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AECOM

8/F Grand Central Plaza Tower 2
138 Shatin Rural Committee Road
Shatin, Hong Kong

By Mail
16th December 2022

Attn.: Mr. Chris Ho

Dear Mr. Ho,

Service Contract No. NDO 04/2019
Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas
- **Kwu Tung North New Development Area Road P1 and P2 and Associated new Kwu Tung Interchange and Pak Shek Au Interchange Improvement**

Environmental Permit No. EP-467/2013/A:
Submission of the Landscape Plan (Condition 2.8)

I refer to the Landscape Plan for DP3 Road P1 (EP-467/2013/A) (EP Condition 2.8) submitted to us via email dated 9th December 2022 (Ref. EP/DP3/2022-01).

I am pleased to inform you that I have no further comment and I hereby agree to certify the above document in accordance with the Environmental Permit (No. EP-467/2013/A), Condition 1.9 and 2.8.

If you need any further information, please call our Mr. Marco Ma at 2151 2073 or me at 2151 2089 / 9161 7287.

Yours faithfully,
WELLAB Limited

Dr. Priscilla Choy
Environmental Team Leader

c.c. CEDD (Attn: Mr. Raymond Cheng) By e-mail: kmcheng@cedd.gov.hk
IEC - Mott MacDonald Hong Kong Ltd
(Attn.: Mr. Thomas Chan) By e-mail: Thomas.Chan@mottmac.com

MOTT MACDONALD

AECOM
8F, Tower 2, Grand Central Plaza
138 Shatin Rural Committee Road
Shatin, N.T. Hong Kong

Attention: Mr. Chris Ho

Your Reference

Our Reference
EC/TC/df/414202/L0157

3/F Manulife Place
348 Kwun Tong Road
Kowloon
Hong Kong

T +852 2828 5757
F +852 2827 1823
mottmac.hk

Agreement No. CE 33/2019 (EP)
Independent Environmental Checker for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas – Investigation

Environmental Permit No. EP-467/2013/A: Submission of Landscape Plan (Condition 2.8)

16 December 2022

BY EMAIL

Dear Sir,

Reference is made to AECOM's submission of the Landscape Plan (EP Condition 2.8) in accordance with the Environmental Permit (No. EP-467/2013/A) certified by the ET Leader on 16 December 2022.

We would like to inform you that we have no adverse comment on the captioned submission. Therefore we write to verify the captioned submission in accordance with the requirement stipulated in Condition 1.9 and 2.8 of EP-467/2013/A.

Should you have any queries, please contact the undersigned at 2828 5967.

Yours faithfully,
For and on behalf of the
Mott MacDonald Hong Kong Limited

Ir Thomas Chan
Independent Environmental Checker
T +852 2828 5967
Thomas.Chan@mottmac.com

c.c.

CEDD	Mr. Raymond Cheng	kmcheng@cedd.gov.hk
Wellab Ltd.	Dr. Priscilla Choy/	priscilla.choy@wellab.com.hk
	Ms. Ivy Tam	ivy.tam@wellab.com.hk

土木工程拓展署
Civil Engineering and Development Department
North Development Office

Agreement No. CE 13/2014 (CE)

Development of Kwu Tung North and Fanling North New Development Areas, Phase 1 – Design and Construction

DP3 – Kwu Tung North New Development Area Road P1 and P2 and Associated new Kwu Tung Interchange and Pak Shek Au Interchange Improvement

Submission of Landscape Plan for DP3 Road P1 (EP-467/2013/A)

(Ref. EP/DP3/P1/2022-01)

July 2022

AECOM ASIA COMPANY LIMITED

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1 INTRODUCTION

1.1 General

1.1.1 AECOM Asia Co Ltd has been commissioned by the Civil Engineering and Development Department (CEDD) to undertake Agreement No. CE 13/2014 (CE) – Development of Kwu Tung North and Fanling North New Development Areas, Phase 1 – Design and Construction.

1.2 Background

1.2.1 AECOM Asia Co Ltd has been commissioned by the Civil Engineering and Development Department (CEDD) to undertake Agreement No. CE 13/2014 (CE) – Development of Kwu Tung North and Fanling North New Development Areas, Phase 1 – Design and Construction.

1.2.2 The Territorial Development Strategy Review in 1990s first identified that there was potential for strategic growth in the North East New Territories (NENT). The Planning and Development Study on NENT (NENT Study), which was commissioned in 1998 and completed in 2003 under Agreement No. CE 64/96, identified the areas at Kwu Tung North (KTN) and Fanling North (FLN) is suitable for the development of New Development Area (NDA) in the NENT and confirmed the feasibility of development based on the findings and recommendations from various technical assessments.

1.2.3 The NENT NDA study under Agreement No. CE 61/2007(CE) was commissioned jointly by the Civil Engineering and Development Department (CEDD) and the Planning Department (PlanD) and was substantially completed in December 2013. Various planning, engineering and environmental studies were completed to formulate a revised proposal for the NENT NDA based on the NENT study, confirm the feasibility of implementing the revised proposal and formulate the implementation strategies and programme for the NDA. A planning and development framework for the KTN and FLN NDA was also established to meet the long-term demand for housing especially public housing and employment. Development of the NENT NDA could also cater for various land use needs arising from social and economic developments in Hong Kong.

1.2.4 The KTN and FLN NDA are proposed to be developed in phases as full completion by 2031. An implementation programme with phasing and packaging of works for the NDA project has been recommended under the NENT NDA study.

1.2.5 The Phase 1 of the NDA development, comprising the Advance Works and First Stage Works, was implemented from the second half of 2019 progressively.

1.2.6 The scopes of Phase 1 Works (Advance Works and First Stage Works) and Remaining Phase works for KTN and FLN NDA are summarized below:

Scope of Advance Works (PWP Item No. 7747CL)

(a) site formation of about 70 hectares (ha) of land (including soil treatment works) in the KTN and FLN NDA;

(b) construction of the eastern section of Fanling Bypass (FLBP(E)) of about 4 kilometres (km) long, which is a dual two-lane carriageway connecting the FLN NDA to Fanling Highway, and about 10 km of local roads and about 4 km cycle tracks, and associated junction/road improvements;

(c) engineering infrastructure works including drainage, sewerage (including two sewage pumping stations), waterworks (including a fresh water service reservoir of about 27 500 cubic metres (m3) capacity and a flushing water service reservoir of about 11 500 m3 capacity in the KTN NDA), landscaping works and slopeworks;

(d) part expansion and upgrading of Shek Wu Hui Sewage Treatment Works (SWHSTW) to increase its capacity by 20 000 m3 per day;

(e) demolition of existing North District Temporary Wholesale Market (NDTWM) to be affected by the proposed FLBPES, provision of interim market for current users and reprovisioning of NDTWM; and

(f) reprovisioning works; and

(g) implementation of environmental mitigation measures and environmental monitoring and audit (EM&A) programme for the works mentioned in paragraphs (a) to (e) above.

Scope of First Stage Works (PWP Item No. 7759CL)

(a) development of a nature park at Long Valley of about 37 ha including provision of a visitor centre and a footbridge of about 50-metre (m) long spanning across Sheung Yue River for connection between these two facilities;

(b) reprovisioning of two egretry sites in the FLN NDA and enhancement works to an existing egretry site in the KTN NDA;

(c) site formation of about 2.3 ha of land (including soil treatment works) for a village resite area and a district police station in the KTN NDA;

(d) engineering infrastructure works including roads, drainage, sewerage, waterworks, and landscaping works; and

(e) implementation of environmental mitigation measures and EM&A programme for the works mentioned in items (a) to (d) above.

Scope of Remaining Phase Works

(a) site formation of about 247 ha of land (including soil treatment works) in the KTN and FLN NDA for housing, community and commercial developments as well as engineering infrastructure;

(b) engineering infrastructure works including Fanling Bypass (Western Section),

Po Shek Wu Road Flyover, new interchanges together with widening of Fanling Highway for connection with KTN NDA, local roads, drainage, sewerage, waterworks, pumping stations, fresh water and flushing water service reservoirs, and landscaping works; and

(c) implementing the environmental mitigation measures for the works mentioned in (a) to (b) above.

1.2.7 The Environmental Impact Assessment (EIA) report for the NENT NDA study, which covered the Phase 1 Works of KTN and FLN NDA has been submitted to Environmental Protection Department (EPD) in mid-2013. The report was subsequently approved with conditions by EPD on 19 October 2013 under Register No. AEIAR-175/2013.

1.3 Purpose of This Report

1.3.1 In accordance with the approved EIA report Section 2.4, Road P1 and P2 (new road) and associated new Kwu Tung Interchange (new road) and Pak Shek Au Interchange improvement are identified as Designated Project item 3 (DP3) in KTN NDA in which has been covered by Environmental Permit (EP) no. EP-467/2013/A.

1.3.2 The purpose of this report is prepared mainly for discharge of the EP condition, '*Submission of the Landscape Plan*' in accordance with Condition 2.8 of EP-467/2013/A Part C (Permit Conditions).

1.3.3 The construction of Road P1 would commence under Phase 1 Works while Road P2 (new road), associated new Kwu Tung Interchange (new road) and Pak Shek Au Interchange improvement would commence under the Remaining Phase Works, tentatively in 2026. The location of the works is shown in Appendix III drawing no. DP-00 to DP-04. This submission of Landscape Plan would focus on Road P1 as the design works for the Remaining Phase Works, i.e. Road P2 (new road), associated new Kwu Tung Interchange (new road) and Pak Shek Au Interchange improvement, are in progress and would be circulated to all relevant parties for endorsement.

1.3.4 The boundary of the Landscape Plan submission of Road P1 is shown in EP Figure 1 (extracted as Appendix I), which is corresponding to DP3 location stated in the AEIAR-175/2013 and Project Implementation Schedule (PIS) of DP3 in the approved EM&A Manual. The PIS of DP3 is enclosed in Appendix II.

1.3.5 The works at and adjacent to Road P1 include construction of the vehicular roads and pedestrian roads as well as associated road utilities, including pipes, lightings and signages, roadside planting, new formed slope features with mix of plantings, roundabout design and construction of noise barriers.

1.4 Document Reference

1.4.1 This Landscape Plan Report shall read conjunction with:-

- Approved North East New Territories New Development Areas Environmental Impact Assessment Report (April 2013) (register no.: AEIAR-175/2013)

- Environmental Permit no. EP-467/2013/A
- The section of DP3 of the Project Implementation Schedule (PIS) of the latest approved Environmental Monitoring and Audit (EM&A) Manual

2 SITE CONDITIONS AND EXISTING LANDSCAPE ASSETS

2.1 Site Locations

2.1.1 In accordance with AEIAR-175/2013 Section 2.4.1.2 regarding the location of DP3, the road alignments had been carefully designed to minimise the potential environmental impact and maximise the land area for housing development to the east, while respecting the recognised burial grounds to the west and avoiding impacts to the existing Dongjiang water mains. The finalized alignments of Road P1 only passed through the existing identified rural and urban peripheral village landscape area (Details refer to AEIAR-175/2013 Figure 12.13.3 Impacts on Landscape Character Areas (LCAs) in the Study Area for KTN NDA (3 of 4)), as shown in Appendix IV.

2.2 Existing Vegetation and Tree Preservation

2.2.1 Under Contract No. ND/2019/01, Road P1 is divided into different portions. Detailed tree survey for the Road P1 and its immediate surrounding was conducted. It was also carried out after the site possession by the contractor. A summary of existing vegetation recorded in different Road P1 areas is listed in Table 2.1 below:

Table 2.1 Record of Existing Vegetation and Their Distribution

	Distribution	Dominant Tree Species	Vegetation Remarks
1	Upper part of Road P1 from Road D4 to KTN NDA A2-2 Public Rental Housing (PRH).	*Celtis sinensis* (朴樹), *Melia azedarach* (苦楝), *Leucaena leucocephala* (銀合歡), *Macaranga tanarius* (血桐)	Mixture of common native tree with fast growing tree species and invasive species
2	Middle part next to KTN NDA A1-10 Open Space, A1-2 PRH (Local Rehousing) to roundabout	*Dimocarpus longan* (龍眼), *Melia azedarach* (苦楝), *Leucaena leucocephala* (銀合歡), *Sterculia monosperma* (蘋婆), *Macaranga tanarius* (血桐)	Mixture of common native tree and fruit tree species with fast growing tree species and invasive species
3	Lower part of Road P1 from roundabout linking to Road D1 to Castle Peak Road	*Dimocarpus longan* (龍眼), *Sterculia monosperma* (蘋婆), *Mangifera indica* (芒果)	Mixture of common native tree and fruit tree species

2.2.2 There is no Old and Valuable Tree (OVT), rare tree species and Tree of Particular Interest (TPI) found within the boundary of Road P1.

3 LANDSCAPE AND VISUAL MITIGATION MEASURES

3.1 General

3.1.1 To ensure that the proposed mitigation measures comply with the conditions stated in the approved EM&A Manual, a summary of mitigation measures required in the approved EIA report are tabulated in Table 3.1 below, and the relevant landscape mitigation measures are further elaborated in Section 5 and comparison figures in Appendix III.

Table 3.1 EP Requirements and mitigation measures to be implemented during different phases of the Project

EIA Ref. (EM&A Log Ref.)	EP Requirement and PIS of DP3	Implementation of Landscape Mitigation Measures		Report Section
		By Whom	At When	
S.12.A9 (LV1-DP3)	General Good Practice Measures For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to. With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.	Detailed Design Consultant/ Contractor	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	Section 5.1
S.12.A9 MM1 (LV2-DP3)	Minimum Topographical Change To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Government/ Detailed Design Consultant/ Contractor	Prior to Construction	Section 5.2

S.12.A9 MM2 (LV3-DP3)	Detailed Design (Visual) The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines. All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated. Construction time frame should also be considered and designs seek to keep it to a practical minimum.	Detailed Design Consultant	Prior to Construction	Section 5.3
S.12.A9 MM14.4 (LV4-DP3)	Avoid affecting Watercourses In the detailed design, consideration should be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc. Guidelines stated should be followed. For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass. In order	Detailed Design Consultant/ Contractor	Prior to Construction and Construction Phase	Section 5.4

	to avoid impacts to the stream, the detailed final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream. Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.			
S.12.A9 MM4 (LV5-DP3)	Tree Protection & Preservation Exiting trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas. A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.	Government/ Detailed Design Consultant/ Contractor	Prior to Construction and Construction Phase	Section 5.5
S.12.A9 MM5 (LV6-DP3)	Tree Transplantation Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme. A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.	Government/ Detailed Design Consultant/ Contractor	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Section 5.6

	For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.			
S.12.A9 MM6 (LV7-DP3)	Slope Landscaping Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow. In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.	Government/ Detailed Design Consultant/ Contractor	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Section 5.7
S.12.A9 MM7 (LV8-DP3)	Compensatory Planting Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006. Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots. Compensatory planting for shrubs should be considered in suitable locations. Native species such as *Melastoma malabathricum*, *Diospyros vaccinioides*, *Gardenia jasminoides*, *Ixora chinensis*, *Ligustrum sinense*, *Litsea rotundifolia*, *Melastoma dodecandrum*, *Atalantia buxifolia*, *Rhodomyrtus tomentosa*, *Rhaphiolepis indica*, and *Rhododendron simsii* are suggested.	Government/ Detailed Design Consultant/ Contractor	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Section 5.8
S.12.A9 MM8 (LV9-DP3)	Woodland Compensatory Planting Specific Woodland compensatory planting is proposed for any areas of quality	Project Proponent/ Detailed Design Consultant/	Prior to Construction, Construction Phase &	Section 5.9

	woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA. The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 & E27 also). Native tree species are suggested for planting in the appropriate locations, including *Ailanthus fordii*, *Bischofia javanica*, *Castanopsis fissa*, *Celtis sinensis*, *Cinnamomum burmannii*, *Cinnamomum camphora*, *Xanthoxlyum avicennae*, *Hibiscus tiliaceus*, *Liquidambar formosana*, *Sapium discolor*, *Schefflera heptaphylla* and *Ilex rotunda*. In addition some understory vegetation may be planted including shrubs such as *Atalantia buxifolia*, *Diospyros vaccinioides*, *Gardenia jasminoides*, *Ixora chinensis*, *Ligustrum sinense*, *Litsea rotundifolia*, *Melastoma malabathricum*, *Melastoma dodecandrum*, *Rhodomyrtus tomentosa*, *Rhaphiolepis indica*, and *Rhododendron simsii*. The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.	Contractor/ Maintenance Authority	Maintenance in Operation Phase	
S.12.A9 MM9 (LV10-DP3)	Vertical Greening Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Government/ Detailed Design Consultant/ Contractor	Prior to Construction, Construction Phase & Maintenance in Operation	Section 5.10

			Phase	
S.12.A9 MM11 (LV11-DP3)	Screen Planting Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	Government/ Detailed Design Consultant/ Contractor	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Section 4.1.1 and 5.11
S.12.A9 MM12 (LV12-DP3)	Road Greening For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics. For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)	Government/ Detailed Design Consultant/ Contractor	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Section 4.1.1 and 5.12
S.12.A9 MM13 EIA Annex 13 (LV13-DP3)	Marsh/Wetland Compensation The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance on- wetland areas within the LVNP. (See E4, E15 and E25 also) Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ re- provisioned watercourses.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Section 5.13
S.12.A9 MM14.3 (LV14-DP3)	Enhancement Planting along Embankment For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include	Government/ Detailed Design Consultant/ Contractor	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Section 5.14

	enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc. For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.			
S.12.A9 MM15 (LV15-DP3)	Pond Replacement Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs. All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Section 5.15
S.12.A9 MM16 (LV16-DP3)	Screen Hoarding Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used. Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	Contractor	Construction Phase	Section 5.16
S.12.A9 MM17 (LV17-DP3)	Light Control Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase. Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	Government/ Contractor	Construction and Operation Phase	Section 5.17

4 DESIGN PRINCIPLE OF THE DESIGNATED PROJECT

4.1 Soft Landscape Design Principle

4.1.1 Road P1 is a primary distributor road in KTN NDA. Due to the site constraint, consideration of sight-seeing of fast-speed road, limitation of the linear site area, less disturbance for the recognised burial grounds and natural terrains to the west, and the target of project is to maximize the adjacent areas for public housing, planting along Road P1 was proposed for the following three areas,

1. Roundabout design
2. Roadside strip planting adjacent with pedestrian walkway/cycling track
3. Central divider of dual 2-lane

Other than the above-mentioned forms of planting within the Road P1 is not recommended. These three types planting designs could provide a good visual mitigation to the sensitive receiver and enhance the general amenity value of the KTN NDA.

4.1.2 The mentioned roundabout which is nearby the KTN NDA A1-1 Amenity is approximate 1,900sqm. Native trees like *sterculia lanceolata* (假蘋婆) and *schima superba* (木荷) were proposed in the planting area. For matching with these flowering trees, not excessing to 500mm height groundcovers with different foliage textures were proposed, such as *Asparagus densiflorus 'Myersii'* (狐尾天冬), *Cuphea ignea* (雪茄花) and *Zephyranthes grandiflora* (風雨蘭).

4.1.3 Flowering trees with shrubs planting mix were proposed along the Road P1 roadside planter. For better delighting the contrast between the grey tone road surface to greenish plantings, seasonal flowering species were also considered, such as flowering season for *Allamanda schottii* (硬枝黃蟬) in April to October and ideally following by flowering season of *Canna x generalis* (大花美人蕉) in Autumn to next Spring.

4.1.4 For central divider/hard shoulder of dual 2-lane of Road P1, tree is not recommended due to the limited planting area for regular maintenance. Ever-green shrubs were proposed for softening the hard edges of the concrete and improving the aesthetic value of the road.

4.1.5 The method statement on planting and topsoil preparation should be prepared by the Contractor and accepted by the Project Manager/Project Manager's delegate/Project Manager's supervisor prior to the planting works.

4.1.6 The topsoil (1,200mm, 600mm and 300mm clear soil depth for tree, shrub and groundcover respectively, excluding the subsoil drainage layer) will be provided. The topsoil should be mixed between completely decomposed granite (CDG) and the accepted soil conditioner in the ratio of 3:1 in accordance with Section 3 of General Specifications (GS) for Civil Engineering Works, 2006 issued by CEDD. All existing soil could be stripped, treated and reused as far as possible.

4.2 Species Selection and Justifications

4.2.1 Species selected should meet the following criteria:

- Native species recorded in local and commonly used in Hong Kong should be prioritized;
- Available from the markets;
- Robust, tough-growing, comparatively low maintenance requirement; and
- Familiarly used and maintained by local practices.

4.2.2 It is important to source all the specified plant materials at early of construction stage. The contractor should be required to secure their plant sources' availability and qualities.

4.3 Basic Planting Configuration

4.3.1 Sufficient soil depth should be provided for proposed plantings in which at least 300mm topsoil for groundcovers, 600mm topsoil for shrubs and 1,200mm topsoil for trees according to departmental common practices.

4.3.2 Open bottom soil was proposed for all at-grade planters for water to soak away after irrigation. Plantings' root system can be allowed to grow underneath.

4.4 Execution of Landscape Works

4.4.1 All planting works will be planted with the growing season (i.e. from March to September) so as to enhance better establishment of plants. Planting between October to February will also be considered given these species are common in nature and be relatively tolerant in Hong Kong climatic condition. However, frequency of watering should be adjusted to suit the plant growth.

4.4.2 All plantings will check free of pest, fungi and disease before planting to permanent location.

4.5 Hard Landscape

4.5.1 Planting area along Road P1 would be at-grade planter including the strip planting area next to pedestrian walkway from KTN NDA A2-2 PRH to roundabout as well as the planting area within the roundabout. Road kerbs K1 and E2 would be adopted for edging of at-grade planters.

4.5.2 Typical paving block in accordance to Highway Department (HyD) standard would be proposed for the public footpath/pedestrian walkway. Colours of the paving blocks are dark grey, light grey and rustic sand with stretcher bonding. Details of paving and paving pattern refers to Appendix III – PV01.

5 DESIGN AND CONSTRUCTION PHASE: IMPLEMENTATION OF LANDSCAPE AND VISUAL MITIGATION MEASURE

5.1 General Good Practice Measures and Topsoil Management – measures corresponding to EIA Ref. S.12.A9 (EM&A Log Ref. LV1-DP3)

5.1.1 For areas avoidably disturbed by the Road P1 during its construction period, the areas would either be reserved and redeveloped for future site use, or be reinstated to their former states.

5.1.2 All existing soil would be stripped, treated and reused as far as possible. Where feasible, the topsoil would be stored on site and reused in the construction of soft landscaping.

5.1.3 The method statement for planting and topsoil preparation should be prepared by the Contractor and accepted by the Project Manager/Project Manager's delegate/Project Manager's supervisor prior to the planting works.

5.1.4 The planting soil used on site should be prepared by mixing existing topsoil (or CDG from on-site excavation or an approved local source) and the accepted soil conditioner in a ratio of 3:1 in accordance with Section 3.30(2) of GS for Civil Engineering Works, 2006 issued by CEDD.

5.2 Minimum Topographical Change – measures corresponding to EIA Ref. S.12.A9 MM1 (EM&A Log Ref. LV2-DP3)

5.2.1 Due to alignment of Road P1 passing through slightly the natural terrain of its western side for establishing a flatten and gentle road profile, the existing landform is a need to be cut. New feature slope area with planting mix is prior to be considered instead of forming a retaining wall.

5.2.2 These new formed features designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain to support assimilation with the hillside setting.

5.3 Detailed Design (Visual) – measures corresponding to EIA Ref. S.12.A9 MM2 (EM&A Log Ref. LV3-DP3)

5.3.1 In order to maintain low profile and low sensitivity of Road P1 to overall KTN NDA, simple and subtle road design was proposed. Typical road profile along holistic Road P1 includes the road itself, planting with a mix of trees and shrubs, lighting and noise barriers. These elements would be kept no taller than 15m from the ground level for remaining low-lying without causing adverse visual implication to the future residential environs. Details can refer to Appendix III.

5.3.2 Common and cost effective hard paving materials, i.e. concrete paves, had been chosen for its efficiency of use for both pedestrian and freight vehicles, and also for its humble and low maintenance properties.

5.3.3 Design for noise barrier aims of creating a family of structures which are pleasing aesthetically and blend in with the surrounding as much as possible. A transparent

PMMA Panel embedded linear print on top with townscape pattern, and blue light plus forest green absorptive noise barrier panel supported by white steel frames was proposed.

5.4 Avoid affecting Watercourses – measures corresponding to EIA Ref. S.12.A9 MM14.4 (EM&A Log Ref. LV4-DP3)

5.4.1 Proposed alignment of Road P1 crossed the minor natural watercourse and minor channelized watercourse (refer to Figure 13.18a from approved EIA report extracted in Appendix IV).

5.4.2 For maximizing the accessibility and traffic movement from Fanling Highway/ Castle Peak Road to KTN NDA, location of Road P1 is well selected to make the least disturbance to the site in accordance with Section 2.1.1. This finding also supported by Figure 13.17a from the approved EIA report regarding the ecological importance watercourse. Hence, the watercourses will be filled to finished level for residential use and pedestrian walkway.

5.5 Tree Protection & Preservation – measures corresponding to EIA Ref. S.12.A9 MM4 (EM&A Log Ref. LV5-DP3)

5.5.1 Existing trees that were not affected by the works would be preserved in situ. After detailed tree assessment, all trees were affected by the footprint of the Road P1 and its associated facilities, such as adjacent new features, roadside planter, pedestrian walkway and cycling track. In this regards, excepting the Tree Preservation and Removal Proposal (TPRP) of item 3 mentioned in the Table 2.1 is reviewing by departments, 84 no. of trees were unavoidably proposed to be removed from the site.

5.5.2 Among this 84 no. of trees, 40 no. of them were invasive species and would be felled.

5.5.3 All trees affected by the works had been assessed for their tree form, health condition, structure condition and suitability for transplanting, and would be transplanted where physically feasible. All 44 nos. of remaining trees were not suitable to be transplanted due to their unbalanced tree form and poor tree health. Therefore, no tree was proposed to be transplanted within the Road P1 Boundary. All trees were proposed to be felled.

5.5.4 There were 4 no. of tree felling proposals within the demarcation boundaries of Road P1 have been approved by LandsD before the Works.

5.6 Tree Transplantation – measures corresponding to EIA Ref. S.12.A9 MM5 (EM&A Log Ref. LV6-DP3)

5.6.1 Referring to Section 5.5 mentioned in this report for approved tree treatment of existing trees, there are no trees approved to be transplanted.

5.7 Slope Landscaping – measures corresponding to EIA Ref. S.12.A9 MM6 (EM&A Log Ref. LV7-DP3)

5.7.1 A woodland mix was proposed to new formed slope area with less than 35 degrees while shrub mix was proposed to new formed slope area with the range of gradient in between 36 to 45 degrees.

5.7.2 Species of woodland mix and shrub mix are listed in Table 5.1 and Table 5.2. Typical planting details and pattern of these planting mix can refer to Appendix III for ease of reference.

Table 5.1 Species of woodland mix

Code	Botanical Name	Chinese Name	Spacing	Size
Woodland Mix Type 1 (WMP1)				
A	*Elaeocarpus chinensis*	野杜英	2,000	Whip Tree
B	*Ilex viridis*	綠冬青	2,000	Whip Tree
C	*Reevesia thyrsoides*	梭羅樹	2,000	Whip Tree
D	*Bridelia tomentosa*	土密樹	2,000	Whip Tree
E	*Phyllanthus emblica*	餘甘子	2,000	Whip Tree
Woodland Mix Type 2 (WM2)				
A	*Polyspora axillaris*	大頭茶	2,000	Whip Tree
B	*Rhus succedanea*	野漆	2,000	Whip Tree
C	*Ficus hispida*	對葉榕	2,000	Whip Tree
D	*Mallotus paniculatus*	白楸	2,000	Whip Tree
E	*Cratoxylum cochinchinense*	黃牛木	2,000	Whip Tree
Shrub in Woodland Mix Planting Type 1 (Shrub Mix Planting (SMP1))				
F	*Ligustrum sinense*	山指甲	500	400(Hight) x 400(Spread)
G	*Melastoma candidum*	野牡丹	500	400(Hight) x 400(Spread)
H	*Psychotria asiatica*	九節	500	400(Hight) x 400(Spread)
J	*Rhodomyrtus tomentosa*	桃金孃	500	400(Hight) x 400(Spread)
K	*Ardisia crenata*	大羅傘	500	400(Hight) x 400(Spread)
Shrub in Woodland Mix Planting Type 2 (Shrub Mix Planting (SMP2))				

F	*Litsea rotundifolia*	豺皮樟	500	400(Hight) x 400(Spread)
G	*Melastoma sanguineum*	毛棯	500	400(Hight) x 400(Spread)
H	*Rhaphiolepis indica*	車輪梅	500	400(Hight) x 400(Spread)
J	*Rhododendron simsii*	紅杜鵑	500	400(Hight) x 400(Spread)
K	*Ixora chinensis*	龍船花	500	400(Hight) x 400(Spread)

5.8 Compensation Planting – measures corresponding to EIA Ref. S.12.A9 MM7 (EM&A Log Ref. LV8-DP3)

5.8.1 The compensatory planting proposal for the 84 no. of accumulated loss trees in Road P1 work would be proposed together with compensatory planting proposal for the accumulated tree loss within the whole KTN and FLN NDA, which would scattered across the whole NDA. Exact locations for compensatory planting would be identified and determined during remaining the construction phases of whole KTN and FLN NDA, and would be submitted to LandsD for their approval at later stage.

5.9 Woodland Compensatory Planting – measures corresponding to EIA Ref. S.12.A9 MM8 (EM&A Log Ref. LV9-DP3)

5.9.1 There were three areas identified in the approved EIA report for proposed woodland compensatory planting which are KTN NDA Green Belt Area E1-8, G1-3 (South) and G1-3 (North).

5.9.2 The overlapping area between proposed compensatory planting should refer to Appendix III – CP-01. Due to DP3 did not affect the existing secondary woodland mentioned in the approved EIA report, no woodland compensatory planting for proposed areas is required for DP3.

5.10 Vertical Greening – measures corresponding to EIA Ref. S.12.A9 MM9 (EM&A Log Ref. LV10-DP3)

5.10.1 Along the Road P1, there would be a flat land with at-grade planter. In this connection, there was no vertical surface to vertical greening.

5.10.2 There was a proposed noise barrier next to KTN NDA A1-1. For better maintenance of noise barrier itself and preventing accident happened in the fast-speed primary distributor road, different natural green and blue colour was proposed instead of vertical greening. Details refer to Appendix III.

5.11 Screen Planting – measures corresponding to EIA Ref. S.12.A9 MM11 (EM&A Log Ref. LV11-DP3)

5.11.1 Roadside planting mix with tree and different height of shrubs would be designed. There were proposed flowering tree *Tabebuia chrysantha* (黃花風鈴木) and native

tree *Bischofia javanica* (秋楓) along the Road P1 next to A2-2 PRH NDA and A1-10 Open Space. The underneath shrub species were commonly adopted in Hong Kong roadside planting such as *Allamanda schottii* (硬枝黃蟬), *Carmona microphylla* (福建茶) and *Schefflera arboricola 'Variegata'* (花葉鴨腳木). Location of planting, quantity and size should refer to Appendix III.

5.12 Road Greening – measures corresponding to EIA Ref. S.12.A9 MM12 (EM&A Log Ref. LV12-DP3)

5.12.1 As mentioned in Section 4.1.3 and 4.1.4 design principles in the middle of roundabouts and roadside planting, they were proposed with multi-laying tree species with different heights of foliage shrubs.

5.12.2 The roadside planting gave the visually aesthetic to the road users, i.e. both drivers and pedestrian. At the same time, providing shading and buffering for the needs of public to nearby sensitive receivers.

5.13 Marsh/Wetland Compensation – measures corresponding to EIA Ref. S.12.A9 MM13 EIA Annex 13 (EM&A Log Ref. LV13-DP3)

5.13.1 Boundary of Road P1 did not across the identified marsh and wetland area (refer to Figure 13.18a from approved EIA report extracted in Appendix IV). Therefore, no compensation for marsh and wetland would require for this Landscape Plan.

5.14 Enhancement Planting along Embankment – measures corresponding to EIA Ref. S.12.A9 MM14.3 (EM&A Log Ref. LV14-DP3)

5.14.1 Referring to Section 5.4, the existing minor channelized watercourse would be lost for establishing a developable land for cycling track/ pedestrian subway to across Road P1. No existing embankment was noted of this watercourse. In this connection, no enhancement planting along this channelized embankment is feasible.

5.15 Pond Replacement – measures corresponding to EIA Ref. S.12.A9 MM15 (EM&A Log Ref. LV15-DP3)

5.15.1 Boundary of Road P1 did not across the identified pond (refer to Figure 13.18a from approved EIA report extracted in Appendix IV). Therefore, no replacement for pond would require for this Landscape Plan.

5.16 Screen Hoarding – measures corresponding to EIA Ref. S.12.A9 MM16 (EM&A Log Ref. LV16-DP3)

5.16.1 During the entire Construction phase, an array of screen hoardings painted with green colour would be erected for the safety and visually screening from the public. The selected green colour would be relatively subtle to blend with the surrounding environment.

5.17 Light Control – measures corresponding to EIA Ref. S.12.A9 MM17 (EM&A Log Ref. LV17-DP3)

5.17.1 All the works would be carried out in daytime and no night work would be anticipated. It implied that no lighting glare would be generated to affect the surrounding neighbourhood and public during the construction stage.

6 OPERATION PHASE: POST-PLANTING MONITORING AND ESTABLISHMENT/ MAINTENANCE

6.1 General

6.1.1 The goal of the proposed roadside planting is to establish a sense of visual greenery for the enjoyment of public and neighbouring villagers while the wish of woodland mix planting on new formed slope areas is to maintain the existing natural terrain.

6.1.2 All the planting works within this Landscape Plan submission area should be maintained at least in 12 months before hand over to the maintenance parties whereas Leisure and Cultural Services Department (LCSD) who should be the maintenance department to roadside planting while HyD would maintain plantings work on the new formed slope areas.

6.1.3 An outline of post-planting monitoring works and summary of the establishment works during the 12-month period (by CEDD) are provided in the next section of the report.

6.2 Post Planting Monitoring

6.2.1 Monthly post-planting monitoring inspections throughout the 12-month period are recommended to monitor the growth and health of the plantings and to decide whether any species remedial works should be carried out. The proposed measures are in compliance with the requirements in the approved EM&A manual.

6.3 Personnel

6.3.1 The post-planting monitoring inspections and reports shall be carried out and prepared by a Registered Landscape Architect or a qualified arborist, who should meet the following minimum requirements,

(a) Have a bachelor's degree or higher in horticulture or a related field such as arboriculture, botany, biology, forestry, ecology, environmental science, geography, landscape studies, landscape architecture, landscape management, landscape science, from a Hong Kong University, or equivalent; and

(b) Have a minimum of two years of proven full-time practical experience in horticulture, soft landscape implementation and supervision, plant care or vegetation management.

6.4 Establishment / Maintenance Works (12-month, by CEDD)

6.4.1 The method statement on establishment works should be prepared by the Contractor and accepted by the Project Manager/ Project Manager's delegate/ Project Manager's supervisor prior to the planting works.

6.4.2 Regular monthly establishment / maintenance works shall be carried out to ensure the healthy growth of the plants. Defective plants when observed will be recorded and rectified before the next monthly inspection. All plants should be in acceptable conditions before handing over to maintenance department after the 12-month establishment period.

6.4.3 Generally, it will be necessary to regularly cut grass and remove noxious weeds within the planting area. Post-planting fertilizer will be applied yearly in each spring. Dead or dying species will be replaced. Works may be necessary to ameliorate the effect of any erosion or land degradation should these occur.

6.5 Weeding

6.5.1 To reduce competition to the young trees from grass and noxious weeds, weed control through manual or mechanical means will be necessary. Grass cutting should be carried out as necessary to cut existing grass to 100mm from ground. Meanwhile, noxious weeds like *Leucaena leucocephala* (銀合歡) and *Mikania micrantha* (薇甘菊) shall be uprooted. To prevent unintended dispersal which may affect the natural environment, herbicides and pesticides should not be used unless in exceptional circumstances.

6.6 Fertilizing

6.6.1 Apply post-planting fertilizer as per CEDD GS Clause 3.34(2) at a rate of 50g per whip tree, once each year in spring, and preferably after weeding operation. Fertilizer should be applied near the base of each whip tree and shrub, not broadcasted, so as to reduce absorption and competition from grasses.

6.7 Replacements

6.7.1 Dead and dying plants should be replaced during the establishment / maintenance period based on monitoring results. Replacement planting, if necessary, shall be carried out early in the growing season, preferably from March to May as far as practicable so as to enhance the survival rate of the new plants

6.8 Long Term Maintenance After 12-Months and onwards – By other Ultimate Maintenance Department

6.8.1 Hard landscape works within the Landscape Plan boundary will be handed over to HyD for maintenance, including planters and paving. For roadside planting, within 10m from the kerb will be handed over to LCSD maintained after the establishment period. For woodland mix planting on new formed slope area, those vegetations will be handed over to HyD after 12-month establishment period

7 CONCLUSIONS

7.1 Summary

7.1.1 The Landscape Plan is prepared to discharge Environmental Permit no. EP-467/2013/A Condition 2.8, which is to be deposited to EPD's designated locations. This Landscape Plan also shows the landscape design and mitigation measures of the project in accordance with the approved EIA and EM&A manual.

7.1.2 The Landscape Plan had been prepared with reference to the PIS DP3 in KTN NDA for Road P1. Since the design of Road P2 (new road) and associated new Kwu Tung Interchange (new road) and Pak Shek Au Interchange improvement are in progress and being circulated to relevant parties for endorsement, submission of Landscape Plan for these designated areas in DP3 will be deposited before commencement of these works under the Remaining Phase Works.

7.1.3 Due to the site constraints and maximizing the adjacent PRHs for future needs, roadside tree plantings with shrubs/groundcovers are proposed along Road P1. It would provide good amenity areas for shielding the adjacent designated area and separation between vehicular road and pedestrian walkway and cycling tracks.

7.1.4 All the proposed plants, including groundcovers, shrub and trees, would be established for 12 months before final handover to the relevant maintenance departments, i.e. LCSD for roadside planting within the 10 metres from the kerb of public roads and HyD for planting mix in new features slopes and hard landscape within Road P1 submission area, in accordance with Development Bureau Technical Circular (Works) No. 6/2015 Maintenance of Vegetation and Hard Landscape Features.

7.2 Contract Requirements

7.2.1 Upon approval of the mentioned Landscape and Visual Mitigation Measures, all relevant details including boundaries of planting, plant species, specified sizes and quantities, specification of works, timely procurement of plant materials, post-planting monitoring and establishment/ maintenance requirement mentioned in the preceding Sections would be incorporated into the NENT NDA project for effective implementation and monitoring in Construction phase and Operation phase.

7.3 Programme

7.3.1 According to the latest contract packaging of NENT NDA project, the proposed Landscape and Visual Mitigation Measures would be carried out under CEDD Contract No. ND/2019/01. Planting works are anticipated to be carried out in Q3 2025. The establishment period for plants should start immediately after completion of planting works for at least 12 months, subject to the agreement of the relevant maintenance departments. Subsequent auditing works by ET team would start during both Construction phase and Operation phase.

7.4 Maintenance Agents

7.4.1 CEDD would be responsible to maintain the proposed plantings for 12 months before handover to the ultimate maintenance department. Outlines of the post-planting monitoring and establishment requirements during the establishment period by CEDD were presented in preceding Sections. LCSD and HyD would be maintenance departments for plants shown in this Landscape Plan.

8 REFERENCE

8.1 Technical Circulars

8.1.1 DEVB TC(W) No. 6/2015 – Maintenance of Vegetation and Hard Landscape Features

8.1.2 DEVB TC(W) No. 7/2015 – Tree Preservation

8.1.3 ETWB TC(W) No. 29/2004 – Registration of Old and Valuable Trees, and Guidelines for their Preservation

8.2 Ordinances and Regulations

8.2.1 Forests and Countryside Ordinance (Cap.96) and its subsidiary legislations

8.2.2 Plant Varieties Protection Ordinance (Cap. 490)

8.2.3 Environmental Impact Assessment Ordinance (Cap. 499)

8.3 Government Publications and Guidelines

8.3.1 AFCD Publication – Rare and Precious Plants of Hong Kong (2003)

8.3.2 AFCD Publication – Check List of Hong Kong Plants 2012

8.3.3 General Specification for Civil Engineering Works, 2006 Edn.

8.3.4 GEO Publication No. 1/2011 – Technical Guidelines on Landscape Treatment for Slopes

8.3.5 GEO Publication (2000) – Highway Slope Manual, Chapters 6 and 8

8.3.6 All relevant guidelines and Proper Planting Practices published by Greening, Landscape and Tree Management Section (GLTMS) of Development Bureau

8.3.7 Geo Report No. 259 – Study on The Application of Various Vegetation Species for Landscaping of Man-Made Slopes in Hong Kong

8.3.8 PlanD – Landscape Value Mapping of Hong Kong Technical Report (available online)

8.3.9 HyD HQ/GN/15A – Guidelines for Landscape Works for Highway Projects

8.3.10 HyD RD/GN/044A – Guidance Notes on Design and Construction of Pavements with Paving Units

8.3.11 HyD Requirements for Handover of Vegetation to Highways Department

8.3.12 LandsD, Lands Administration Office Instructions (LAOI) Section D-12 – Tree Preservation

8.3.13 Latest General Requirement of Roadside Landscape Areas to be Handed over to LCSD

8.3.14 TD – Transport Planning & Design Manual (TPDM)

8.4 Department Standard Drawings

8.4.1 HyD – Concrete Paving Blocks Type “B” (Drawing no. H5102A)

8.4.2 HyD – Precast Concrete Paving Units – Dimension, Colour & Bonding Pattern (Drawing no. H5114B)

APPENDIX I

"FIGURE 1" OF ENVIRONMENTAL PERMIT NO. EP-467/2013/A: PROJECT LOCATION PLAN FOR DP3

demonstrate that the traffic noise performance requirements set out in the EIA report (Register No.: AEIAR-175/2013) will not be exceeded with the mitigation measures in place. All mitigation measures recommended in the approved Plan or approved Updated Plan shall be fully implemented and properly maintained throughout the operational phase(s) of the Project.
許可證持有人須在工程項目開始建造之前至少提早1個月將交通噪音緩解計劃(計劃)的4份硬複本及2份電子版本，提交署長批准。如對已批准的計劃提出任何交通噪音緩解措施的更改，許可證持有人須在執行提出的更改之前至少提早1個月將更新交通噪音緩解計劃(更新計劃)的4份硬複本及2份電子版本，提交署長批准。計劃及任何更新計劃須證明在實施了緩解措施後，工程項目的交通噪音表現不會超逾在環評報告（登記冊編號：AEIAR-175/2013）上所訂定的規定。在工程項目的營運期間所有緩解措施須根據已核准的計劃或更新計劃妥善執行及維持。

Measures to mitigate Cultural Heritage Impact
文化遺產影響的緩解措施

2.7 Photographic and cartographic records of the directly impacted historical buildings and cultural/historical landscape features at locations KT38, KT44 and KT52 as shown in Figures 2a and 2b shall be kept by the Permit Holder and a copy of the records shall be deposited with the Director prior to the commencement of the respective removal or relocation works.
許可證持有人須保存位於KT38、KT44及KT52（見圖2a及2b）的受直接影響的歷史建築及文化／歷史景觀特色的照片及製圖記錄，並須在相關的清拆或重置工程展開前向署長存放有關記錄的複本。

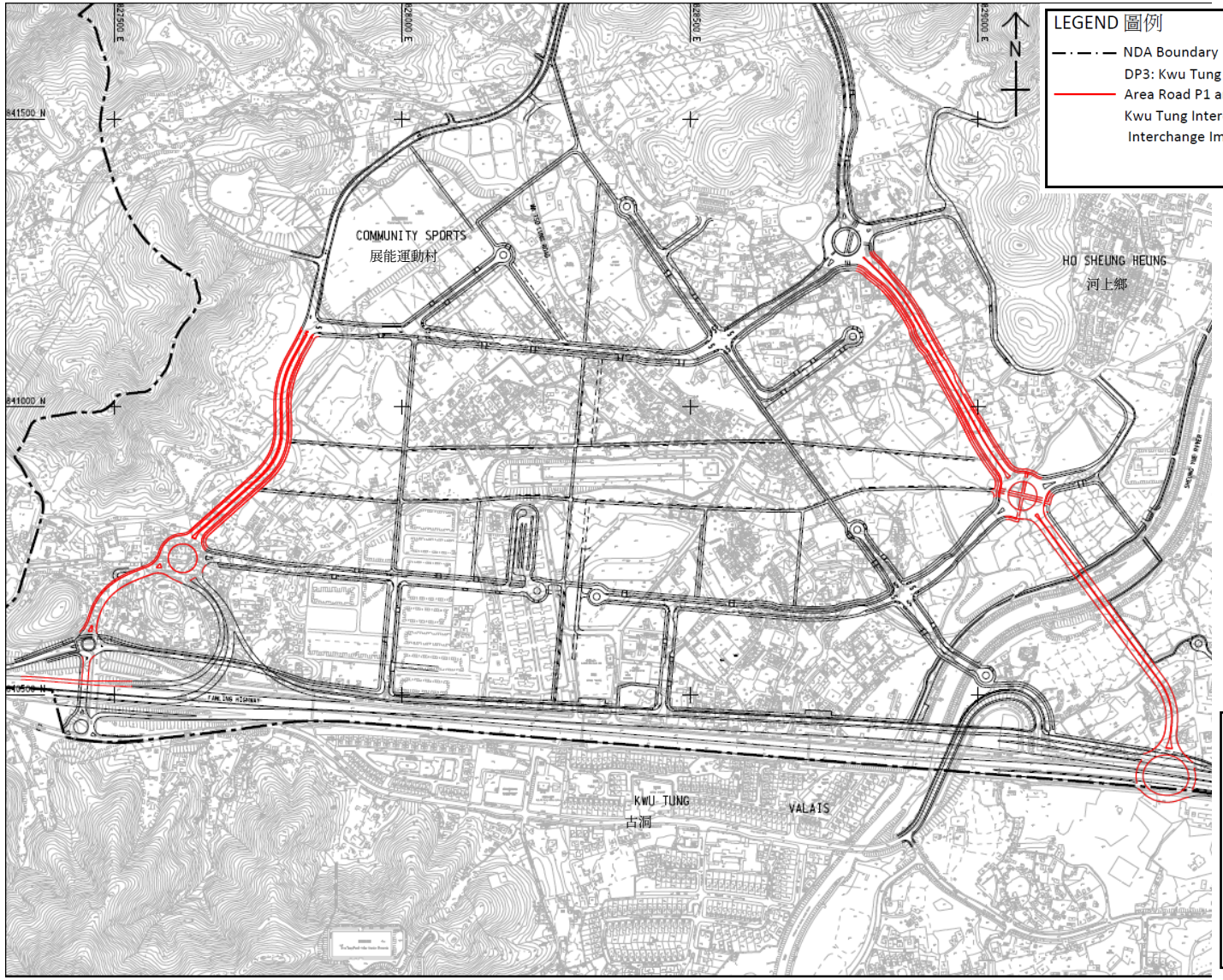
Submissions or Measures to be implemented during Construction of the Project
在工程項目施工期間須提交的文件或採取的措施

Submission of Landscape Plan
提交景觀美化計劃

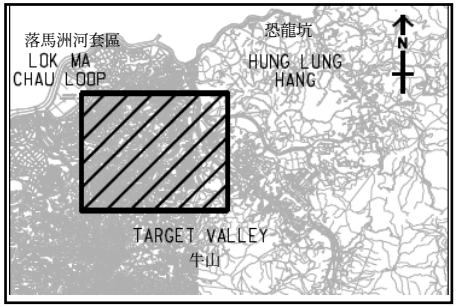
2.8 The Permit Holder shall, at least 6 weeks before the commencement of the corresponding parts of landscape and visual mitigation measures of the Project, deposit with the Director three hard copies and one electronic copy of landscape plan(s). The landscape plan(s) shall show the design details, confirmation of the feasibility for proposed planting, locations, implementation programme, maintenance and management schedules, and drawings in the scale of 1:1,000 or other appropriate scale, as agreed with the Director, of the landscape and visual mitigation measures of the Project. Before submission to the Director, the landscape plan(s) shall be certified by the ET Leader and verified by the IEC as conforming to the relevant information and recommendations, including those described in the EIA Report (Register No. AEIAR-175/2013). All landscape and visual mitigation measures shall be properly implemented and maintained for the Project in accordance with the deposited landscape plan. The Permit Holder shall make available additional copies to the Director upon request.
許可證持有人須在工程項目的景觀及視覺影響緩解措施的相關部分展開前，至少提早6個星期向署長存放景觀美化計劃的3份硬複本及1份電子版本。景觀美化計劃須展示工程項目景觀及視覺影響緩解措施的設計詳情、確認擬議種植的可行性、位置、實施計劃、保養及管理時間表，以及採用1:1,000的比例或署長同意的其他合適比例繪畫的圖則。景觀美化計劃須由環境小組組長核證及獨立環境查核人核實，證明符合相關資料及建議，包括環評報告（登記冊編號：AEIAR-175/2013）所載的資料及建議，然後才提交署長。工程項目的所有景觀及視覺緩解措施須根據存放的景觀美化計劃妥善執行及維持。如署長要求，許可證持有人須提供額外的複本。

Measures to mitigate Ecological Impacts
生態影響的緩解措施

2.9 To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas, unless otherwise agreed with the Director.



KEY PLAN 索引圖



Project Title:
工程名稱:

Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement
古洞北新發展區P1和P2路 (新路) 和相關的新古洞交匯處 (新路) 與白石凹交匯處改善工程

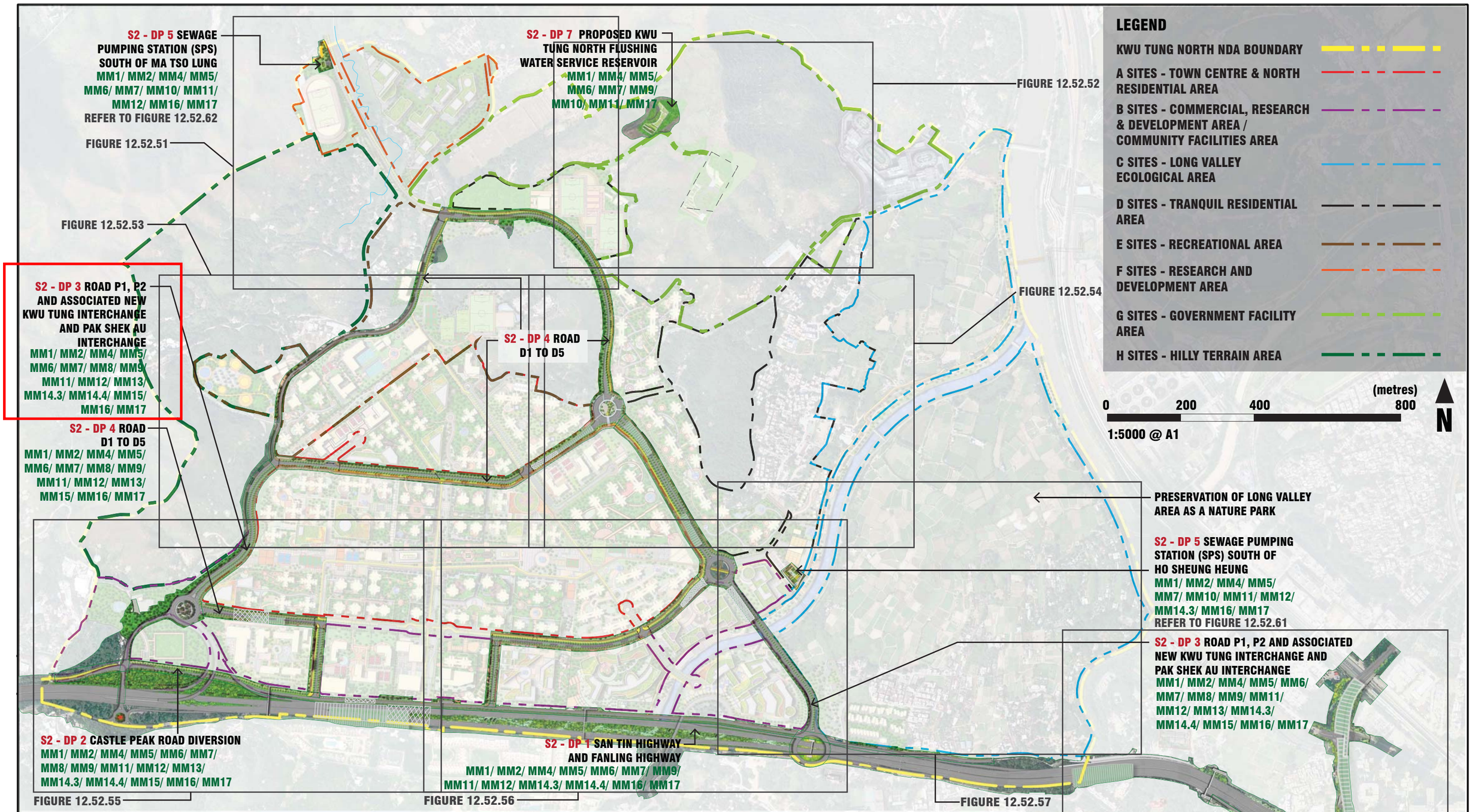
Figure 1: Location Plan for Interchange Improvement (Indicative)
(This figure was prepared based on Figure 1.2 of VEP application (No.: VEP-523/2016))

圖1：交匯處改善工程位置 (示意圖)
(本圖是根據申請更改環境許可證(編號: VEP-523/2016)圖1.2編制)

Environmental Permit No:
EP-467/2013/A
環境許可證編號：
EP-467/2013/A

APPENDIX II

PROJECT IMPLEMENTATION SCHEDULE (PIS) DP3 ROAD P1, P2 AND ASSOCIATED NEW KWU TUNG INTERCHANGE AND PAK SHEK AU INTERCHANGE IN KTN NDA FROM THE APPROVED EM&A MANUAL



MITIGATION MEASURES LEGEND

MM1	MINIMISING TOPOGRAPHICAL CHANGE	MM5	TREE TRANSPLANTATION	MM12	ROAD GREENING
MM2	DETAILED DESIGN - VISUAL *	MM6	SLOPE LANDSCAPING	MM13	MARSH/ WETLAND COMPENSATION
MM3	OPEN SPACE PROVISION	MM7	COMPENSATORY PLANTING	MM14.1	WATERCOURSE IMPACT MITIGATION - REPROVISION OF NATURAL STREAM
MM4	TREE PROTECTION AND PRESERVATION	MM8	WOODLAND COMPENSATORY PLANTING	MM14.2	WATERCOURSE IMPACT MITIGATION - STREAM BUFFER PLANTING
		MM9	VERTICAL GREENING	MM14.3	WATERCOURSE IMPACT MITIGATION - ENHANCEMENT PLANTING ALONG EMBANKMENT
		MM10	GREEN ROOF	MM14.4	WATERCOURSE IMPACT MITIGATION - AVOID AFFECTING WATERCOURSES
		MM11	SCREEN PLANTING	MM15	POND REPLACEMENT
				MM16	SCREEN HOARDING *
				MM17	LIGHT CONTROL *

* Mitigation Measure(s) (MM) does/ do not include in this plan is/are considered good practice throughout the NDA.

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

規劃署 PLANNING DEPARTMENT

ARUP

Job Title
Agreement No. CE 61/2007 (CE)
North East New Territories New Development Areas
Planning and Engineering Study - Investigation

Drawing Title
KTN NDA Landscape Mitigation Plan (Key Plan)

Rev	Description	Date
-		02/21

Drawn: LM | Date: 02/21
Checked: LFM | Approved: EC
Scale: 1:5000 ON A1, 1:10000 ON A3

Drawing No.
Figure 12.52.50
Rev.

Project Implementation Schedule

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)							
S.12.A9	LV1-DP3	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to. With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Detailed Design Consultant/ Contractor	*Throughout NDAs,*	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	
S.12.A9 MM1	LV2-DP3	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor	*Throughout NDAs, particularly for reservoirs*	Prior to Construction	GEO Publication No. 1/2011, Technical Guidelines on Landscape Treatment on Slopes
S.12.A9 MM2	LV3-DP3	Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered	Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape	Detailed Design Consultant	*Throughout NDAs*	Prior to Construction	Hong Kong Planning Standards and Guidelines (HKPSG) issued by the Planning Department (As at Aug 2011); Sustainable Building Design Guidelines CIBSE HK Branch, Technical Guidelines

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines. All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated. Construction time frame should also be considered and designs seek to keep it to a practical minimum.					for Green Roof Systems in Hong Kong (2011) and ArchSD/Urbis Study on Green Roof Application in HK (2007). Dev. Bureau, Greening, Landscaping & Tree Management Section, Guidelines on Greening of Noise Barriers (Apr12) Greening, Landscape and Tree Management Section (GLTM) of the Development Bureau's Guidelines on Greening of Noise Barriers (April 2012)
S.12.A9 MM14.4	LV4-DP3	Avoid affecting Watercourses – In the detailed design, consideration should be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc. Guidelines stated should be followed. For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass. In order to avoid impacts to the stream, the detailed final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream. Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.	Avoid direct impacts to watercourses	Detailed Design Consultant/ Contractor	*All watercourses, particularly the stream at Siu Hang San Tsuen that will flow under the Fanling Bypass Eastern Section*	Prior to Construction and Construction Phase	Guidelines for this include ETWB Technical Circular (Works) No. 5/2005 Protection of natural streams/rivers from adverse impacts arising from construction works; Building Department (BD) Practice Note for Authorized Persons and Registered Structural Engineers 295: Protection of natural streams/rivers from adverse impacts

Project Implementation Schedule

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
							arising from construction works
S.12.A9 MM4	LV5-DP3	Tree Protection & Preservation – Exiting trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas. A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.	Protect and Preserve Trees	Government / Detailed Design Consultant/ Contractor	*Onsite*	Prior to Construction and Construction Phase	ETWB Technical Circular Works (TCW) No. 29/2004 and 3/2006
S.12.A9 MM5	LV6-DP3	Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme. A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work. For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.	Transplant Trees where suitable for transplantation	Government / Detailed Design Consultant/ Contractor	*Onsite where possible. Otherwise consider offsite locations*	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWB TCW 3/2006 and 2/2004 HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit
S.12.A9 MM6	LV7-DP3	Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree	To avoid substantial slope cutting and fill slopes. To prevent erosion and	Government / Detailed Design Consultant/	*Onsite*	Prior to Construction, Construction Phase &	GEO publication (1999) – Use of Vegetation as Surface

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		seedlings and/ or shrubs should be planted where slope gradient and site conditions allow. In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.	subsequent loss of landscape resources and character. To ensure man-made slopes are as visually amenable as possible.	Contractor		Maintenance in Operation Phase	Protection on Slope; GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes
S.12.A9 MM7	LV8-DP3	Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006. Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots. Compensatory planting for shrubs should be considered in suitable locations. Native species such as *Melastoma malabathricum, Diospyros vaccinioides, Gardenia jasminoides, Ixora chinensis, Ligustrum sinense, Litsea rotundifolia, Melastoma dodecandrum, Atalantia buxifolia, Rhodomyrtus tomentosa, Rhaphiolepis indica,* and *Rhododendron simsii* are suggested..	Compensate for trees and shrubs lost due to the Project.	Government / Detailed Design Consultant/ Contractor	*Onsite where possible. Otherwise consider offsite locations*	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWB TCW 3/2006 and 2/2004
S.12.A9 MM8	LV9-DP3	Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA. The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 & E27 also). Native tree species are suggested for planting in the appropriate locations, including *Ailanthus fordii, Bischofia javanica, Castanopsis fissa, Celtis sinensis, Cinnamomum burmannii,*	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	*In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD*	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWB TCW 3/2006 and 2/2004

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		Cinnamomum camphora, Xanthoxlyum avicennaeHibiscus tiliaceus, Liquidambar formosana, Sapium discolor, Schefflera heptaphylla and Ilex rotunda. In addition some understory vegetation may be planted including shrubs such as Atalantia buxifolia, Diospyros vaccinioides, Gardenia jasminoides, Ixora chinensis, Ligustrum sinense, Litsea rotundifolia, Melastoma malabathricum, Melastoma dodecandrum, Rhodomyrtus tomentosa, Rhaphiolepis indica, and Rhododendron simsii. The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.					
S.12.A9 MM9	LV10-DP3	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	*On appropriate structures*	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWB TCW No. 11/2004 – Cyber Manual for Greening
S.12.A9 MM11	LV11-DP3	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	*Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.*	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWBTC 3/2006
S.12.A9 MM12	LV12-DP3	Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be	To soften the hard, straight edges and provide greening along roads.	Government / Detailed Design Consultant/ Contractor	*On viaducts or along roads.*	Prior to Construction, Construction Phase & Maintenance in Operation	Development Bureau TCW No. 2/2013, Greening on Footbridges and Flyovers;

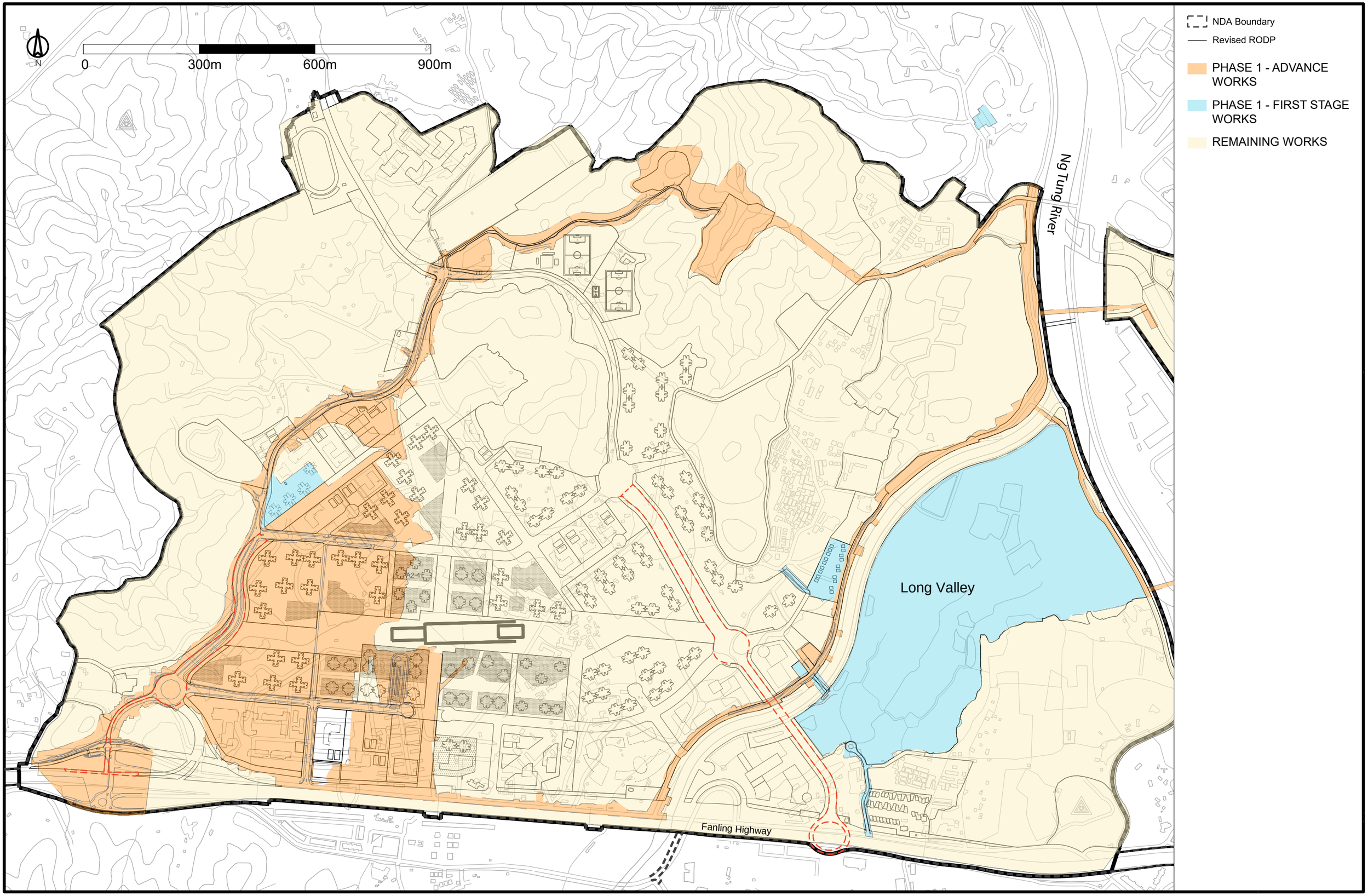
EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics. For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)				Phase	Development Bureau TCW No. 2/2012 – Allocation of Space for Quality Greening on Roads; HQ/GN/15 - Guidelines for Greening Works along Highways
S.12.A9 MM13 EIA Annex 13	LV13-DP3	Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance on-wetland areas within the LVNP. (See E4,E15 and E25 also) Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ re-provisioned watercourses.	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	*Onsite where possible. Otherwise consider offsite locations*	Prior to Construction, Construction Phase & Maintenance in Operation Phase	ETWB TCW No. 5/2005 – Protection of natural streams/rivers from adverse impacts arising from construction works.
S.12.A9 MM14.3	LV14-DP3	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc. For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.	Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses	Government / Detailed Design Consultant/ Contractor	*Channelized watercourse, particularly the Ma Wat River Channel/ Diversion*	Prior to Construction, Construction Phase & Maintenance in Operation Phase	Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design
S.12.A9 MM15	LV15-DP3	Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs. All requirements for ponds stipulated in the planning documents for	Reprovision for ponds lost due to the Project.	Project Proponent/ Detailed	*E1-7 and C1-9 (LVNP) in KNT NDA and generally*	Prior to Construction, Construction	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
		the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.		Design Consultant/ Contractor/ Maintenance Authority	*throughout NDA*	Phase Maintenance in Operation Phase	
Landscape and Visual (Construction)							
S.12.A9 MM16	LV16-DP3	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used. Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor	*Throughout NDAs*	Construction Phase	
S.12.A9 MM17	LV17-DP3	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase. Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	*Throughout NDAs*	Construction and Operation Phases	
Ecology (Prior to Construction Phase)							
S. 13.9	E1-DP3	Egretry Habitat Creation & Management Plan (EHCMP) and Woodland Planting and Management Plan (WPMP)	Compensate for loss of Man Kam To Road egretry. Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Detailed Design Consultant (EHCMP and WPMP).	FLN area A1-7 (egretry compensation). *KTN areas E1-8 and G1-3 (woodland compensation).*	Detailed design phase/ Advance works.	Establishment of bamboo clump of species, size and numbers suitable for nesting ardeids. Additional measures to attract ardeids to be detailed in EHCMP. Woodland planting and establishment requirements to be detailed in WPMP.

APPENDIX III

FIGURES FOR LANDSCAPE PLAN SUBMISSION

FIGURE LIST				
	TITLE OF FIGURES	**FIGURE NO.**	**SCALE**	**REVISION**
1	Demarcation Plan Overlaid with KTN NDA Phase 1, KTN NDA Remaining Phase and DP3 Boundary	DP-00 to DP-04	A1 1:500, A3 1:1,000	-
2	Overlaid Drawing between DP3 Boundary and Secondary Woodland to be lost	CP-01	As Shown	-
3	At-grade Tree Planting Plan	PP01-01 to PP01-04	A1 1:500, A3 1:1,000	-
4	At-grade Shrub Planting Plan, Woodland Mix Planting (WMP) Plan and Shrub Mix Planting (SMP) Plan	PP02-01 to PP02-04	A1 1:500, A3 1:1,000	-
5	Planting Schedule for At-grade Planting	PS-01	N.T.S.	-
6	Planting Schedule for WMP and SMP	PS-02	N.T.S.	-
7	Typical Detail for At-grade Planting	LD-01	As Shown	-
8	Typical Detail for WMP and SMP	LD-02	As Shown	-
9	Planting Matrix of WMP and SMP	LD-03	N.T.S.	-
10	Typical Detail for Paving	PV-01	As Shown	-
11	Rendering for Proposed Noise Barrier	NB-01	N.T.S.	-



CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		AECOM	Job Title Agreement No. CE 13/2014(CE) Development of Kwu Tung North and Fanling North New Development Areas, Phase 1 - Design and Construction	Drawing Title Demarcation of Advance Works, First Stage Works, Remaining Phase Works & DP3 Boundary	Rev	Description	Date	Drawn / Date Checked / Approved Scale: AS SHOWN Drawing No. DP-00 Rev. 0

CUT LINE 1-1
SEE DRAWING NO. DP-02

827300 E
827400 E
827500 E
840600 N

EXISTING DONGJIANG WATERMAINS

FOR DETAILS OF RECTANGULAR CHANNEL RC1 SEE DRG. C1/C00/1320

FOR DETAILS OF SUBWAY SEE DRAWING NO. C1/C00/1050

CUT LINE 1-1A
SEE DRAWING NO. 60335576/C1/C00/1002

CASTLE PEAK ROAD - CHAU TAU

FANLING HIGHWAY

KWU TUNG ROAD

ROAD P1

NOTES:

1. COORDINATES ARE BASED ON 1980 HONG KONG METRIC GRID.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1001 TO 1015.
3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM (mPD).
4. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
5. LAND USE OF ZONES SHALL REFER TO OUTLINE DEVELOPMENT PLAN.

LEGEND:

- SITE BOUNDARY
- AREA EXCLUDED FROM SITE BOUNDARY
- NOISE BARRIER
- 5.5m HIGH TEMPORARY NOISE BARRIER
- MASS CONCRETE RETAINING WALL / L-SHAPE RETAINING WALL
- BORED PILE WALL
- EXISTING DONGJIANG WATERMAINS
- SEMI ENCLOSURE NOISE BARRIER
- AT GRADE FOOTPATH
- CYCLE TRACK
- LANDSCAPED AREA
- STRUCTURES TO BE DEMOLISHED / REMOVED
- TRAFFIC FLOW DIRECTION
- MTRC RAILWAY PROTECTION ZONE
- FILL SLOPE
- CUT SLOPE
- ZONING BOUNDARY
- EXPRESSWAY BOUNDARY
- FENCES
- FINISHED ROAD LEVEL
- SITE FORMATION LEVEL
- PEDESTRIAN CROSSING
- RUN-IN
- GATE (DETAILS SHALL REFER TO WSD STANDARD DRAWING NO. 5.9)
- EXISTING GRAVE TO BE CLEARED
- EXISTING URN TO BE CLEARED

AECOM

PROJECT 項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

CLIENT 業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT 工程顧問公司

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SUB-CONSULTANTS 分判工程顧問公司

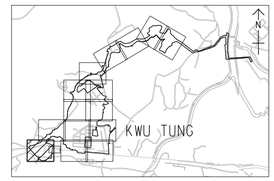
LEGEND

- Proposed Temporary Layout within Castle Peak Road in KTN NDA Phase 1 Works
- Proposed Permant Layout within Castle Peak Road in KTN NDA Remaining Phase Works for DP1 San Tin Highway and Fanling Highway Widening (between San Tin Interchange and Po Shek Wu Interchange) (Major Improvement)
- Proposed Permant Layout in KTN NDA Remaining Phase Works for DP2 Castle Peak Road Diversion
- DP1 Road P1, P2 and assocated new Kwu Tung Interchange & Pak Shek Au Interchange (refer to EP-467/2013 figure 1)

SCALE 比例
A1 1 : 500
A3 1:1,000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖



PROJECT NO. 項目編號
60335576

CONTRACT NO. 合約編號
ND/2019/01

SHEET TITLE 圖紙名稱
Demarcation Plan overlaid with KTN NDA Phase 1, KTN NDA Remaining Phase and DP3 Boundary

SHEET NUMBER 圖紙編號
DP-01

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C1/C00/1001.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1001 TO 1015.

827400 E
827500 E
827600 E
840900 N
840800 N
840700 N

EXISTING DONGJIANG WATERMAINS

MATCH TO EXISTING GROUND LEVEL

ROAD P1

ROAD D1

NB31

LOK MA CHAU SPUR LINE

CUT LINE 1-1
SEE DRAWING NO. DP-01

CUT LINE 2-2
SEE DRAWING NO. 60335576/C1/C00/1002

CUT LINE 4-4
SEE DRAWING NO. DP-03

PAK SHEK AU

KWU TUNG

AECOM

PROJECT
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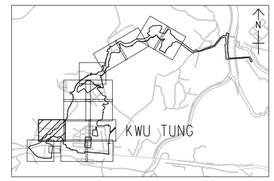
SCALE
比例

A1 1 : 500
A3 1:1,000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖



PROJECT NO.
項目編號

60335576

CONTRACT NO.
合約編號

ND/2019/01

SHEET TITLE
圖紙名稱

Demarcation Plan overlaid with KTN NDA Phase 1, KTN NDA Remaining Phase and DP3 Boundary

SHEET NUMBER
圖紙編號

DP-02

CUT LINE 5-5

SEE DRAWING NO. DP-04

827800 E

828000 E

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C1/C00/1001.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1001 TO 1015.

N

ROAD P1

LOK MA CHAU SPUR LINE

840800 N

CUT LINE 4-4

SEE DRAWING NO. DP-02

CUT LINE 6-6

SEE DRAWING NO. 60335576/C1/C00/1006

SE05

NB69

ROAD D1

ROAD L1

840700 N

CUT LINE 2-2

SEE DRAWING NO. 60335576/C1/C00/1002

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PROJECT
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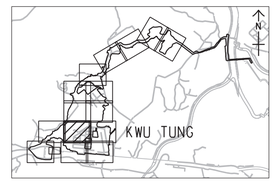
SCALE
比例

A1 1 : 500
A3 1:1,000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖



PROJECT NO.
項目編號

60335576

CONTRACT NO.
合約編號

ND/2019/01

SHEET TITLE
圖紙名稱

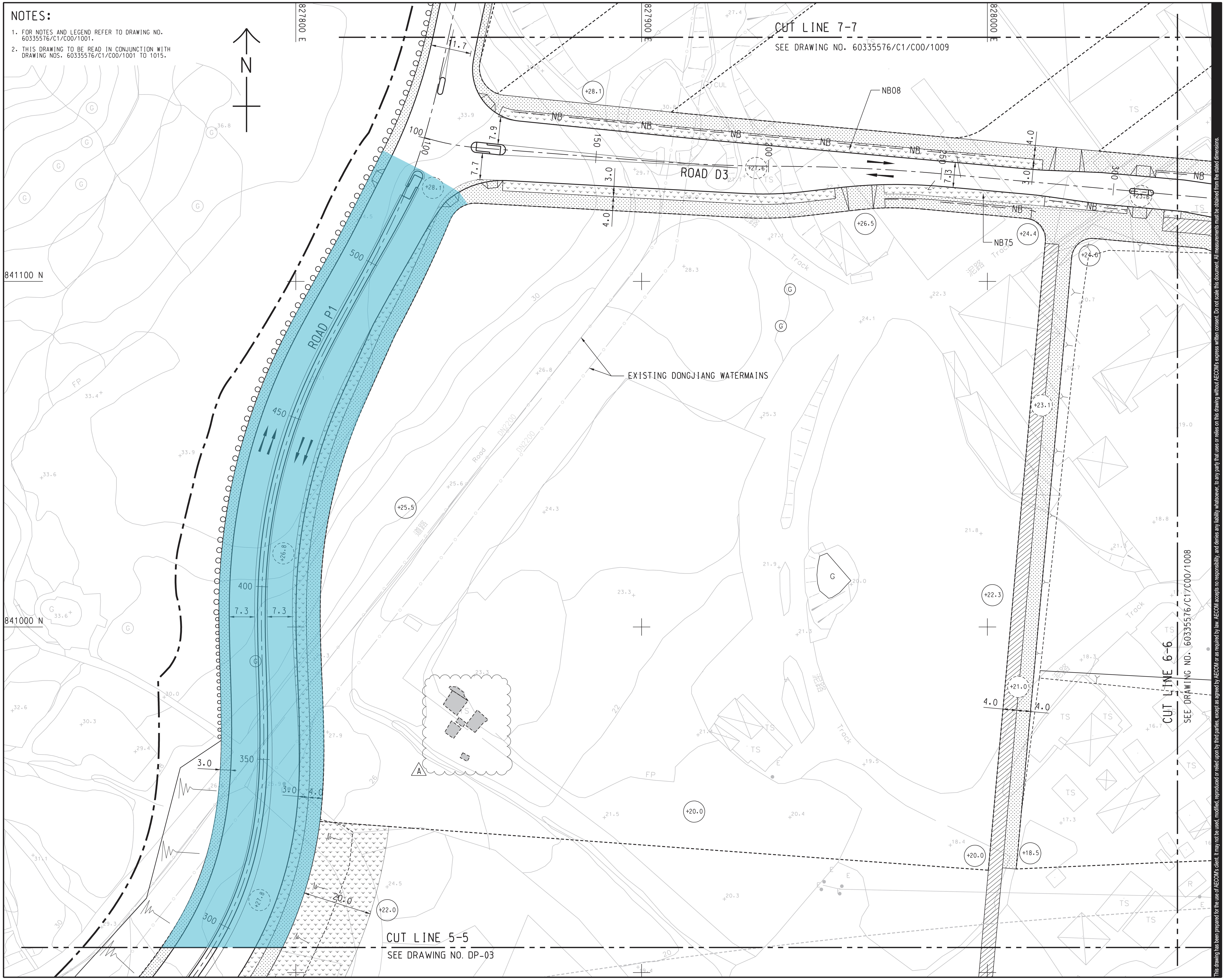
Demarcation Plan overlaid with KTN NDA Phase 1, KTN NDA Remaining Phase and DP3 Boundary

SHEET NUMBER
圖紙編號

DP-03

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C1/C00/1001.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1001 TO 1015.



AECOM

PROJECT
項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

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SCALE 比例	**DIMENSION UNIT** 尺寸單位
A1 1:500 A3 1:1,000	METRES

KEY PLAN
索引圖

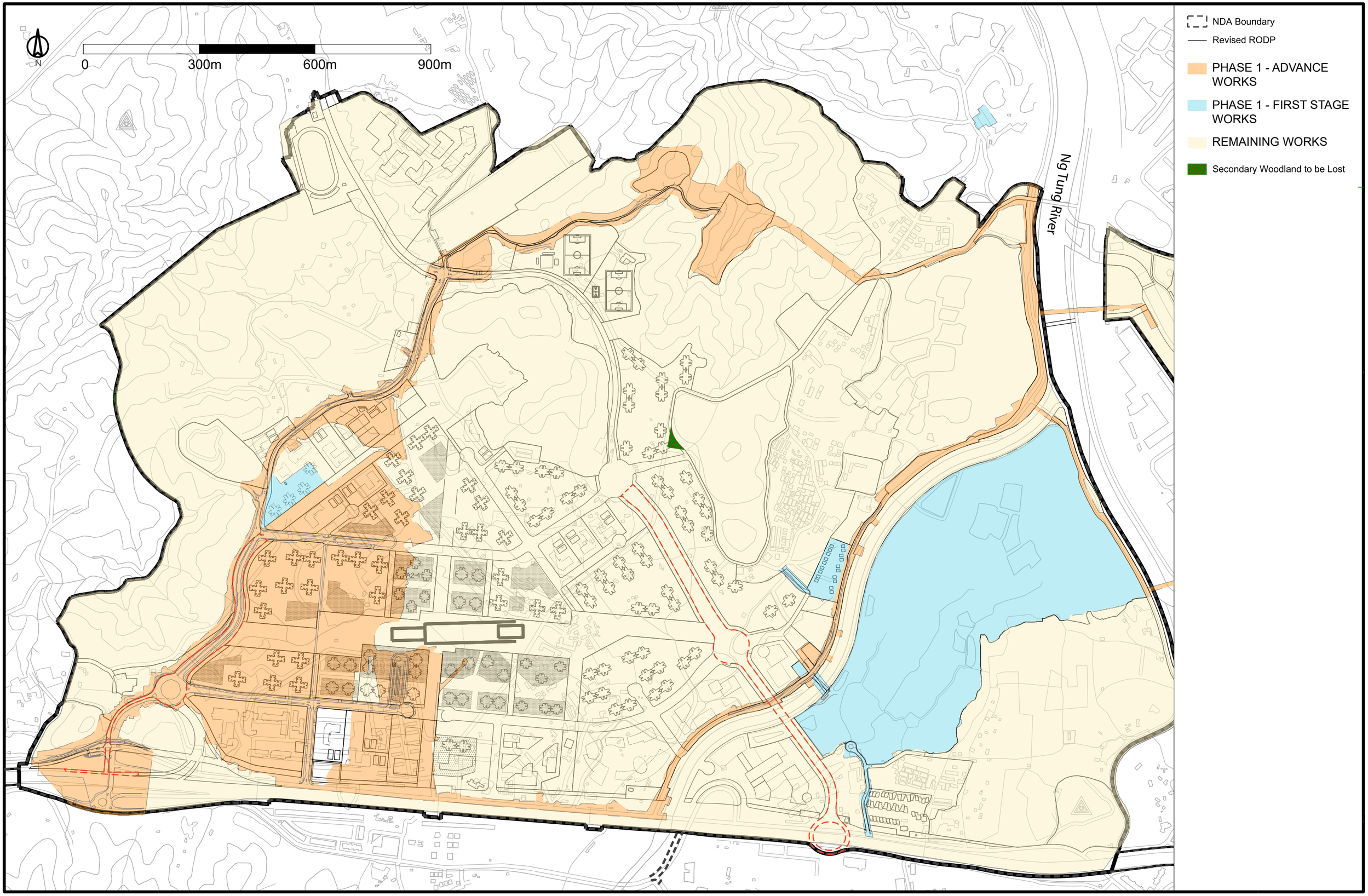
PROJECT NO. 項目編號	**CONTRACT NO.** 合約編號
60335576	ND/2019/01

SHEET TITLE
圖紙名稱

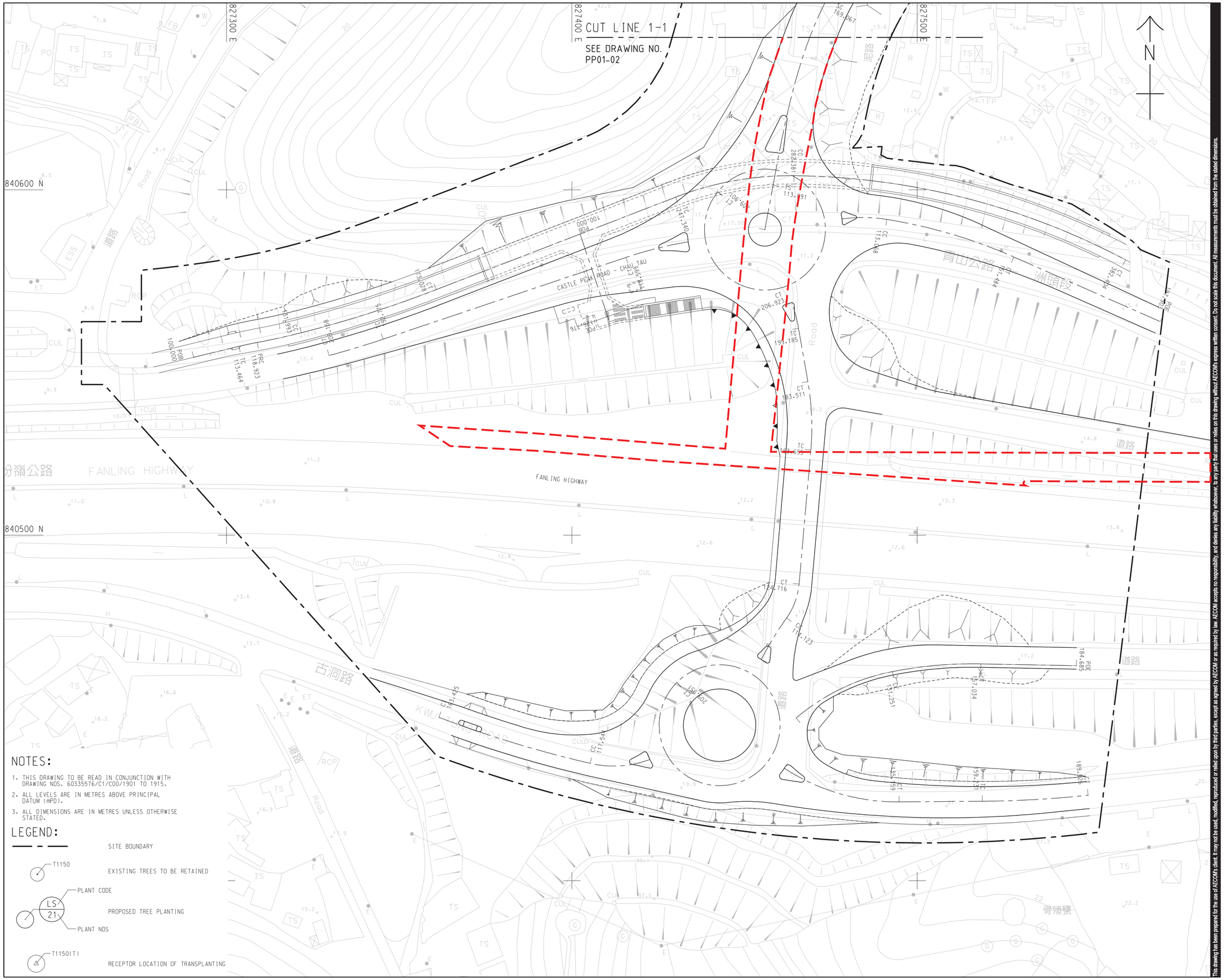
Demarcation Plan overlaid with KTN NDA Phase 1, KTN NDA Remaining Phase and DP3 Boundary

SHEET NUMBER
圖紙編號

DP-04



土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		AECOM	Job Title: Agreement No. CE 13/2014(CE) Development of Kwu Tung North and Fanling North New Development Areas, Phase 1 - Design and Construction	Drawing Title: Overlaid drawing between DP3 Boundary and Secondary Woodland to be lost	Rev / Description / Date	Drawn / Date / Checked / Approved / Scale: AS SHOWN	Drawing No.: CP-01 Rev.



NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1901 TO 1915.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM (mPD).
3. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.

LEGEND:

— - —	SITE BOUNDARY
T1150	EXISTING TREES TO BE RETAINED
LS / 21 (PLANT CODE / PLANT NOS)	PROPOSED TREE PLANTING
T1150(T)	RECEPTOR LOCATION OF TRANSPLANTING

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PROJECT
項目

DEVELOPMENT OF
KWU TUNG NORTH AND
FANLING NORTH
NEW DEVELOPMENT
AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW
DEVELOPMENT AREA, PHASE 1:
SITE FORMATION AND
INFRASTRUCTURE WORKS

CLIENT
業主

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Civil Engineering and
Development Department

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SCALE 比例	**DIMENSION UNIT** 尺寸單位
A1 1 : 500 A3 1:1,000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	**CONTRACT NO.** 合約編號
60335576	ND/2019/01

SHEET TITLE
圖紙名稱

At-grade Tree Planting Plan

SHEET NUMBER
圖紙編號

PP01-01

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C1/C00/1901.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1901 TO 1915.

827400 E
827500 E
827600 E
840900 N
840800 N
840700 N

CUT LINE 1-1
SEE DRAWING NO. PP01-01

CUT LINE 4-4
SEE DRAWING NO. PP01-03

CUT LINE 1-1
SEE DRAWING NO. 60335576/C1/C00/1901

LOK MA CHAU SPUR LINE

PAK SHEK AU

KWU TUNG

BJ 2
RC 3
SL 5
TP 5
SS 4

AECOM

PROJECT
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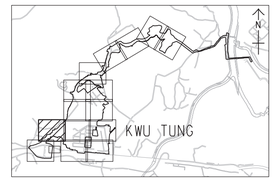
SCALE
比例

A1 1 : 500
A3 1:1,000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖



PROJECT NO.
項目編號

60335576

CONTRACT NO.
合約編號

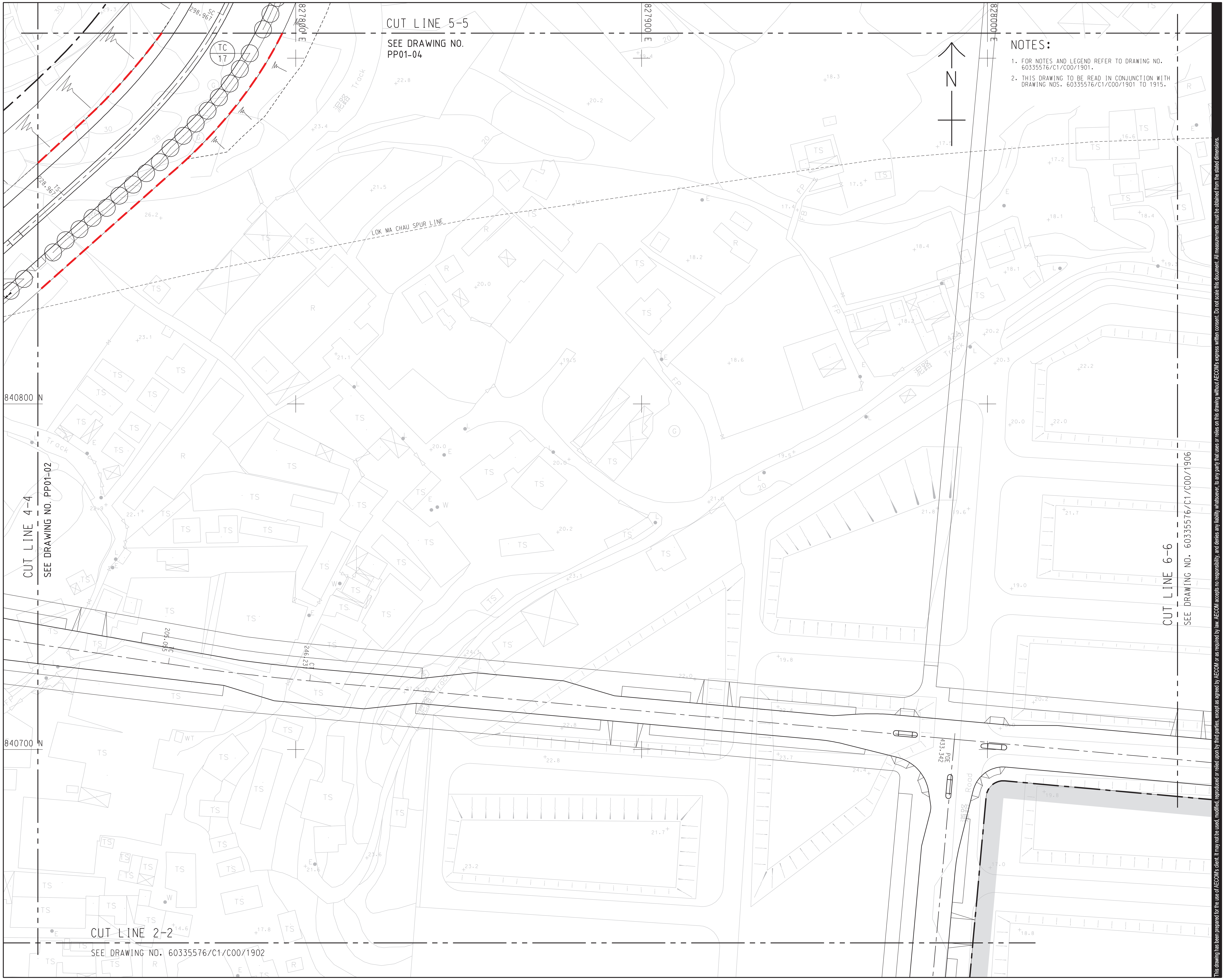
ND/2019/01

SHEET TITLE
圖紙名稱

At-grade Tree Planting Plan

SHEET NUMBER
圖紙編號

PP01-02



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PROJECT
項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

CLIENT
業主

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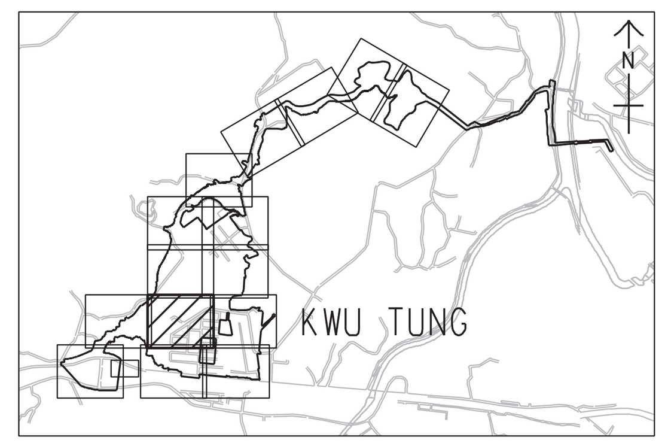
SCALE 比例	**DIMENSION UNIT** 尺寸單位
A1 1 : 500 A3 1:1,000	METRES

KEY PLAN
索引圖



PROJECT NO. 項目編號	**CONTRACT NO.** 合約編號
60335576	ND/2019/01

SHEET TITLE
圖紙名稱

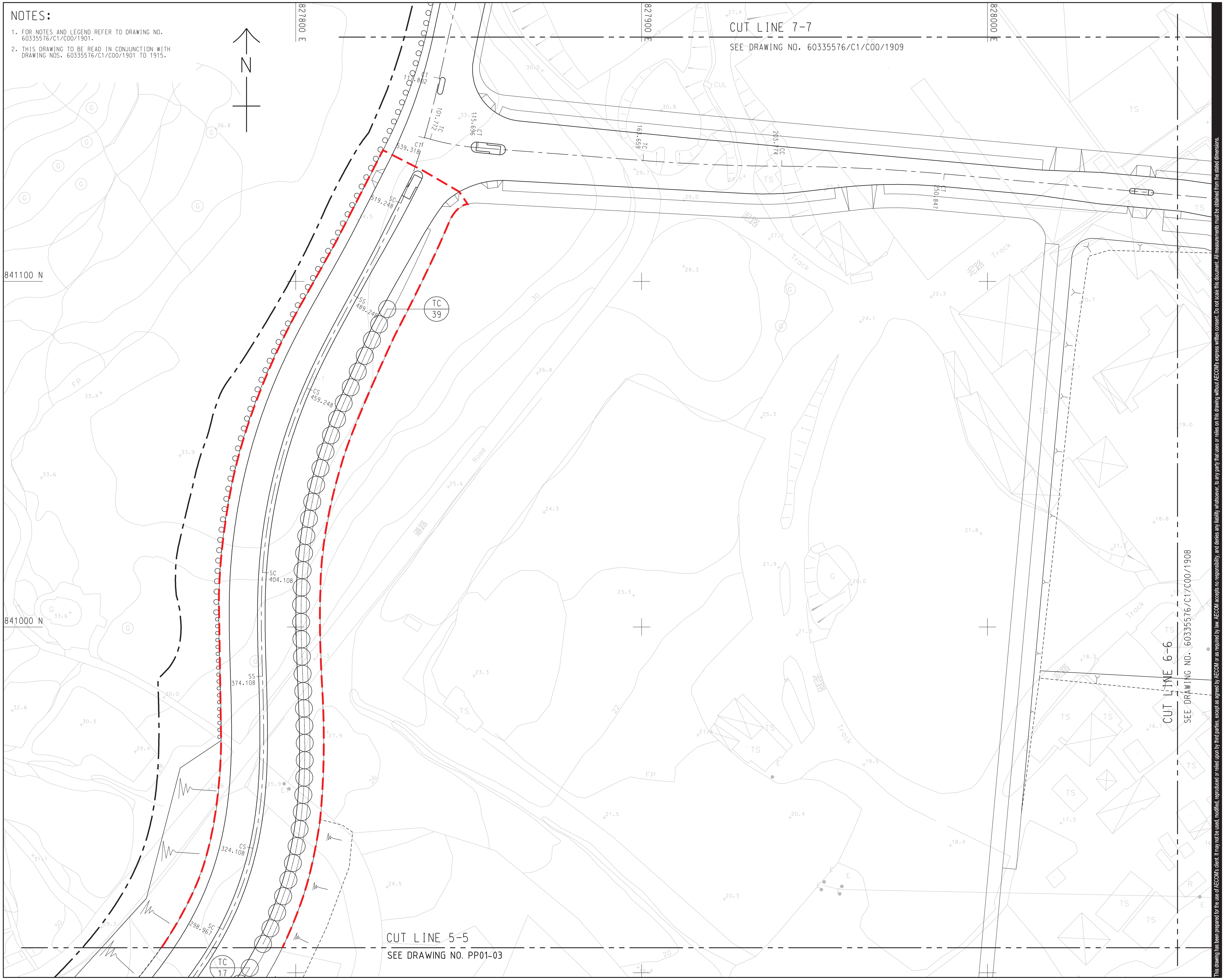
At-grade Tree Planting Plan

SHEET NUMBER
圖紙編號

PP01-03

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C1/C00/1901.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1901 TO 1915.



AECOM

PROJECT 項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

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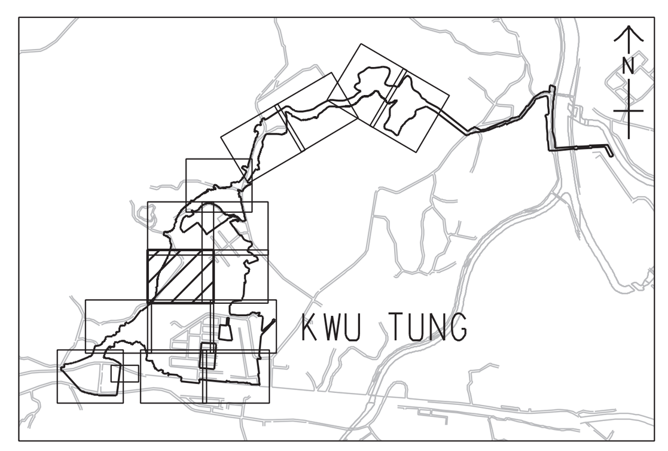
SCALE 比例	**DIMENSION UNIT** 尺寸單位
A1 1:500 A3 1:1,000	METRES

KEY PLAN 索引圖



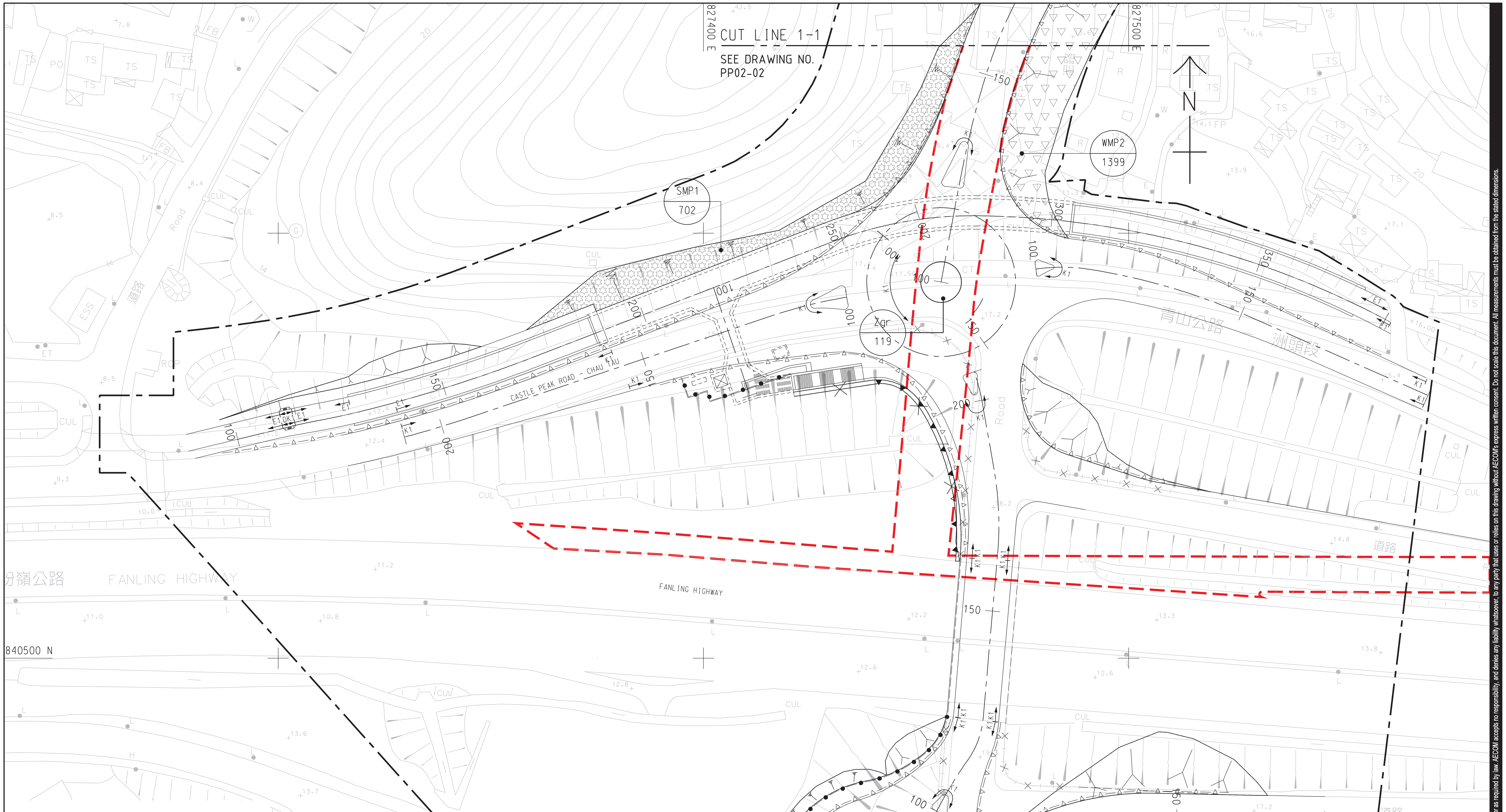
PROJECT NO. 項目編號	**CONTRACT NO.** 合約編號
60335576	ND/2019/01

SHEET TITLE 圖紙名稱

At-grade Tree Planting Plan

SHEET NUMBER 圖紙編號

PP01-04



NOTES:

1. ALL LEVELS AND DIMENSIONS SHOWN ARE INDICATIVE ONLY.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS.60335576/C1/C00/1921 TO 1935.

LEGEND:

- SITE BOUNDARY
- NOISE BARRIER
- MASS CONCRETE RETAINING WALL / L-SHAPE RETAINING WALL
- CLIMBER PLANTING
- WOODLAND MIX PLANTING
- SHRUB MIX PLANTING
- PMG / 995 — PLANT CODE / PLANT NOS
- WMP / 358 — WOODLAND MIX PLANTING / AREA m²
- SMP / 321 — SHRUB MIX PLANTING / AREA m²

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PROJECT 項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

CLIENT 業主

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SCALE 比例
A1 1:500
A3 1:1,000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號
60335576

CONTRACT NO. 合約編號
ND/2019/01

SHEET TITLE 圖紙名稱
At-grade Shrub Planting Plan, Woodland Mix Planting (WMP) Plan and Shrub Mix Planting (SMP) Plan

SHEET NUMBER 圖紙編號
PP02-01

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C1/C00/1921.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1921 TO 1935.

827400 E
827500 E
827600 E
840900 N
840800 N
840700 N

CUT LINE 4-4
SEE DRAWING NO. PP02-03

CUT LINE 1-1
SEE DRAWING NO. PP02-01

CUT LINE 1-1
SEE DRAWING NO. 60335576/C1/C00/1921

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PROJECT
項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

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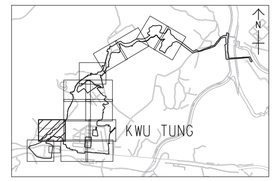
SCALE
比例

A1 1 : 500
A3 1:1,000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖



PROJECT NO.
項目編號

60335576

CONTRACT NO.
合約編號

ND/2019/01

SHEET TITLE
圖紙名稱

At-grade Shrub Planting Plan, Woodland Mix Planting (WMP) Plan and Shrub Mix Planting (SMP) Plan

SHEET NUMBER
圖紙編號

PP02-02

CUT LINE 5-5

SEE DRAWING NO. PP02-04

827800 E

827900 E

828000 E

840800 N

840700 N

CUT LINE 4-4

SEE DRAWING NO. PP02-02

CUT LINE 6-6

SEE DRAWING NO. 60335576/C1/C00/1926

CUT LINE 2-2

SEE DRAWING NO. 60335576/C1/C00/1922

LOK MA CHAU SPUR LINE

SMP2 724

Asc 76

Cge 103

Cmi 78

N

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C1/C00/1921.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1921 TO 1935.

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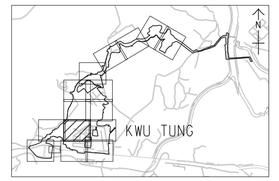
SCALE 比例

A1 1 : 500
A3 1:1,000

DIMENSION UNIT 尺寸單位

METRES

KEY PLAN 索引圖



PROJECT NO. 項目編號

60335576

CONTRACT NO. 合約編號

ND/2019/01

SHEET TITLE 圖紙名稱

At-grade Shrub Planting Plan, Woodland Mix Planting (WMP) Plan and Shrub Mix Planting (SMP) Plan

SHEET NUMBER 圖紙編號

PP02-03

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C1/C00/1921.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C1/C00/1921 TO 1935.
3. FOR NOISE BARRIERS DETAILS SEE DRG. NO. 60335576/C1/C00/6026.

827800 E | 827900 E | 828000 E

CUT LINE 7-7
SEE DRAWING NO. 60335576/C1/C00/1929

841100 N | 841000 N

Asc 93 | Cge 116 | Sca 693 | Cmi 106 | Asc 126 | Cge 59 | Cmi 83

CUT LINE 5-5
SEE DRAWING NO. PP02-03

CUT LINE 6-6
SEE DRAWING NO. 60335576/C1/C00/1928

AECOM

PROJECT 項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

CLIENT 業主

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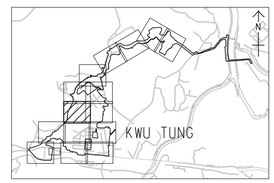
SCALE 比例
A1 1 : 500
A3 1:1,000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖



PROJECT NO. 項目編號
60335576

CONTRACT NO. 合約編號
ND/2019/01

SHEET TITLE 圖紙名稱
At-grade Shrub Planting Plan, Woodland Mix Planting (WMP) Plan and Shrub Mix Planting (SMP) Plan

SHEET NUMBER 圖紙編號
PP02-04

Woodland Mix Planting

Code	Botanical name	Chinese name	Size(mm) Height(H) x Spread (S)	Spacing (mm)	No./m²	%mix	Quantity	Remark
WMP 1								
A	*Elaeocarpus chinensis**	野杜英	w hip tree	2000	0.3	20	0	Plant each species in groups of 4-60 in random. Plant all species in staggered pattern
B	*Ilex viridis**	綠冬青	w hip tree	2000	0.3	20	0	
C	*Reevesia thyrsoides**	梭羅樹	w hip tree	2000	0.3	20	0	
D	*Bridelia tomentosa**	土密樹	w hip tree	2000	0.3	20	0	
E	*Phyllanthus emblica**	餘甘子	w hip tree	2000	0.3	20	0	
F	Ligustrum sinense	山指甲	Shrub 400(H) x 400(S)	500	4.6	20	0	
G	Melastoma malabathricum*	野牡丹	Shrub 400(H) x 400(S)	500	4.6	20	0	
H	Psychotria asiatica*	九節	Shrub 400(H) x 400(S)	500	4.6	20	0	
J	Rhodomyrtus tomentosa*	桃金孃	Shrub 400(H) x 400(S)	500	4.6	20	0	
K	Ardisia crenata*	大羅傘	Shrub 400(H) x 400(S)	500	4.6	20	0	
WMP 2								
A	*Polyspora axillaris**	大頭茶	w hip tree	2000	0.3	20	133	
B	*Rhus succedanea**	野漆	w hip tree	2000	0.3	20	133	
C	*Ficus hispida**	對葉榕	w hip tree	2000	0.3	20	133	
D	*Mallotus paniculatus**	白楸	w hip tree	2000	0.3	20	133	
E	*Cratoxylum cochinchinense**	黃牛木	w hip tree	2000	0.3	20	133	
F	Litsea rotundifolia *	豺皮樟	Shrub 400(H) x 400(S)	500	4.6	20	2032	
G	Melastoma sanguineum*	毛稔	Shrub 400(H) x 400(S)	500	4.6	20	2032	
H	Rhaphiolepis indica*	車輪梅	Shrub 400(H) x 400(S)	500	4.6	20	2032	
J	Rhododendron simsii*	紅杜鵑	Shrub 400(H) x 400(S)	500	4.6	20	2032	
K	Ixora chinensis*	大葉龍船花	Shrub 400(H) x 400(S)	500	4.6	20	2032	

Shrub Mix Planting

Code	Botanical name	Chinese name	Size(mm) Height(H) x Spread (S)	Spacing (mm)	No./m²	%mix	Quantity	Remark
SMP 1								
F	Ligustrum sinense	山指甲	400(H) x 400(S)	500	4.6	20	3800	Plant each species in groups of 55-61 in random. Plant all species in staggered pattern
G	Melastoma malabathricum*	野牡丹	400(H) x 400(S)	500	4.6	20	3800	
H	Psychotria asiatica*	九節	400(H) x 400(S)	500	4.6	20	3800	
J	Rhodomyrtus tomentosa*	桃金孃	400(H) x 400(S)	500	4.6	20	3800	
K	Ardisia crenata*	大羅傘	400(H) x 400(S)	500	4.6	20	3800	
SMP 2								
F	Litsea rotundifolia *	豺皮樟	400(H) x 400(S)	500	4.6	20	666	
G	Melastoma sanguineum*	毛稔	400(H) x 400(S)	500	4.6	20	666	
H	Rhaphiolepis indica*	車輪梅	400(H) x 400(S)	500	4.6	20	666	
J	Rhododendron simsii*	紅杜鵑	400(H) x 400(S)	500	4.6	20	666	
K	Ixora chinensis*	大葉龍船花	400(H) x 400(S)	500	4.6	20	666	

REMARK:
*: NATIVE SPECIES

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PROJECT
項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

CLIENT
業主

土木工程拓展署
CEDD Civil Engineering and Development Department

CONSULTANT
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SCALE
比例

N.T.S.

DIMENSION UNIT
尺寸單位

KEY PLAN
索引圖

PROJECT NO.
項目編號

60335576

CONTRACT NO.
合約編號

ND/2019/01

SHEET TITLE
圖紙名稱

Planting Schedule for WMP and SMP

SHEET NUMBER
圖紙編號

PS-02

Tree

Code	Botanical name	Chinese name	Size(mm) Height(H) x Spread (S)	Spacing (mm)	No./m²	%mix	Quantity	Remark
BJ	*Bischofia javanica**	秋楓	Heavy Standard Tree	As shown	-	-	2	
RC	*Rhodoleia championii**	紅苞木	Heavy Standard Tree	As shown	-	-	3	
SS	*Schima superba**	荷樹	Heavy Standard Tree	As shown	-	-	4	
SL	*Sterculia lanceolata**	假蘋婆	Heavy Standard Tree	As shown	-	-	5	
TC	*Tabebuia chrysantha*	黃花風鈴木	Heavy Standard Tree	As shown	-	-	56	
TP	*Tabebuia pentaphylla*	洋紅風鈴木	Heavy Standard Tree	As shown	-	-	5	

Shrub

Code	Botanical name	Chinese name	Size(mm) Height(H) x Spread (S)	Spacing (mm)	No./m²	%mix	Quantity	Remark
Asc	*Allamanda schottii*	硬枝黃蟬	400(H) x 400(S)	400	7.25	-	295	
Cge	*Canna x generalis*	大花美人蕉	400(H) x 400(S)	400	7.25	-	278	
Cmi	*Carmona microphylla*	福建茶	400(H) x 400(S)	400	7.25	-	290	
Mpa	*Murraya paniculata*	九里香	500(H) x 500(S)	500	4.6	-	61	
Sav	*Schefflera arboricola 'Variegata'*	花葉八葉木	500(H) x 500(S)	500	4.6	-	262	
Sca	*Syzygium campanulatum*	新加坡紅楠	500(H) x 500(S)	500	4.6	-	937	
								Plant all species in a staggered pattern.

Ground Cover

Code	Botanical name	Chinese name	Size(mm) Height(H) x Spread (S)	Spacing (mm)	No./m²	%mix	Quantity	Remark
Adu	*Arachis duranensis*	蔓花生	50(H) x100(S)	150	51.59	-	302	
Lsv	*Liriope spicata 'Variegata'*	花葉蒲草	150(H) x 200(S)	200	29	-	216	
Nhi	*Nephrolepis hirsutula*	毛葉腎蕨	300(H) x 400(S)	400	7.25	-	224	
Adm	*Asparagus densiflorus 'Myersii'*	狐尾天冬	150(H) x 200(S)	200	29	-	264	
Cig	*Cuphea ignea*	雪茄花	300(H) x 300(S)	300	12.54	-	611	
Zgr	*Zephyranthes grandiflora*	風雨花	150(H) x 200(S)	200	29	-	345	

Climber

Code	Botanical name	Chinese name	Size(mm) Height(H) x Spread (S)	Spacing (mm)	No./m²	%mix	Quantity	Remark
Fpu	Ficus pumila *	薜荔	Min. 4 shoots per plant,1000mm long	300	3 no./m	50	33	Plant in alternative pattern along the retaining wall.
Pda	*Parthenocissus dalzielii*	異葉爬山虎	Min. 4 shoots per plant,1000mm long	300	3 no./m	50	33	

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PROJECT 項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

CLIENT 業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT 工程顧問公司

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SCALE 比例 N.T.S.

DIMENSION UNIT 尺寸單位

KEY PLAN 索引圖

PROJECT NO. 項目編號 60335576

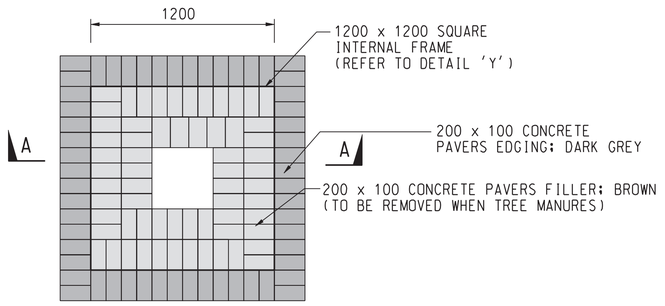
CONTRACT NO. 合約編號 ND/2019/01

SHEET TITLE 圖紙名稱

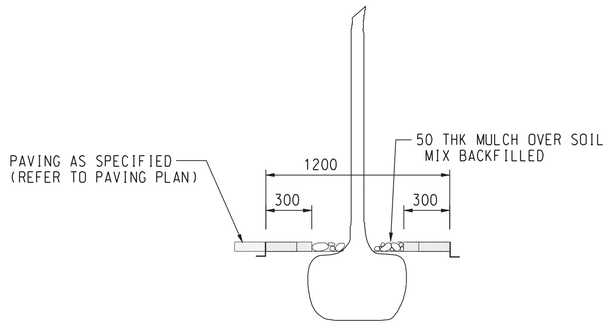
Planting Schedule for At-grade Planting

SHEET NUMBER 圖紙編號

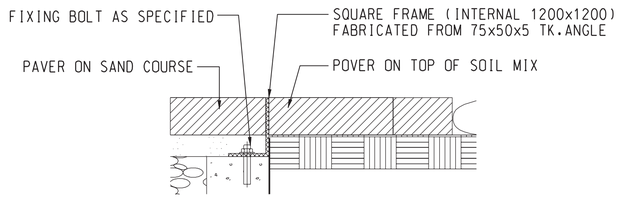
PS-01



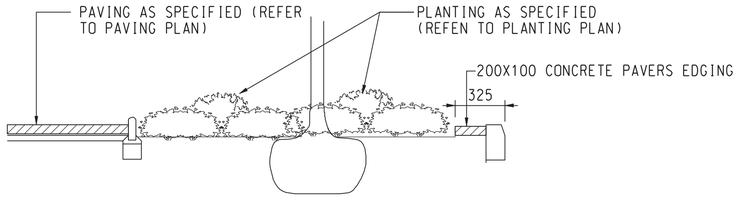
PLAN
(TYPICAL TREEPIT DETAILS)
SCALE 1 : 50



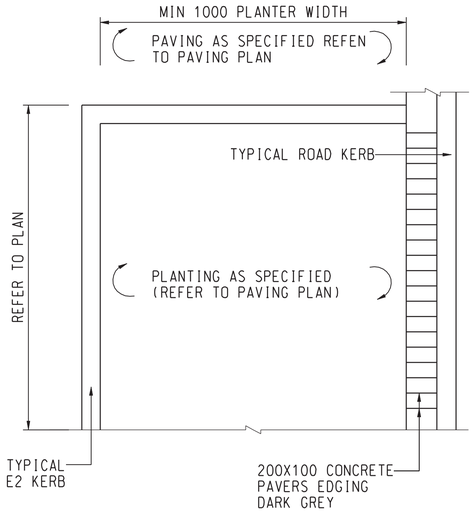
SECTION A - A
SCALE 1 : 50



DETAIL 'Y'
SCALE 1 : 10



AT - GRADE PLANTER
SCALE 1 : 50



TYPICAL PLAN
(AT GRADE PLANTER)
SCALE 1 : 50

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PROJECT
項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

CLIENT
業主

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Civil Engineering and Development Department

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SCALE 比例
AS SHOWN

DIMENSION UNIT 尺寸單位
MILLIMETRES

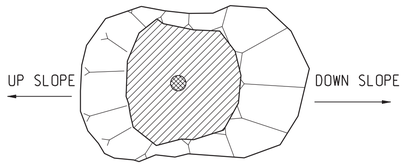
KEY PLAN
索引圖

PROJECT NO. 項目編號
60335576

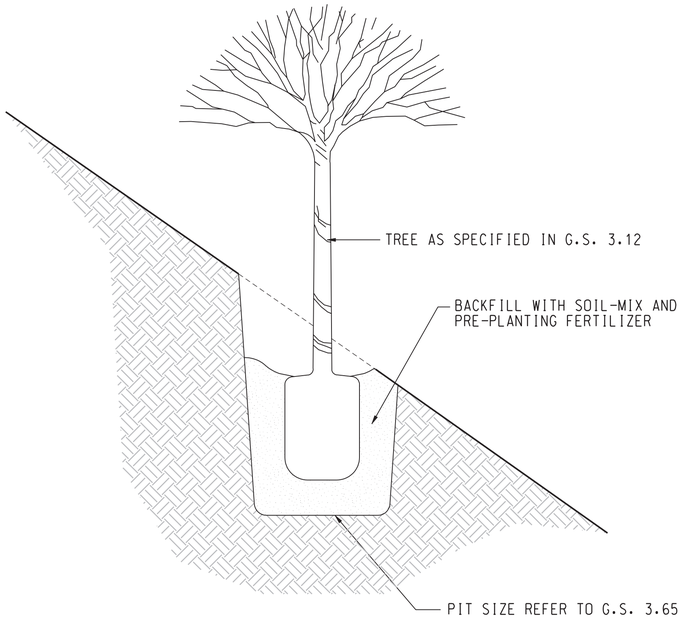
CONTRACT NO. 合約編號
ND/2019/01

SHEET TITLE
圖紙名稱
Typical Detail for At-grade Planting

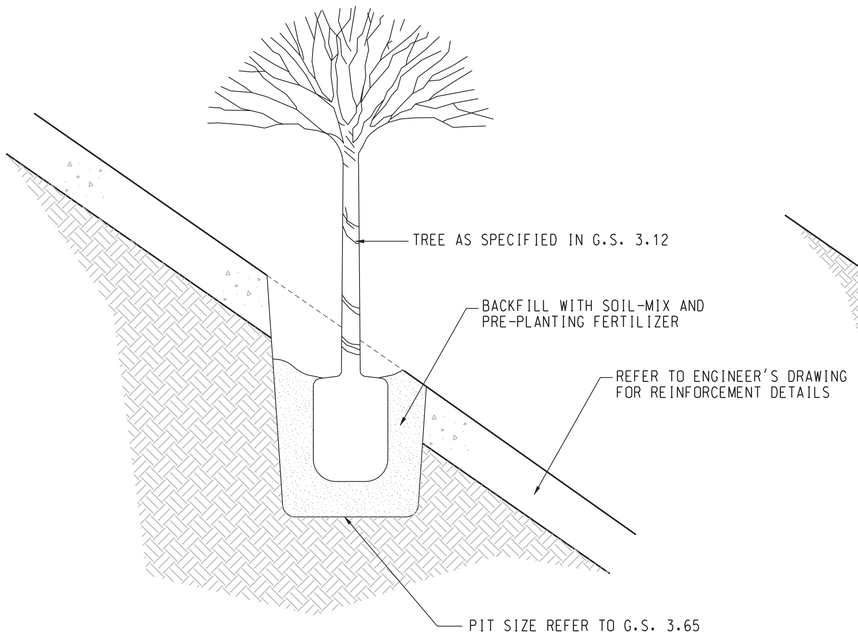
SHEET NUMBER
圖紙編號
LD-01



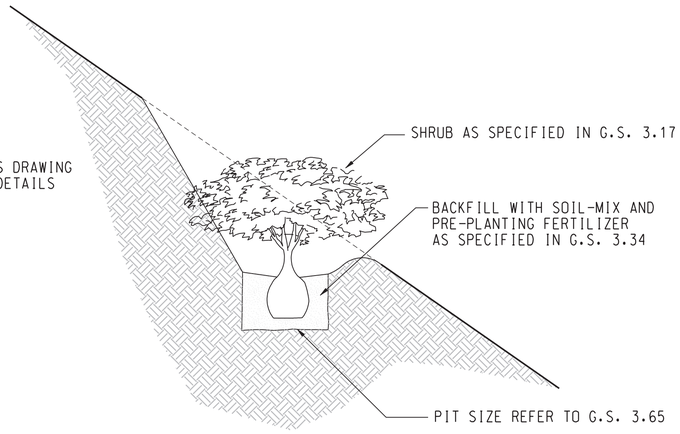
TYPICAL PLAN FOR WHIPS AND SHRUBS



TYPICAL PLANTING DETAIL FOR TREE ON SLOPE



TYPICAL TREE PIT PLANTING FOR BAFFLES



TYPICAL PLANTING DETAIL FOR SHRUBS

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PROJECT
項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

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SCALE 比例
N.T.S.

DIMENSION UNIT 尺寸單位
MILLIMETRES

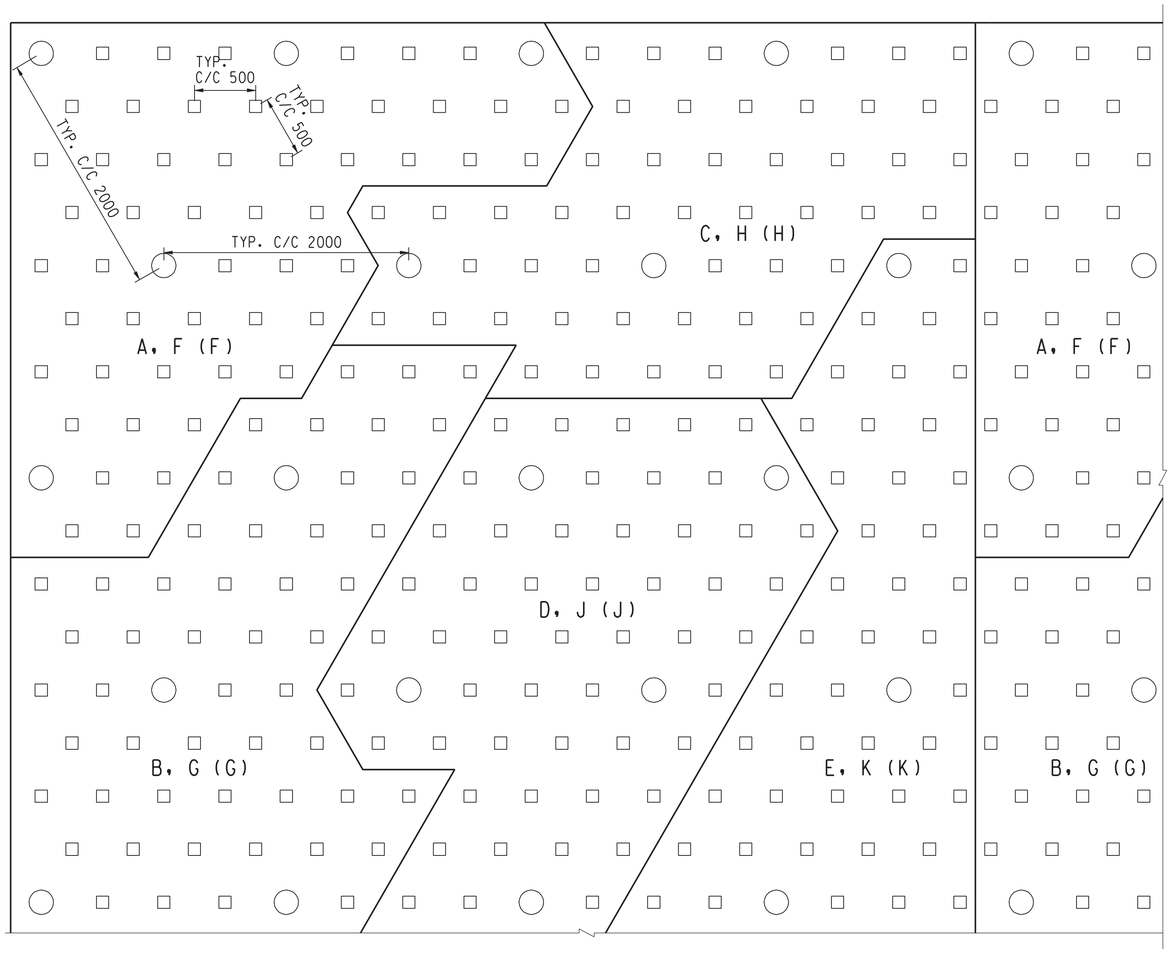
KEY PLAN
索引圖

PROJECT NO. 項目編號
60335576

CONTRACT NO. 合約編號
ND/2019/01

SHEET TITLE
圖紙名稱
Typical Planting Details for Woodland Mix Planting (WMP) and Shrubs Mix Planting (SMP)

SHEET NUMBER
圖紙編號
LD-02



NOTE:
( ) DENOTE PLANTING TYPE FOR SHRUB MIX PLANTING

PLANTING MATRIX OF WOODLAND MIX PLANTING AND SHRUB MIX PLANTING
SCALE N.T.S.

NOTES:

1. PLANT EACH SPECIES IN GROUP OF 4 TO 60 IN RANDOM. PLANT ALL SPECIES IN STAGGERED PATTERN.
2. THE PLANTING MATRIX INDICATED FOR REFERENCE ONLY. EXACT LOCATION AND PATTERN SHALL BE DECIDED ON SITE.

LEGEND:

- ○ WHIPS (SHRUBS FOR SHRUB MIX PLANTING)
- □ SHRUBS

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PROJECT 項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

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SCALE 比例 N.T.S.

DIMENSION UNIT 尺寸單位 MILLIMETRES

KEY PLAN 索引圖

PROJECT NO. 項目編號 60335576

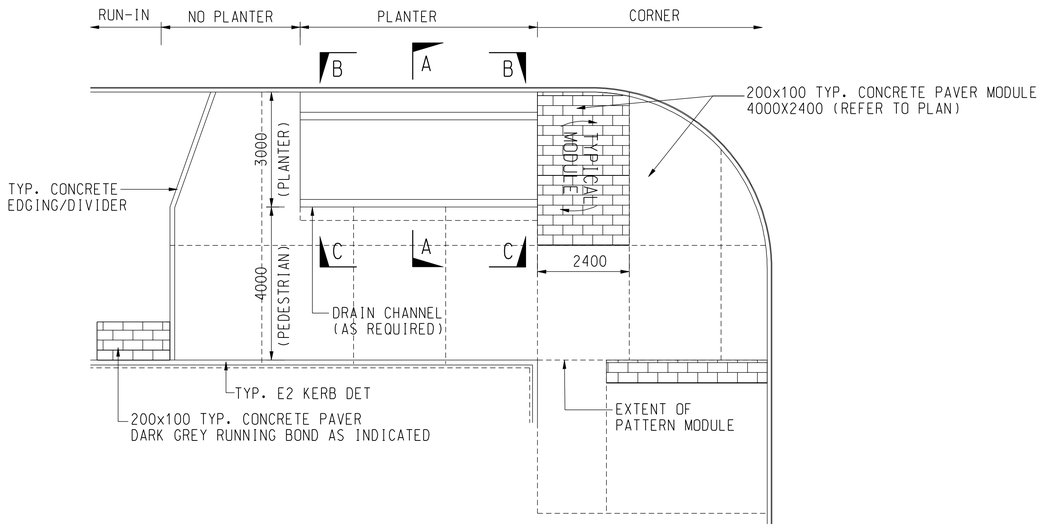
CONTRACT NO. 合約編號 ND/2019/01

SHEET TITLE 圖紙名稱

PLANTING MATRIX OF WOOLAND MIX PLANTING AND SHRUB MIX PLANTING

SHEET NUMBER 圖紙編號

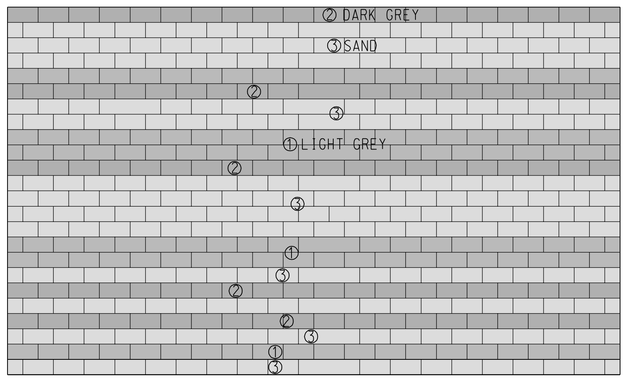
LD-03



TYPICAL STREETSCAPE MODULE

(PAVING/PLANTER WALL)

SCALE 1 : 200



TYPICAL PAVING MODULE

SCALE 1 : 50

AECOM

PROJECT
項目

DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:

KWU TUNG NORTH NEW DEVELOPMENT AREA, PHASE 1: SITE FORMATION AND INFRASTRUCTURE WORKS

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SCALE 比例
AS SHOWN

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號
60335576

CONTRACT NO. 合約編號
ND/2019/01

SHEET TITLE
圖紙名稱
Tpyical Paving Details

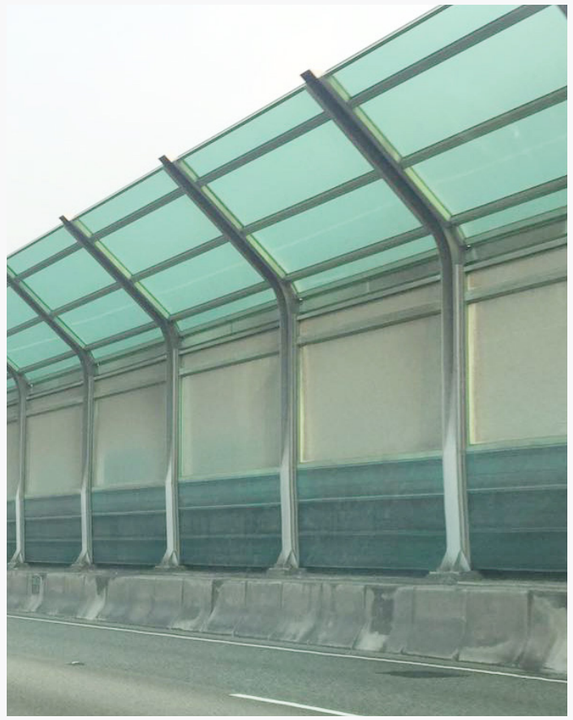
SHEET NUMBER
圖紙編號
PV-01

PROPOSED DISTRICT COLOUR FOR ABSORPTIVE NOISE BARRIER PANEL

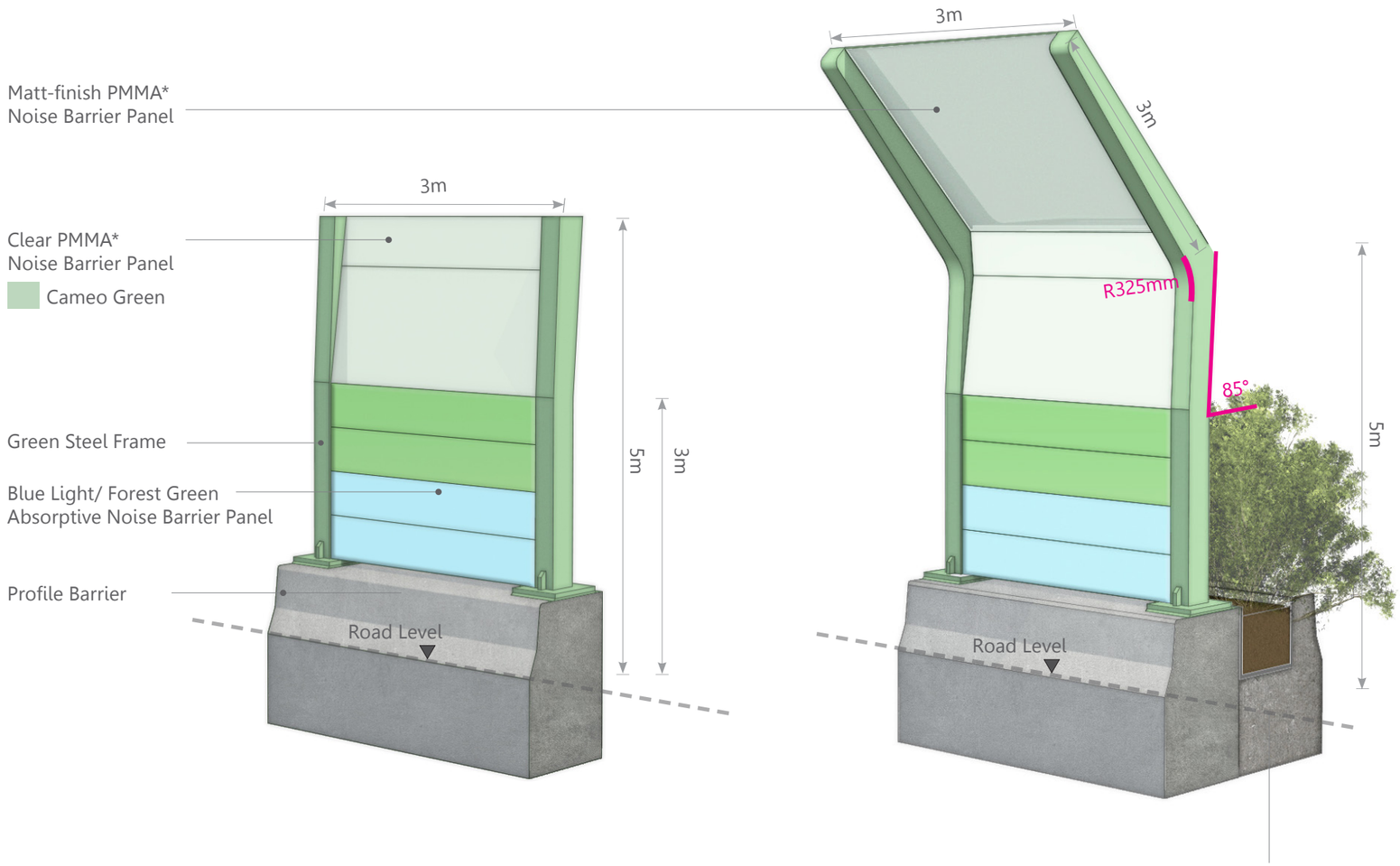
Cameo Green (14-6321 TPX)

Forest Green (17-0230 TPX)

Blue Light (13-4909 TCX)



Reference Image:
Noise Barrier at Fanling Highway with curved steel frame



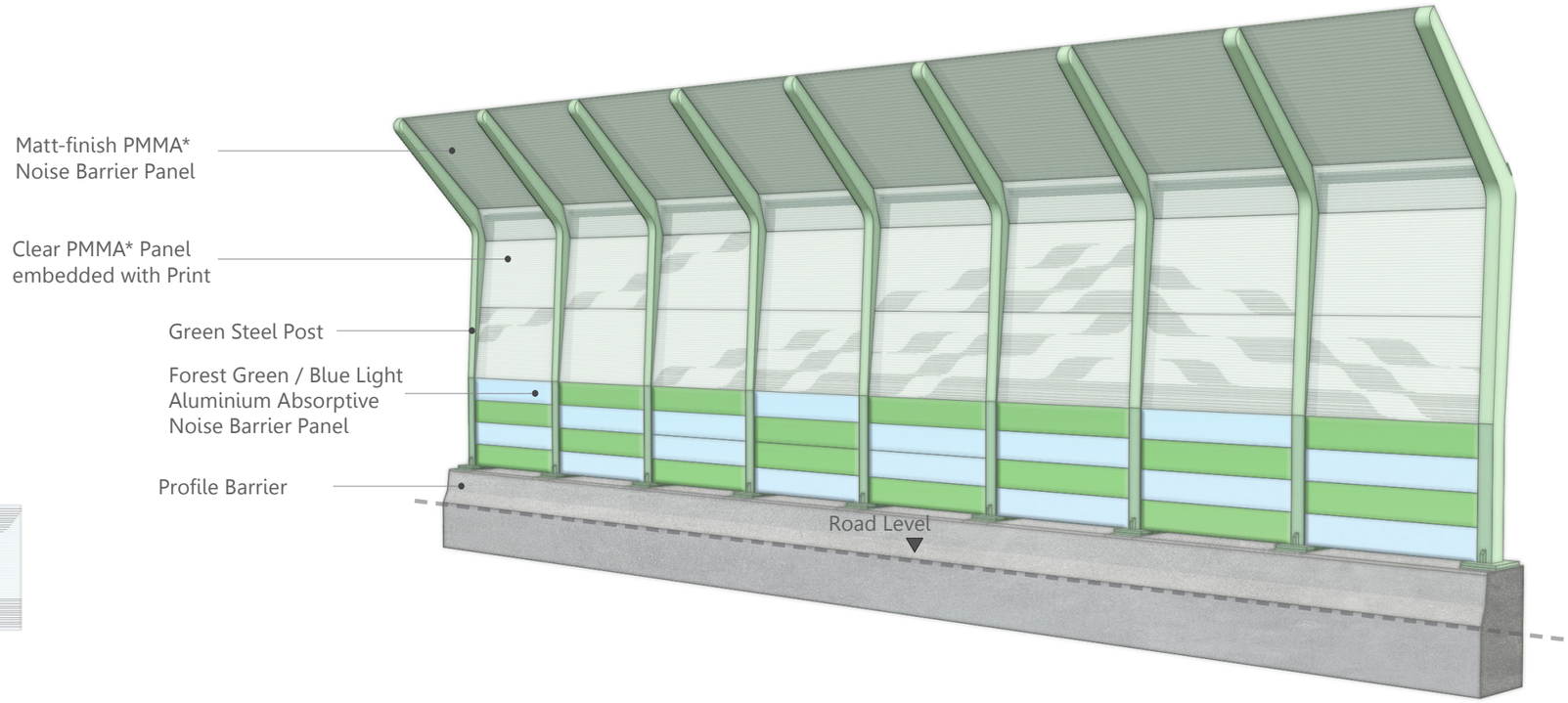
Provision of planter is on location basis.

For exact location, please refer to General Arrangement Plan (appendix)

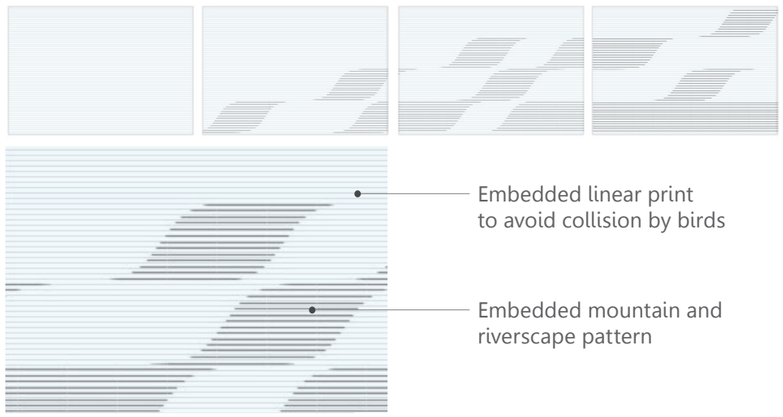
*PMMA refers to Polymethyl Methacrylate

FIGURE 3.2 KWU TUNG NORTH ENHANCED NOISE BARRIER DESIGN (1 of 2)

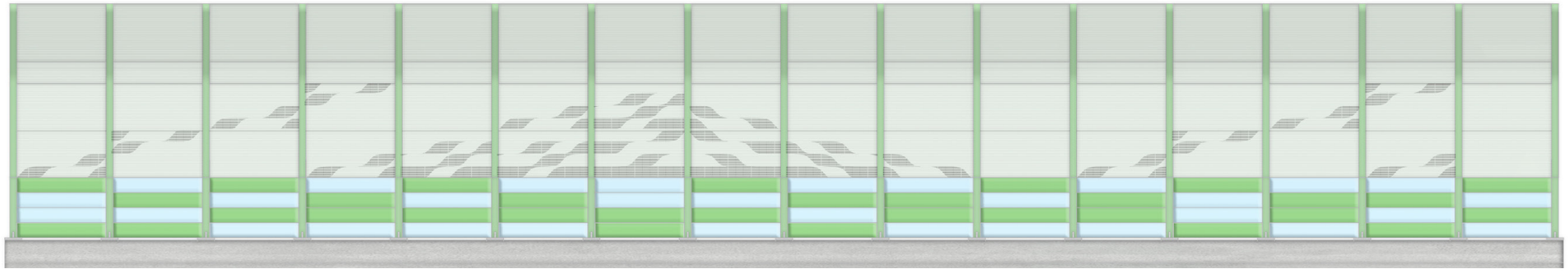
THE MOUNTAINSCAPE & RIVERSCAPE



Mountainscape and riverscape themed pattern (4 Modules)



Example of Modular Pattern



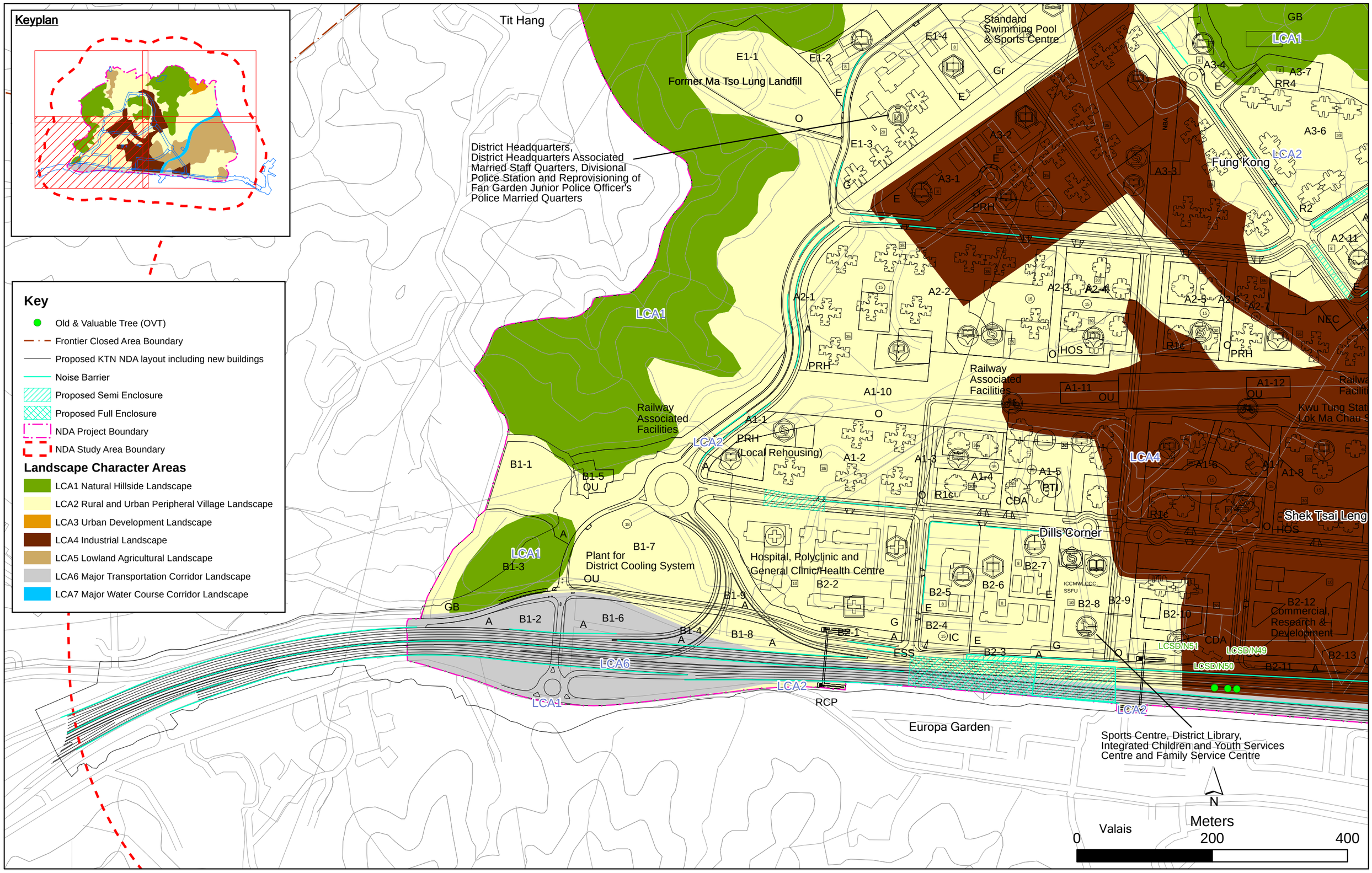
*PMMA refers to Polymethyl Methacrylate

FIGURE 3.5 KWU TUNG NORTH MOUNTAIN AND RIVERSCAPE-THEMED NOISE BARRIER DESIGN

APPENDIX IV

EXTRACTS FIGURES FROM APPROVED EIA REPORT (REF NO. AEIAR-175/2013)

FIGURE LIST		
	TITLE OF FIGURES	**FIGURE NO.**
1	Impacts on Landscape Character Areas (LCAs) in the Study Area for KTN NDA (3 of 4)	Fig. 12.13.3
2	Watercourses of Ecological Importance and Proposed Buffers (page 1 of 3)	Fig. 13.17a
3	Habitats in the Study Area showing the Footprint of the Project Area (page 1 of 3)	Fig. 13.18a



土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	規劃署 PLANNING DEPARTMENT	ARUP	Job Title: **Agreement No. CE 61/2007 (CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation**	Drawing Title: Impacts on Landscape Character Areas (LCAs) in the Study Area for KTN NDA (3 of 4)	Rev / Description / Date	Drawn: N.Ng	Date: 3/6/2013	Drawing No.: Figure 12.13.3	
						Checked	Approved		
						Scale: 1:5,000		Rev.: E	

File: T:\GIS\CONTRACT\0185407\Mxd\Schedule_3\IA_LCA\0185407_LCA_KTN_IA_3.mxd

N

0 200m 400m 600m

Ma Tso Lung San Tsuen

Ngam Pin

Ma Tso Lung

Ng Tung River

Sheung Yue River

Shek Sheung River

Long Valley

Fung Kong

AGB

GB

GB

GB

GB

Study Area Boundary

NDA Boundary

Watercourse

Watercourse of Ecological Importance

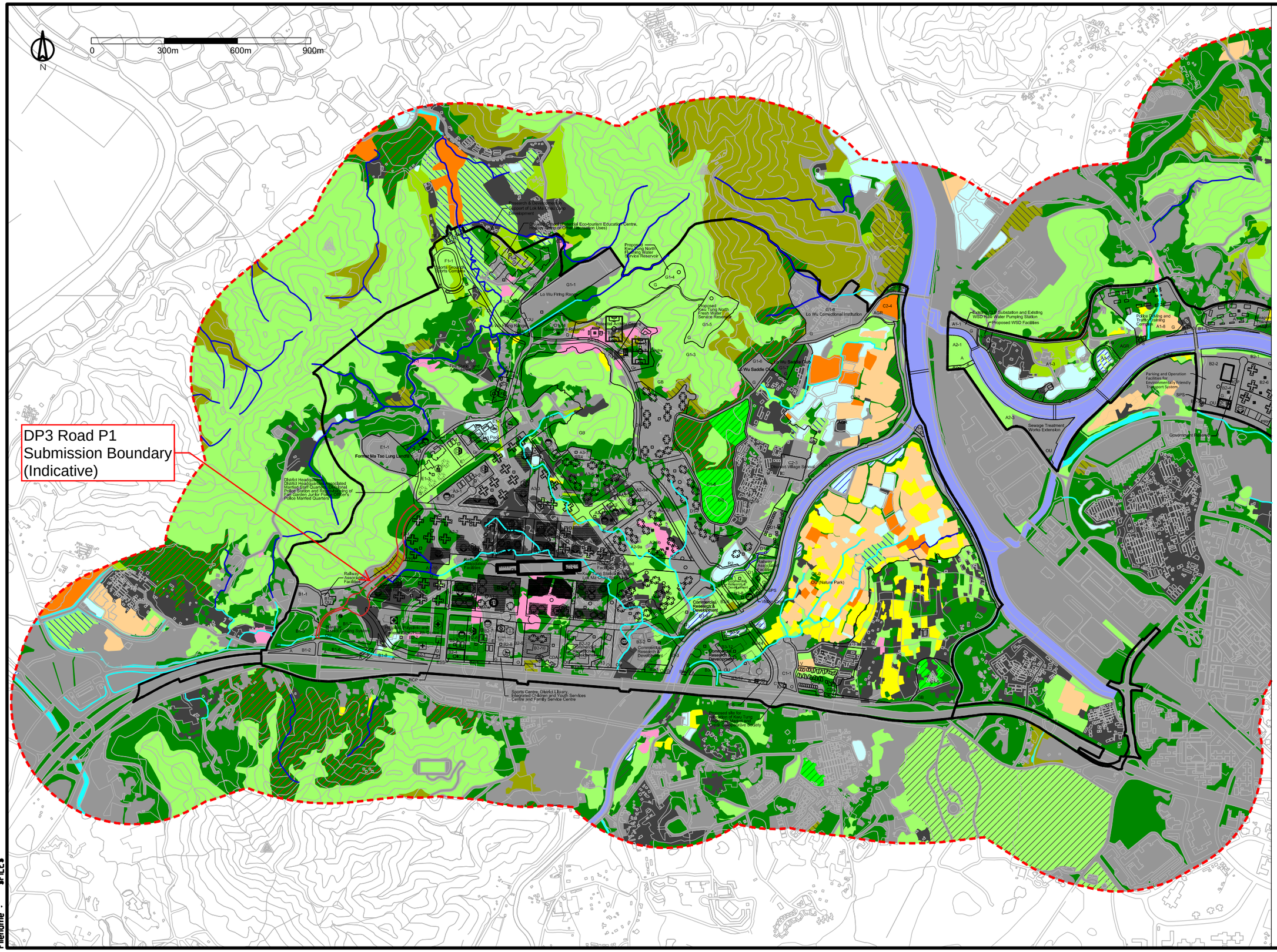
Watercourse of Ecological Importance to be diverted

Diverted Watercourse

Proposed Watercourse Buffer

Printed by : $DATE$
Filename : $FILE$

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	規劃署 PLANNING DEPARTMENT	ARUP Ove Arup & Partners Hong Kong Limited	Job Title: Agreement No. CE 61/2007 (CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation	Drawing Title: **Watercourses of Ecological Importance and Proposed Buffers (page 1 of 3)**	Rev / Description / Date	Drawn: EW; Date: 05/13; Checked: MRL; Approved; Scale: AS SHOWN	Drawing No.: Figure 13.17a; Rev.



Printed by : $DATE$
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CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	規劃署 PLANNING DEPARTMENT	ARUP Ove Arup & Partners Hong Kong Limited	Job Title: Agreement No. CE 61/2007 (CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation	Drawing Title: **Habitats in the Study Area showing the Footprint of the Project Area (page 1 of 3)**	Rev / Description / Date	Drawn: EW; Date: 05/13; Checked: MRL; Approved; Scale: AS SHOWN	Drawing No.: Figure 13.18a; Rev.