

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT

Recreation, Culture and Amenities – Sports facilities

259RS – Cycle tracks connecting North West New Territories with North East New Territories — Tuen Mun to Sheung Shui section (Remaining)

Members are invited to recommend to the Finance Committee the upgrading of **259RS** to Category A at an estimated cost of \$890.9 million in money-of-the-day prices.

PROBLEM

We need to proceed with the construction of cycle track connecting Yuen Long and Sheung Shui.

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development, proposes to upgrade **259RS** to Category (Cat) A at an estimated cost of \$890.9 million in money-of-the-day (MOD) prices for the construction of the project.

/PROJECT

PROJECT SCOPE AND NATURE

3. The proposed scope of works under **259RS** comprises –
- (a) construction of a new cycle track (with footpath) of about 11 kilometres (km) in length from Kam Tin River in Yuen Long to Sheung Yue River in Sheung Shui;
 - (b) construction of three cycle bridges across an existing nullah adjoining San Tin Tsuen Road in Yuen Long, San Tin Eastern Channel in Yuen Long and Shek Sheung River in Sheung Shui;
 - (c) construction of two cycle subways across Kam Pok Road and at Cross Boundary Shuttle Bus San Tin Terminus in Yuen Long;
 - (d) construction of three resting stations at Kam Pok Road, Ngau Tam Mei and San Tin of Yuen Long with supporting facilities including cycle parking spaces, shelters and benches;
 - (e) construction of a public toilet at Ho Sheung Heung;
 - (f) associated landscaping, traffic aids, road lighting and other miscellaneous works; and
 - (g) implementation of environmental mitigation measures and an environmental monitoring and audit (EM&A) programme for the works mentioned in (a) to (f) above.

————— 4. A plan showing the proposed works is at **Enclosure 1**. Plans showing the typical layout of a resting station, as illustrated by the one at San Tin, and the artist's impression of the cycle bridge at Shek Sheung River in Sheung Shui are at
————— **Enclosure 2** and **Enclosure 3** respectively.

5. Subject to funding approval of the Finance Committee (FC), we plan to commence the construction of the proposed works in around mid-2016 for completion by early 2020. To meet the works programme, the Civil Engineering and Development Department invited tenders for the works on 6 November 2015 but the tender will only be awarded after obtaining FC's funding approval.

/JUSTIFICATION

JUSTIFICATION

6. The Government has been incorporating provision of cycle tracks in the planning and development of new towns, such as Sha Tin, Tai Po, Fanling, Sheung Shui, Tin Shui Wai, Yuen Long and Tuen Mun. These cycle tracks, particularly the one connecting Sha Tin and Tai Po along Tolo Highway, have become attractions to the public for leisure or recreational purpose. However, the existing cycle tracks are mostly confined to individual areas. The project aims to develop these sections into a comprehensive cycle track network in the New Territories, improve the access to the cycle track network and their supporting facilities.

7. Upon completion of the project, there will be a continuous cycle track network of about 60 km in length from Tuen Mun to Ma On Shan with adequate supporting facilities. This will not only enhance the attractiveness of the cycle track to the public, but also promote cycling in Hong Kong. A plan showing the cycle track network in the New Territories is at **Enclosure 4**.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the proposed works to be \$890.9 million in MOD prices (please see paragraph 10 below), broken down as follows –

	\$ million
(a) at-grade cycle track with footpath	371.8
(i) roadworks	79.6
(ii) drainage works	123.4
(iii) site formation	168.8
(b) three cycle bridges	81.7
(c) two cycle subways	71.7
(d) resting stations with supporting facilities including cycle parking spaces, shelters and benches	5.3

/ \$ million

		\$ million	
(e)	a public toilet ¹	10.0	
(f)	associated landscaping, traffic aids, road lighting and other miscellaneous works ²	72.3	
(g)	environmental mitigation measures	5.6	
(h)	consultants' fee for	11.9	
	(i) contract administration	6.3	
	(ii) management of resident site staff (RSS)	2.6	
	(iii) EM&A programme for works in 8(a) to (f) above	3.0	
(i)	remuneration of RSS	60.2	
(j)	contingencies	68.5	
	Sub-total	759.0	(in September 2015 prices)
(k)	provision for price adjustment	131.9	
	Total	890.9	(in MOD prices)

9. Due to insufficient in-house resources, we propose to engage consultants to undertake the contract administration, site supervision of the proposed works, and to implement the EM&A programme. A breakdown of the estimate for the consultants' fees and RSS costs by man-months is at **Enclosure 5**.

10. Subject to funding approval, we will phase the expenditure as follows –

/Year

¹ The public toilet will be equipped with sewage treatment facilities to support its operation.

² Miscellaneous works include diversion of affected existing watermain, connections to local access roads, local road and drainage improvement works, etc. in association with the project.

Year	\$ million (Sept 2015)	Price adjustment factor	\$ million (MOD)
2016 – 2017	108.6	1.05875	115.0
2017 – 2018	245.0	1.12228	275.0
2018 – 2019	245.3	1.18961	291.8
2019 – 2020	84.4	1.26099	106.4
2020 – 2021	51.2	1.32719	68.0
2021 – 2022	17.0	1.39355	23.7
2022 – 2023	7.5	1.46323	11.0
	<hr/> 759.0 <hr/>		<hr/> 890.9 <hr/>

11. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices for public sector building and construction output for the period 2016 to 2023. Subject to funding approval, we will deliver the works under a re-measurement contract because the quantities, in particular that for site formation works may vary depending on actual site conditions. The contract will provide for price adjustment.

12. We estimate the annual recurrent expenditure arising from this project to be \$6.1 million.

PUBLIC CONSULTATION

13. We consulted the Environment, Hygiene and District Development Committee of the Tuen Mun District Council, the North District Council (NDC) and the Traffic and Transport Committee (T&TC) of the Yuen Long District Council (YLDC) on the proposed cycle track network from Tuen Mun to Ma On Shan under the original scope of **259RS** on 13 July, 26 July and 21 September 2007 respectively. Members supported the proposal.

/14.

14. Based on the original scope of **259RS**, we gazetted the proposed works for the western section of the cycle track network in the New Territories from Tuen Mun to Sheung Shui, which consists of the Stage 1 works³ and the remaining works (i.e. this project), under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 6 June 2008 and the revised alignment on 1 April 2010 after taking into account the public views received during the former gazettal. No objection was received in response to the latter gazettal. The Permanent Secretary for Transport and Housing (Transport) authorised the proposed works on 9 July 2010. The notice of authorisation was gazetted on 16 July 2010. The proposed works for the cycle track network from Tuen Mun to Sheung Shui were thus authorised under the Ordinance.

15. In January 2013, some NDC members requested to shift the location of the proposed cycle bridge across Shek Sheung River near Tsung Pak Long, which was originally planned to be implemented under Stage 1 works. Furthermore, they requested provision of a public toilet at the proposed resting station near Sheung Yue River under the Stage 1 works. In response to their requests, we decided to repackage the cycle bridge across Shek Sheung River from the Stage 1 works and include a public toilet at the proposed resting station near Sheung Yue River to this project. On 10 March 2014, we consulted the T&TC of the NDC on the proposed toilet and the cycle bridge at the revised location of Shek Sheung River. The Committee supported our proposal.

16. Separately, to ameliorate the strong public concerns on the ecological impact of the original cycle track alignment on the growing number of egrets at Hop Shing Wai in recent years, we further amended the revised alignment of the cycle track between Mai Po San Tsuen and Mai Po Lung. On 27 March 2014, the T&TC of the YLDC supported the amendment to the revised alignment, the gazettal of the necessary amendment and construction of the project. The various cyclist groups also supported the project on 7 July 2014.

17. We gazetted an amendment scheme for the revised alignment of the cycle track between Mai Po San Tsuen and Mai Po Lung and the revised location of the cycle bridge crossing Shek Sheung River under the Ordinance on 26 September 2014, and received four objections. The objectors suggested various alternative alignments for the proposed cycle track and/or section of an

/associated

³ Implemented under **279RS** "Cycle tracks connecting North West New Territories with North East New Territories – Tuen Mun to Sheung Shui section (Stage 1)" upgraded to Cat A in May 2013.

associated footpath. Such proposals were found less desirable after our investigation. For instance, the proposals would encroach upon a Site of Special Scientific Interest and private lands, and involve the construction of large-scale retaining works, which is not cost effective. Despite our explanations, the objectors maintained their objections. On 31 March 2015, the Chief Executive-in-Council overruled these objections and authorised the amendment scheme without modification. The notice of authorisation was gazetted on 8 May 2015.

18. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)⁴ on the aesthetic design of the cycle bridges and cycle subways. The Committee accepted the proposed aesthetic design at its meetings in November 2009, February 2011, February 2012 and March 2015.

19. We consulted the Legislative Council Panel on Development on the project on 22 July 2015. Members expressed support to the project.

ENVIRONMENTAL IMPLICATIONS

20. The project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and an environmental permit (EP) is required for construction and operation of the project. The Director of Environmental Protection approved the EIA report for the proposed works in March 2009. The EIA report concluded that the environmental impact of the proposed works can be controlled to within the criteria under EIA Ordinance and the Technical Memorandum on EIA Process. We have carried out review in 2015 to ascertain environmental acceptability of the minor design revisions prior to application for EP. The Director of Environmental Protection issued two EPs for the construction and operation of the cycle tracks and associated supporting facilities from Kam Tin River in Yuen Long to Sheung Yue River in Sheung Shui in August 2015 and September 2015 respectively.

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⁴ The ACABAS, which comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institution of Planners, an academic institution, Architectural Services Department, Highways Department, Housing Department and Civil Engineering and Development Department, is responsible for vetting the design of bridges and other structures associated with the highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

21. We shall implement the measures recommended in the EIA report and EPs. The key measures include water and noise pollution control measures to avoid affecting the nearby sensitive locations, and scheduling of works to avoid disturbance to breeding and nesting birds. Furthermore, we will implement the EM&A programme recommended in the EIA and environmental review reports. We have included \$5.6 million (in September 2015 prices) and \$3.0 million (in September 2015 prices) in paragraph 8(g) and 8(h)(iii) above in the project estimate for implementing the environmental mitigation measures and EM&A programme respectively.

22. At the planning and design stages, we have considered the levels, layouts and construction sequence of the project in order to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities⁵. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

23. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

24. We estimate that the project will generate in total 162 800 tonnes of construction waste. Of these, we will reuse 107 000 tonnes (66%) of inert construction waste on site and deliver 49 300 tonnes (30%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 6 500 tonnes (4%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities

/and

⁵ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

and landfill sites is estimated to be \$2.1 million for this project (based on a unit charge rate of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

HERITAGE IMPLICATIONS

25. The project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites or buildings, sites of archaeological interest and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

26. We will resume about 2 500 square metres (m²) of agricultural land involving 12 lots for the proposed works. Three Short Term Tenancies will need to be terminated involving demolition of structures and site clearance. The land acquisition affects six households comprising 15 persons. The affected land owners will be offered ex-gratia land compensation. For eligible households, ex-gratia allowances and/or accommodation in public housing in accordance with the established rehousing policy will be offered. We will also clear 175 temporary structures from Government land and eight temporary structures from resumed private land for the proposed works. The temporary structures include fence, gates, porch, storage, carport and some business undertakings. The land acquisition and clearance costs are estimated to be about \$18.5 million and will be charged to **Head 701 – Land Acquisition**. A breakdown of the estimate for land resumption and clearance cost is at **Enclosure 6**.

BACKGROUND INFORMATION

27. We upgraded **259RS** to Cat B in January 2006.

28. We engaged consultants to carry out investigation and detailed design for the proposed works under **259RS** in September 2006. We have charged the cost of about \$8.9 million in MOD prices to **Subhead 7100CX** “New towns and urban area works, studies and investigations for items in Cat D of the Public Works Programme”. We have completed the detailed design of the proposed works in October 2015.

29. In June 2009, we upgraded part of **259RS** as **271RS** “Cycle tracks connecting North West New Territories with North East New Territories — Sheung Shui to Ma On Shan” to Cat A at an estimated cost of \$230.3 million in MOD prices for construction of the part of the New Territories cycle track network linking Sheung Shui, Fanling, Tai Po, Sha Tin and Ma On Shan. The cycle tracks were open to the public in March 2014.

30. In May 2013, we upgraded another part of **259RS** as **279RS** “Cycle tracks connecting North West New Territories with North East New Territories — Tuen Mun to Sheung Shui section (Stage 1)” to Cat A at an estimated cost of \$295.4 million in MOD prices for construction of the part of the New Territories cycle track network mainly from Tuen Mun to Yuen Long. We commenced the works in November 2013 for completion in end 2016.

31. Of the 4 577 trees within the project boundary, 1 254 trees will be preserved. The project will involve removal of 3 323 trees, including 3 284 trees to be felled and 39 trees to be transplanted elsewhere. Three of the 3 284 trees to be felled, albeit of common species, are important trees⁶ within the project boundary. One of them has a large footprint due to existence of many scattered aerial roots. Transplanting of this tree will involve substantial pruning including removal of many aerial roots, resulting in a low survival rate. The other two trees are grown on an existing slope, rendering them impractical to form a proper root ball and hence unsuitable for transplanting. We have also considered retaining the three affected trees but given their close proximity to the future cycle tracks or footpaths, it will impose high risk to the safety of cyclists and pedestrians. A summary of the three important trees is at **Enclosure 7**. We will incorporate planting proposals as part of the project, including about 617 trees, 2 667 seedlings, and around 54 000 shrubs and 10 000 m² grassed area.

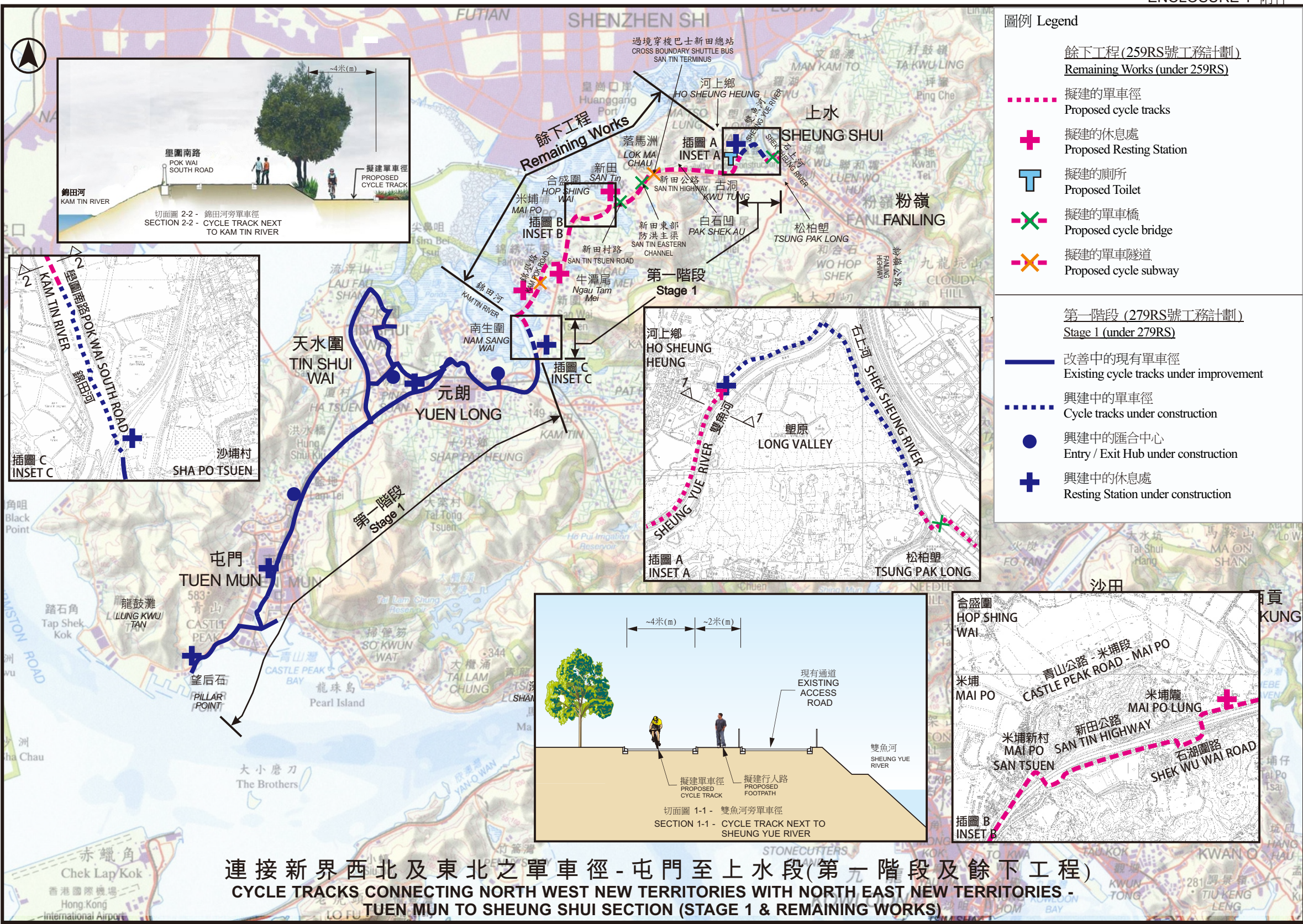
/32.

⁶ “Important trees” refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

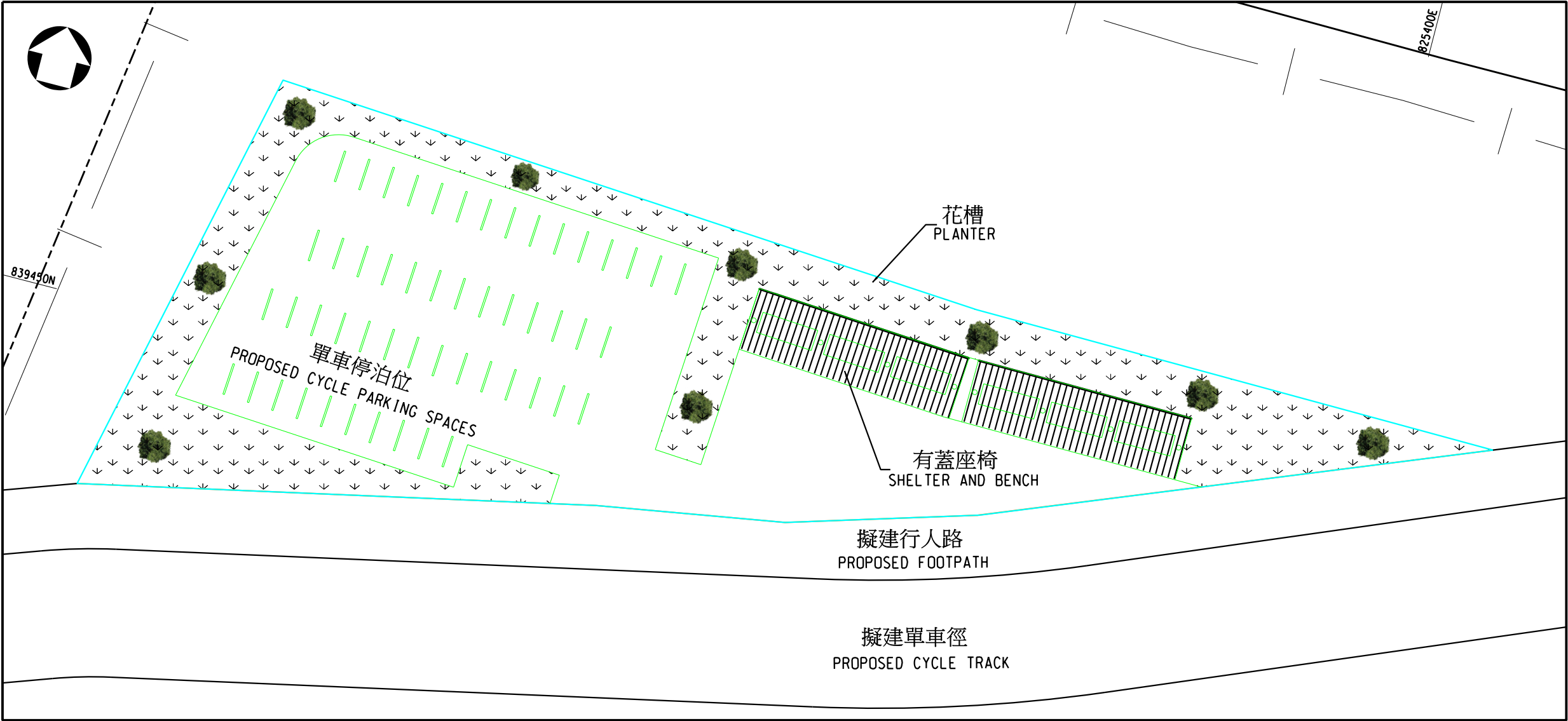
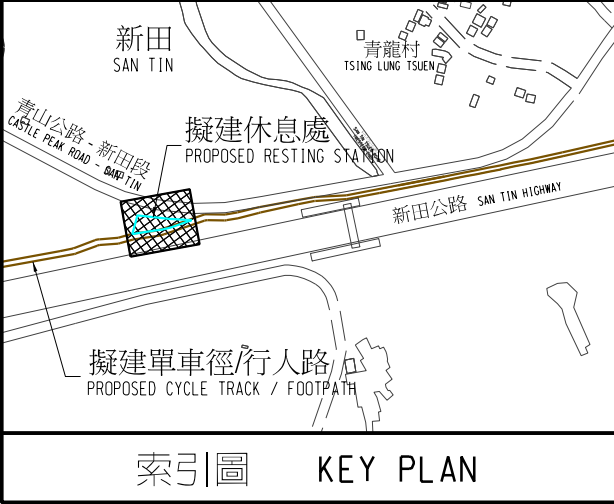
- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance, e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of an important person or event;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of the overall tree sizes, shape and any special features), e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with a trunk diameter equal to or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with a height or canopy spread equal to or exceeding 25 m.

32. We estimate that the proposed works will create about 300 jobs (240 for labourers and another 60 for professional or technical staff), providing a total employment of 12 300 man-months.

Development Bureau
January 2016



連接新界西北及東北之單車徑 - 屯門至上水段(第一階段及餘下工程)
CYCLE TRACKS CONNECTING NORTH WEST NEW TERRITORIES WITH NORTH EAST NEW TERRITORIES - TUEN MUN TO SHEUNG SHUI SECTION (STAGE 1 & REMAINING WORKS)



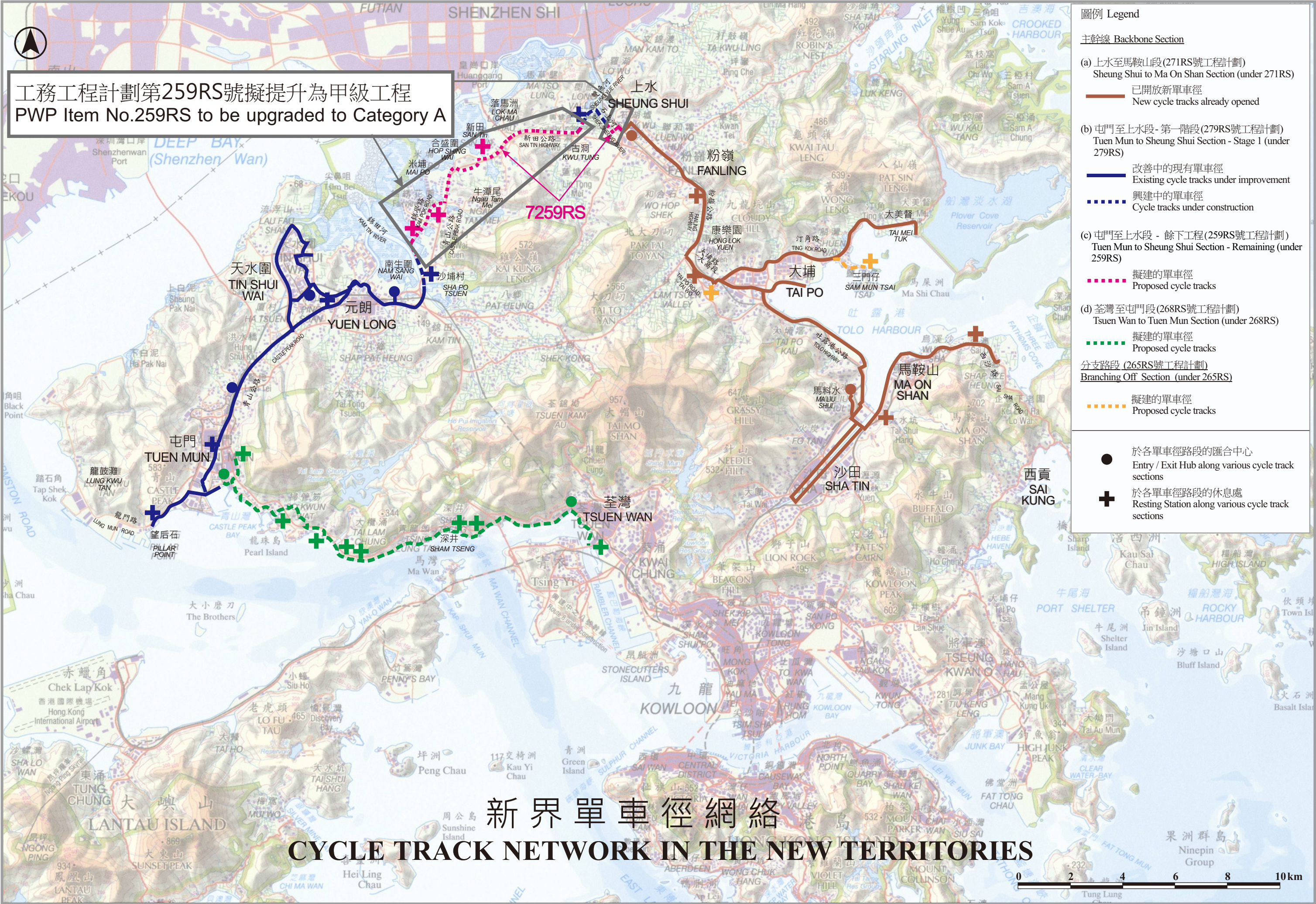
平面圖 LAYOUT PLAN
SCALE 1 : 150

新田休息處
RESTING STATION AT SAN TIN



位於上水石上河擬建單車橋的構想圖

ARTIST'S IMPRESSION OF PROPOSED CYCLE BRIDGE AT SHEK SHEUNG RIVER IN SHEUNG SHUI



259RS – Cycle tracks connecting North West New Territories with North East New Territories — Tuen Mun to Sheung Shui section (Remaining)

Breakdown of the estimates for consultants' fees and RSS costs (in September 2015 prices)

		Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fees (\$ million)
(a) Consultants' fees for contract administration (Note 2)	Professional	--	--	--	4.0
	Technical	--	--	--	2.3
				Sub-total	6.3
(b) Consultants' fees for EM&A programme (Note 2)	Professional	--	--	--	2.0
	Technical	--	--	--	1.0
				Sub-total	3.0
(c) RSS costs (Note 3)	Professional	233	38	1.6	27.7
	Technical	859	14	1.6	35.1
				Sub-total	62.8
Comprising –					
(i) Consultants' fees for management of RSS					2.6
(ii) Remuneration of RSS					60.2
				Total	72.1

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of RSS supplied by the consultants. (as at now, MPS salary point 38 = \$74,210 per month and MPS salary point 14 = \$25,505 per month.)
2. The actual man-months and fees will only be known after the consultants have been selected.
3. The actual man-months and actual costs will be known after completion of the construction works.

259RS (Part) – Cycle tracks connecting North West New Territories with North East New Territories

Breakdown of land resumption and clearance costs

		\$ million
(I) Estimated land resumption cost		13.935
(a) “Zone B” Agricultural Land Ex-gratia Compensation (Including 3 lots of private land)	4.374	
6 291 sq. ft. or 584.4 m ² @ \$695.25 per sq. ft. ^(note)		
(b) “Zone C” Agricultural Land Ex-gratia Compensation (Including 9 lots of private land)	9.561	
20 627 sq. ft. or 1 916.4 m ² @ \$463.5 per sq. ft. ^(note)		
(II) Estimated clearance cost		2.92
(a) Ex-gratia allowance for crop compensation	2.47	
(b) Ex-gratia compensation for farm structures and miscellaneous permanent improvements to farms	0.41	
(c) Ex-gratia Allowance for miscellaneous indigenous villager matters e.g. “Tun Fu”	0.04	
(III) Interest and Contingency Payment		1.685
(a) The interest payment on various ex-gratia compensations for private land	0.001 for 6 months	
(b) Contingency on the above costs	1.684	
Total land resumption and clearance costs		18.54
		(say 18.5)

Notes

- There are four ex-gratia compensation zones, namely Zones A, B, C and D, for land resumption in the New Territories as approved by the Executive Council in 1985 and 1996. The boundaries of these zones are shown on the Zonal Plan for Calculation of Compensation Rates. The land to be resumed in this project is agricultural land within Compensation Zones “B” and Zone “C”.
- In accordance with G.N. 7345 dated 18 September 2015 on the revised ex-gratia compensation rates for resumed land, the ex-gratia compensation rate of agricultural land for “Zone B” and “Zone C” are 75% and 50% of the Basic Rate at \$927 per square foot, i.e. \$695.25 and \$463.5 per square foot respectively.

259RS – Cycle tracks connecting North West New Territories with North East New Territories – Tuen Mun to Sheung Shui section (Remaining)**Summary of the affected Important Trees**

Tree no. ⁽¹⁾	Species		Measurements			Amenity value ⁽³⁾	Form	Health condition	Structural condition	Suitability for transplanting ⁽⁴⁾		Conservation status ⁽⁵⁾	Recommendation	Department to provide expert advice to LandsD	Additional Remarks
	Scientific name	Chinese name	height (m)	DBH ⁽²⁾ (mm)	crown spread (m)	(good/fair/poor)				(high/medium/low)	Remarks		(Retain/transplant/fell)		
SAT-036	<i>Ficus microcarpa</i>	細葉榕	19	1350	22	Fair	Fair	Fair	Fair	Low	The tree has too many scattered aerial roots. Transplanting will involve substantial pruning including removal of the aerial roots, resulting in a low survival rate.	NA	Fell	Leisure and Cultural Services Department	<ul style="list-style-type: none"> The trees are common species and in conflict with the proposed cycle tracks or footpaths alignment. Even if the trees could be retained in-situ, they will be very close to the future cycle tracks or footpaths and will impose high risk to the safety of cyclists and pedestrians. Since retention of the trees is considered impracticable and the survival rate after transplanting is low, the trees are proposed to be felled.
YL-2061	<i>Ficus microcarpa</i>	細葉榕	10	1100	9	Fair	Fair	Fair	Fair	Low	The tree is grown on an existing slope, rendering it impractical to form a proper root ball and hence unsuitable for transplanting.	NA	Fell	Highways Department	
YL-2138	<i>Ficus virens</i>	大葉榕	18	1200	16	Fair	Fair	Fair	Fair	Low	ditto	NA	Fell	ditto	

⁽¹⁾ The subject trees are not in the Register of Old and Valuable Trees.

⁽²⁾ Diameter at Breast Height (DBH) of a tree refers to its trunk diameter at breast height (i.e. measured at 1.3 m above ground level).

⁽³⁾ Amenity value of the tree is assessed by its functional values for shade, shelter, screening, reduction of pollution and noise and also its Fung Shui significance, and classified into the following categories -

- (a) good : important trees which should be retained by adjusting the design layout accordingly;
- (b) fair : trees that are desirable to be retained in order to create a pleasant environment, which includes healthy specimens of lesser importance than “Good” trees; or
- (c) poor : trees that are dead, dying or potentially hazardous and should be removed.

⁽⁴⁾ Assessment has taken into account conditions of the tree at the time of survey (including health, structure, age and root conditions), site conditions (including topography and accessibility), and intrinsic characters of tree species (survival rate after transplanting).

⁽⁵⁾ Conservation status is based on the rarity and protection status of the species under relevant ordinances in Hong Kong, such as Rare and Precious Plants of Hong Kong, the International Union for Conservation of Nature Red List of Threatened Species and the Forests and Countryside Ordinance.