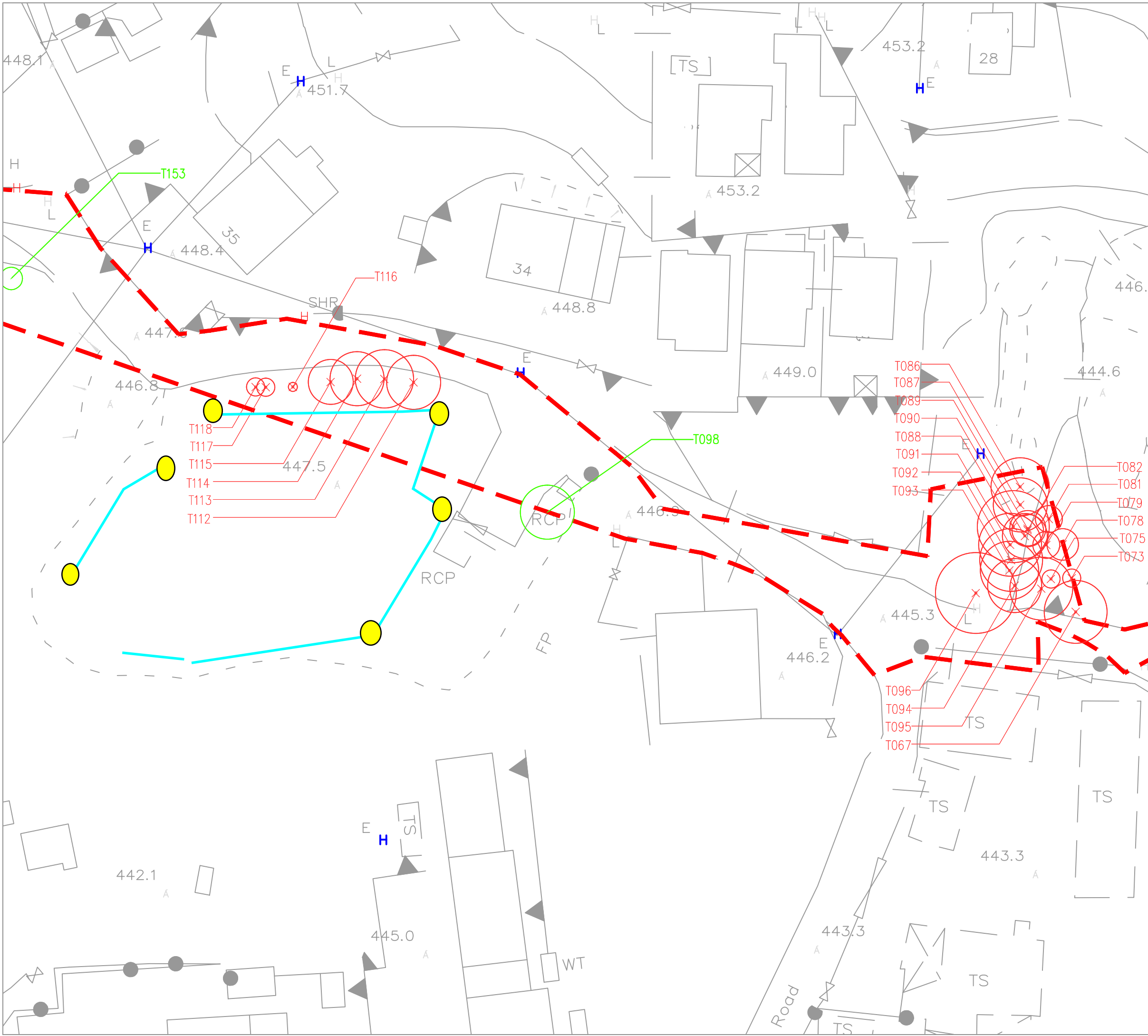
Figure Title: Mitigation Measure Plan
 (Sheet 6 of 9)

Figure No.:	Rev.:
D.6	2

Prepared by:	Checked by:
SMR	FMN

Scale:
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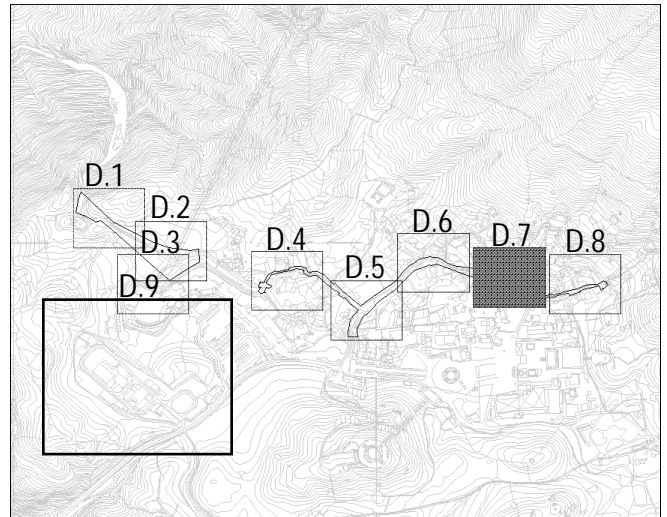
Date:
 18/01/2021



Legend:

- ⊗ EXISTING TREES TO BE FELLED
- ⊗ EXISTING TREES TO BE RETAINED
- NIGHT-TIME LIGHTING
- TEMPORARY SCREEN HOARDING
- - - WORKS BOUNDARY

Key Plan



Drainage Services Department
The Government of the Hong Kong Special Administrative Region



Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

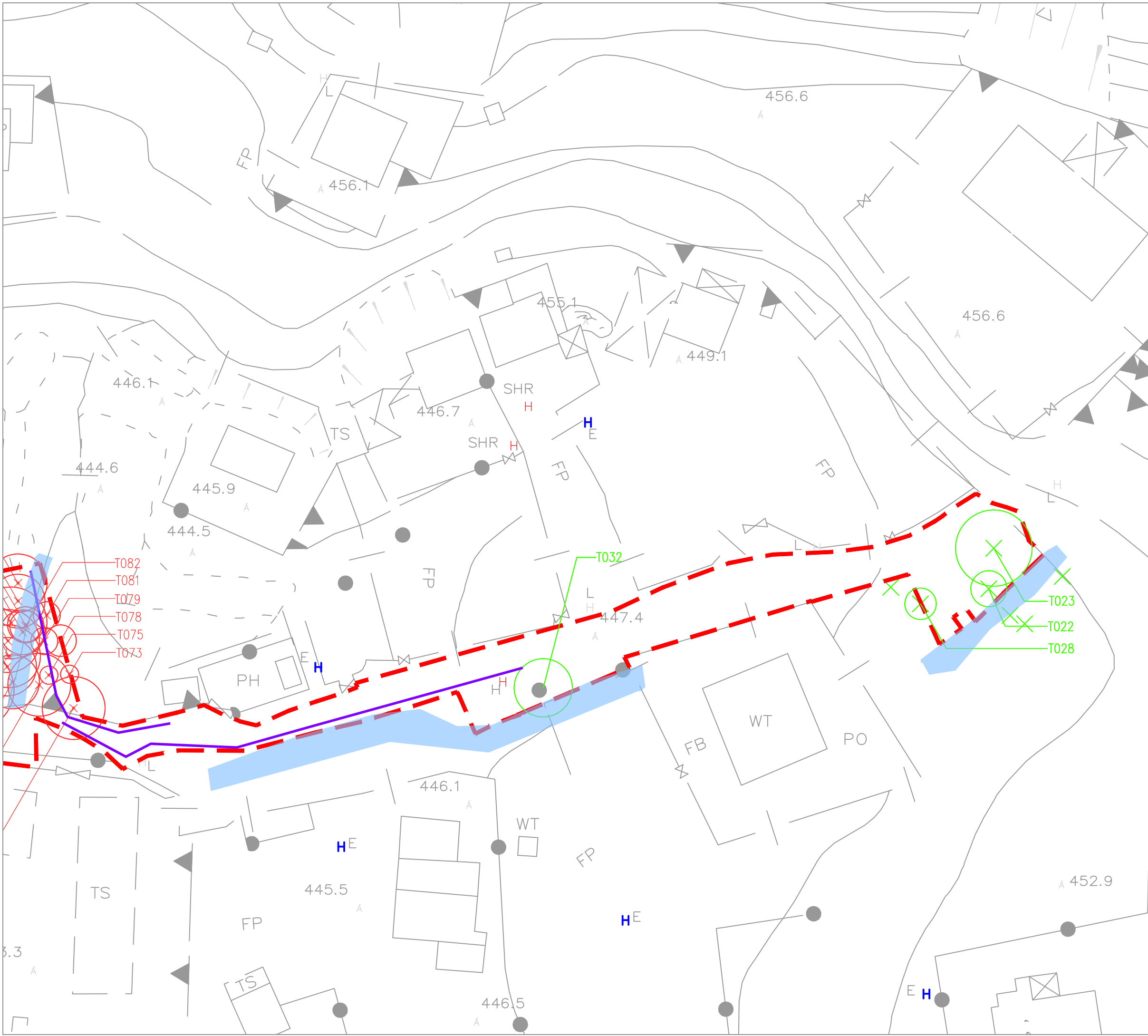
Figure Title: Mitigation Measure Plan
(Sheet 7 of 9)

Figure No.: D.7	Rev.: 2
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Prepared by: SMR	Checked by: FMN
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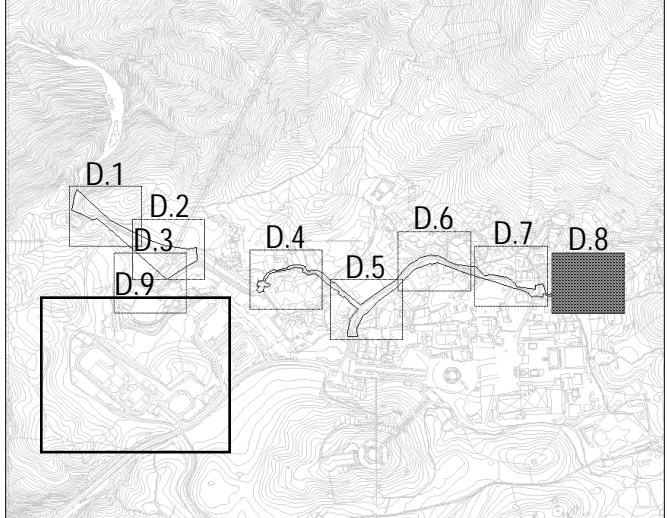
Date: 18/01/2021



Legend:

- ⊗ EXISTING TREES TO BE FELLED
- ⊗ EXISTING TREES TO BE RETAINED
- NO-INTRUSION ZONE
- REINSTATEMENT OF NATURAL WATER COURSES
- - - WORKS BOUNDARY

Key Plan



Drainage Services Department
The Government of the Hong Kong Special Administrative Region



Project Title:
Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

Figure Title: Mitigation Measure Plan
(Sheet 8 of 9)

Figure No.: D.8	Rev.: 2
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Prepared by: SMR	Checked by: FMN
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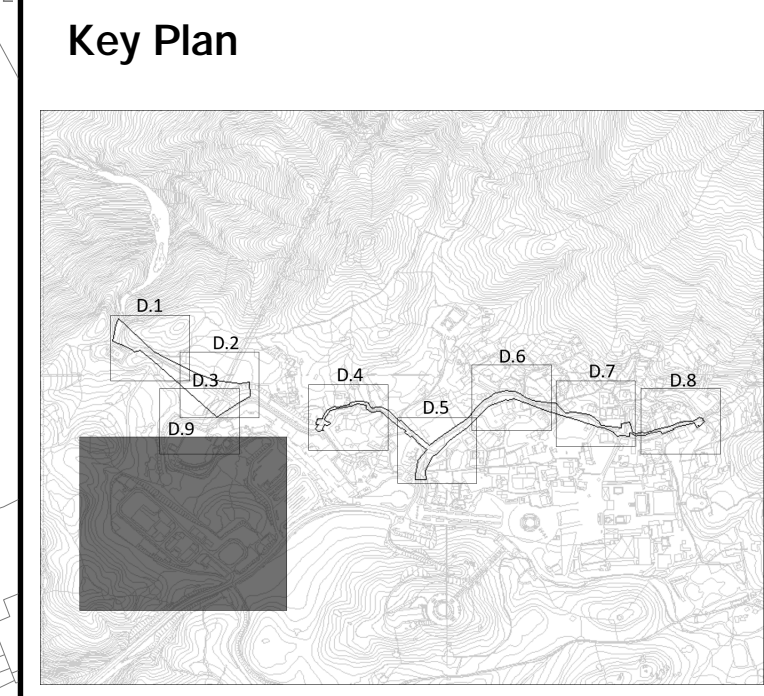
Date: 18/01/2021

Planting Schedule

Code	Scientific Name	Chinese Common Name	Size	Spacing	Total
GA	<i>Gordonia axillaris</i>	大頭茶	Standard	3500mm	33
LC	<i>Litsea cubeba</i>	木薑子	Standard	3500mm	33
AB	<i>Antidesma bunius</i>	五月茶	Standard	3500mm	7

- NOTES:**
1. THE PROPOSED LOCATION OF PLANTS MAY BE SLIGHTLY ADJUSTED SUBJECT TO THE SITE CONDITION.
 2. UPON THE STARTING DATE, THE CONTRACTOR SHALL LIAISE WITH THE ST2 DIVISION OF DSD TO OBTAIN THE NECESSARY PERMIT FOR POSSESSION OF PORTION 3C OF THE SITE FOR THE PLANTING WORKS.
 3. THE CONTRACTOR SHALL TAKE NOTE OF THE REQUIREMENTS IN PS CL. 1.45 (11) AND (12).

- Legend:**
- Proposed Compensatory Trees
 - *Litsea cubeba*
 - *Gordonia axillaris*
 - *Antidesma bunius*
 - Works Boundary



no.	date	description	initial
REVISION			
		name	date
designed		LHT	OCT 2019
drawn		AC	OCT 2019
checked		WCTT	OCT 2019
vetted		XY	OCT 2019

approved _____
Project Director Date

contract no. DC/2019/06
file no. DP8/0/DC1906
project no. 4163CD

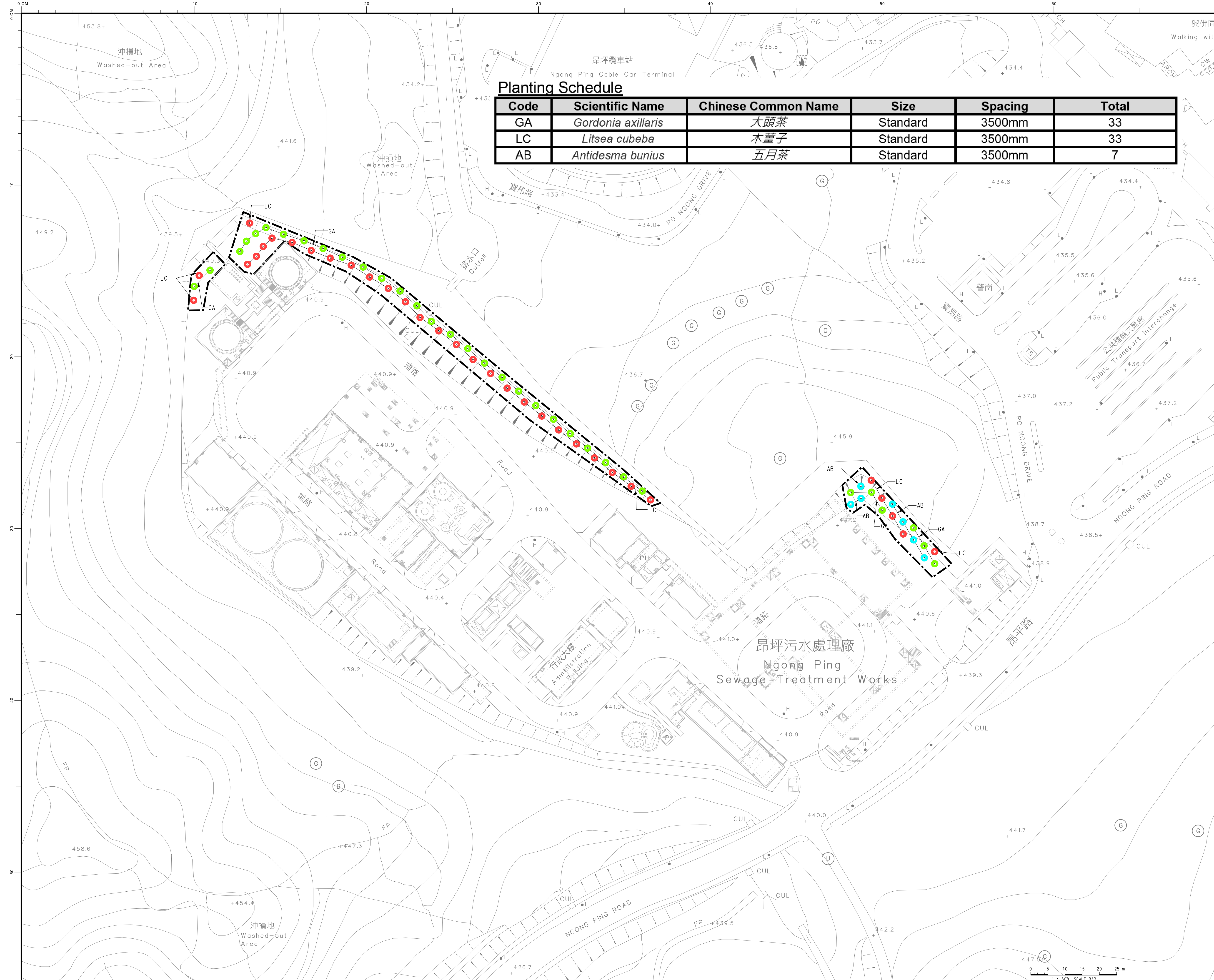
contract
DRAINAGE IMPROVEMENT WORKS AT NORTHERN NEW TERRITORIES (REMAINING WORKS), SOUTHERN HONG KONG ISLAND AND NGONG PING

drawing title
LOCATION L3 - NGONG PING

MITIGATION MEASURE PLAN

Figure No.	scale
Mitigation Measure Plan (Sheet 9 of 9)	1 : 500

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Appendix E

Sample Photos



Appendix E1: Construction barriers that shall be erected for the No-intrusion Zone.



Appendix E2: Hoarding of the Site Office