

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 705 – CIVIL ENGINEERING**

#### **Support – Boundary facilities (other than road works)**

#### **13GB – Liantang/Heung Yuen Wai Boundary Control Point and associated works**

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **13GB**, entitled “Liantang/Heung Yuen Wai Boundary Control Point and associated works – site formation and infrastructure works”, to Category A at an estimated cost of \$16,253.2 million in money-of-the-day prices; and
- (b) the retention of the remainder of **13GB** in Category B.

### **PROBLEM**

We need to develop a new Boundary Control Point (BCP) at Heung Yuen Wai in the northeastern New Territories (NENT) to meet the future cross-boundary travel demand.

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## PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development (SDEV), proposes to upgrade part of **13GB** to Category A at an estimated cost of \$16,253.2 million in money-of-the-day (MOD) prices to carry out site formation and infrastructure works for the development of the new BCP.

## PROJECT SCOPE AND NATURE

3. The part of **13GB** that we propose to upgrade to Category A comprises –

- (a) site formation of about 23 hectares of land for the development of the BCP;
- (b) provision of a 1.8 kilometre (km) long perimeter patrol road at the BCP together with the associated gates and fencing;
- (c) construction of a pedestrian subway linking the BCP to Lin Ma Hang Road;
- (d) construction of an approximately 11 km long dual two-lane Connecting Road (CR) (with about 1.0 km of at-grade road, 4.3 km of viaduct and 5.7 km of tunnel) connecting the BCP with Fanling Highway (with four interchanges along the CR at the junctions with the Fanling Highway, Sha Tau Kok Road, Ping Yuen Road and Lin Ma Hang Road) and the associated administration building, ventilation adit and buildings, electrical and mechanical (E&M) works and traffic control and surveillance system;
- (e) design and construction of the Hong Kong Special Administrative Region (HKSAR) portion of four vehicular bridges and one pedestrian bridge<sup>1</sup> crossing Shenzhen (SZ) River (cross boundary bridges)<sup>2</sup>;

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<sup>1</sup> The project scope does not include interior fitting works for the pedestrian bridge (HKSAR portion), which will be carried out separately under the BCP building works of the remaining parts of **13GB**.

<sup>2</sup> The design and construction costs for the cross boundary bridges will be shared between the HKSAR Government and the Shenzhen Municipal Government according to the corresponding construction works within its own territory.

- (f) associated diversion/modification works at existing local roads and junctions including Lin Ma Hang Road, access road to the resite of Chuk Yuen Village<sup>3</sup>, Tai Wo Services Road East and West, Sha Tau Kok Road, and Wo Keng Shan Road, etc.;
- (g) provision of sewage collection, treatment and disposal facilities for the BCP and the resited Chuk Yuen Village;
- (h) provision of resite area(s) with supporting infrastructure for reprovisioning of the affected village houses<sup>4</sup>;
- (i) reprovisioning of the affected government facilities including Wo Keng Shan Road garden and a public toilet, the Architectural Services Department's depot at Lin Ma Hang Road and footbridges crossing Ng Tung River;
- (j) ancillary works such as the associated footpaths, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works etc; and
- (k) associated environmental mitigation measures, and Environmental Monitoring and Audit (EM&A) programme for the works.

We plan to entrust the works in item (e) above to the Shenzhen Municipal Government (SZMG). Justifications of the proposed entrustment arrangements are provided in paragraphs 14 to 15 below.

4. Layout plans showing the proposed works in paragraph 3 above are at Enclosures 1 to 4.

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<sup>3</sup> The BCP construction works will affect the existing Chuk Yuen Village, an indigenous village at Ta Kwu Ling, which will need to be cleared for the BCP project. Under the prevailing policy for land resumption and site clearance in the New Territories, affected indigenous villager owners would be compensated by the grant of resite houses in a resite area. The provision of resite area for Chuk Yuen Village was approved by the Finance Committee on 30 April 2010. Details are provided in PWSC Paper No. PWSC(2010-11)2.

<sup>4</sup> Under the prevailing policy for land resumption and site clearance in the New Territories, affected indigenous villager owners would be compensated by the grant of resite houses in a resite area. The part of works to be upgraded under the current proposal concerns only village houses involving building lots affected by the CR outside Chuk Yuen Village.

5. We have substantially completed the detailed design of the proposed works (except for item (e) of paragraph 3 above). Subject to funding approval of the Finance Committee (FC), we plan to commence construction in phases from December 2012 for completion by June 2018, so as to tie in with the target commissioning of the BCP in 2018.

6. The remaining parts of **13GB** mainly comprise –

- (a) the related SZ River improvement works; and
- (b) BCP building works and the associated facilities such as provision of passenger clearance and cargo processing facilities, accommodation and facilities for Government departments providing services at the BCP, a public carpark and pick-up/drop-off points for private cars, public transport and miscellaneous facilities, and the interior fitting works of the pedestrian bridge (HKSAR portion) crossing SZ River.

Funding for the remainder of **13GB** will be sought separately at a later time when they are ready for upgrading to Category A.

## JUSTIFICATION

### *Strategic significance of the new BCP*

7. The Liantang/Heung Yuen Wai BCP will be the seventh land crossing between Shenzhen and Hong Kong. It will bring significant benefits to Hong Kong. It will connect the Shenzhen Eastern Corridor<sup>5</sup> in Shenzhen and provide an efficient access to eastern Guangdong and the adjacent provinces via the Shenzhen-Huizhou and Shenzhen-Shantou Expressways (Enclosure 5). This will significantly shorten the travelling time between Hong Kong/Shenzhen and eastern Guangdong, and southern Fujian and Jiangxi Provinces, and greatly facilitate future regional cooperation and development. The BCP has strategic significance for a closer integration of Hong Kong and Shenzhen, which is in line with the policy to consolidate Hong Kong's status in the Pearl River Delta regional development. From the local perspective, the BCP would help

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<sup>5</sup> The Shenzhen Eastern Corridor aims to realise the Shenzhen Municipal Government's transport planning principle of "East in East out" for goods vehicles. It is a dual three-lane expressway linking up the BCP at Liantang with the existing Shenzhen-Huizhou Expressway to Huizhou and Shenzhen-Shantou Expressway to Shantou.

redistribute the cross-boundary vehicular traffic amongst the crossings in the east. This would alleviate the frequent traffic congestion at Man Kam To Control Point and provide room for improvement at Man Kam To and Sha Tau Kok Control Points. The resultant overall handling capacity and the quality of service of these boundary crossing points would be greatly enhanced. This major infrastructure project has strategic significance for Hong Kong's future development. It is featured in the Framework Agreement on Hong Kong/Guangdong Cooperation signed in April 2010 and included as one of the major cooperation projects in the National 12<sup>th</sup> Five-Year Plan. As agreed with the Shenzhen side, the new BCP is scheduled for commissioning no later than 2018. The CR should also be completed by then to tie in with the commissioning of the BCP.

### ***Formation of the site and need for the CR***

8. A site of about 23 hectares is to be formed for accommodating the BCP buildings and associated facilities. A perimeter patrol road of 1.8 km at the BCP will also be provided. It will be necessary to enhance connectivity of the new BCP with other parts of the territory by constructing an approximately 11-km long trunk road to provide direct access between the BCP and the Fanling Highway. The dual two-lane CR consists of two tunnel sections totalling 5.7 km long, 4.3 km-long viaduct and 1 km-long at-grade roads, linking the BCP proper at Lin Ma Hang Road to Fanling Highway adjacent to Wo Hop Shek. With the new CR, the travelling time between the Fanling Highway and the BCP will be reduced from about 24 minutes to eight minutes. This direct and efficient route will reduce transportation costs and time for travellers and goods on roads. Moreover, four interchanges will be provided along the CR at the junctions with the existing Fanling Highway, Sha Tau Kok Road, Ping Yuen Road and Lin Ma Hang Road. Together with the modification works at the relevant roads and junctions, these will enable the formation of a road network linking up the BCP and the Fanling Highway, and enhance the existing road network in the NENT to meet the future demand of the cross boundary traffic.

### ***Other associated works***

9. In response to the strong request by local residents and to further enhance the convenience and benefits for the public, a pedestrian subway of about 120 metres linking the BCP and the adjacent Lin Ma Hang Road will be constructed to provide a convenient access for nearby villagers and visitors walking to the BCP. With this direct pedestrian access, the detouring vehicular trips of taking public transport from the villages adjacent to the BCP and then back to the BCP for boundary crossing would then be saved.

10. Apart from the main works, we have to carry out the basic infrastructure and ancillary works including the sewage treatment facilities, drainage, sewerage and waterworks so as to support the future operation of the BCP.

11. Under the prevailing policy, indigenous owners affected by construction works along the CR would be compensated by the grant of resite houses. We therefore need to provide resite area(s) for reprovisioning of the eight affected building lots. Site formation and basic infrastructure works including drainage, sewerage and waterworks for such the resite area(s) would be required.

12. In addition, the proposed diversion/modification works at Sha Tau Kok Road, Wo Keng Shan Road and Lin Ma Hang Road will affect some existing government facilities including the Wo Keng Shan Road garden and a public toilet, the Architectural Services Department's depot at Lin Ma Hang Road and the footbridges crossing Ng Tung River. We will carry out reprovisioning works for these affected government facilities at the locations shown in Enclosures 2 and 3. We will maintain the services of these facilities as far as practicable before commissioning of the reprovisioned facilities.

***Works to be entrusted to SZMG***

13. Four vehicular bridges and one pedestrian bridge will be constructed over the SZ River connecting the BCP of the Hong Kong and SZ sides (item (e) of paragraph 3). They are required under this project to provide convenient access for cross-boundary vehicles and travellers.

14. We intend to entrust the design of the HKSAR portion of the cross boundary bridges to the SZMG to be done in conjunction with the SZ portion of the bridges to ensure compatibility of design. We will ensure that the design meets our established standards.

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15. Moreover, construction of the cross boundary bridges has to be carried out by a single party in order to exercise better control over the phasing of the construction works and the number of piling plants and associated vessels in the River, thereby minimising the disruption to navigation on the SZ River. The narrow width of the River severely restricts the possibility of two separate teams carrying out works at the same time. To do so would give rise to serious interface problems such as the need to agree on access arrangements, problems in coordinating construction programmes, restrictions on construction techniques, and increased difficulties in achieving compatibility of overall appearance of materials and finishes. There could also be claims from both contractors for costs and extension of time due to interference in the works. Having carefully considered the issues of site accessibility and management of the SZ River which is undertaken by the SZ side, we intend to also entrust the construction of the HKSAR portion of the cross boundary bridges to the SZMG. The entrusted works will be subject to overall control and monitoring by a Joint Working Group formed by the HKSAR Government and SZMG.

## FINANCIAL IMPLICATIONS

16. We estimate the cost of the proposed works to be \$16,253.2 million in MOD prices (please see paragraph 17 below), broken down as follows -

		<b>\$ million</b>
(a)	Site formation and construction of perimeter patrol road with associated fencing and pedestrian subway linking the BCP to Lin Ma Hang Road	217.9
(b)	Dual two-lane connecting road	9,282.5
	(i) about 1 km at-grade road	756.5
	(ii) about 4.3 km viaduct	2,828.2
	(iii) about 5.7 km tunnel	3,935.1
	(iv) at-grade roadworks of four interchanges	100.3
	(v) administration building for tunnel	332.5
	(vi) ventilation adit and buildings for tunnel	622.5
	(vii) traffic control and surveillance system	226.6
	(viii) E&M works	480.8

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	<b>\$ million</b>
(c) Diversion/modifications at existing local roads	110.6
(d) Sewage collection, treatment and disposal	208.5
(e) Reprovisioning of affected government facilities	48.6
(f) Design and construction of cross boundary bridges (HKSAR portion) (to be entrusted to SZMG)	268.0
(g) Provision of resite area(s) and ancillary works	98.0
(h) Additional energy conservation measures	20.0
(i) Environmental mitigation measures and EM&A programme	150.8
(j) Consultants' fees <sup>6</sup> for	77.0
(i) contract administration	40.3
(ii) management of resident site staff	31.7
(iii) independent environmental checker service <sup>7</sup>	5.0
(k) Remuneration of resident site staff	792.5
(l) On-cost payable to SZMG <sup>8</sup>	11.0

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<sup>6</sup> Excluding consultants' fees for the design and construction of the cross boundary bridges (HKSAR portion) (item (f) of paragraph 16).

<sup>7</sup> As part of the EM&A programme for the proposed works, we will engage a consultant to perform independent environmental checker service to review and audit the environmental monitoring works and results.

<sup>8</sup> Subject to further negotiation with the SZMG, an on-cost estimated at 4% of the project base cost (i.e. item (f) of paragraph 16) will be payable to the SZMG for project management and construction supervision of the entrusted works.



	<b>\$ million</b>	
(m) Electrical and Mechanical Services Trading Fund (EMSTF) charges <sup>9</sup>	16.7	
(n) Contingencies	1,130.0	
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Sub-total	12,432.1	(in September 2011 prices)
(o) Provision for price adjustment	3,821.1	
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Total	16,253.2	(in MOD prices)
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———— A breakdown of the estimates for the consultants' fees and resident site staff costs by man-months is at Enclosure 6.

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

<b>Year</b>	<b>\$ million (Sept 2011)</b>	<b>Price adjustment factor</b>	<b>\$ million (MOD)</b>
2012 – 2013	11.0	1.05325	11.6
2013 – 2014	525.9	1.11118	584.4
2014 – 2015	2,410.0	1.17229	2,825.2
2015 – 2016	2,578.0	1.23677	3,188.4
2016 – 2017	2,450.0	1.30479	3,196.7
2017 – 2018	1,973.0	1.37656	2,716.0
2018 – 2019	1,400.0	1.45227	2,033.2
2019 – 2020	650.0	1.53214	995.9
2020 – 2021	434.2	1.61641	701.8
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	12,432.1		16,253.2
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<sup>9</sup> Since the establishment on 1 August 1996 under the Trading Fund Ordinance, the EMSTF charges government departments for design and technical consultancy services provided by the Electrical and Mechanical Services Department. The services rendered for this project include checking consultants' submissions on all electrical and mechanical (E&M) installations and providing technical advice to Government on all E&M works and their impact on the project.

18. We have derived the MOD estimate on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2012 to 2021. We will tender the proposed works (except the works to be entrusted to SZMG) under standard re-measurement construction contracts with price adjustments because the quantities of the tunnel works, viaduct foundation, site formation and sewerage works, etc. are subject to variation to suit the actual underground conditions. The SZMG will tender the proposed design service and construction works for the proposed cross boundary bridges through a competitive bidding basis.

19. We estimate the annual recurrent expenditure arising from the proposed works to be \$237.1 million.

## **PUBLIC CONSULTATION**

20. We consulted the North District Council (NDC) and the Tai Po District Council (TPDC) on 9 February and 6 March 2012 respectively. Members of NDC and TPDC raised no objection to the proposed project. During the NDC meeting, members of the NDC expressed concerns about the compensation arrangement for squatter clearances, the progress of various requests made by villagers of Loi Tung and Tai Tong Wu regarding loss of permitted burial grounds, fung shui related issues and the traffic impact on road networks during construction of BCP especially the junction between Sha Tau Kok Road (Lung Yeuk Tau) and Ma Sik Road. We have established an interdepartmental working group to discuss directly with the related stakeholders in order to resolve the concerned issues as soon as practicable. We will carry out the improvement works for the Sha Tau Kok Road/Ma Sik Road junction under this project before construction of the main works to alleviate the traffic problems.

21. We consulted the Rural Committees of Ta Kwu Ling, Sha Tau Kok, Sheung Shui, Tai Po and Fanling on 5 January, 16 January, 8 February, 14 February and 7 March 2012 respectively. All the relevant Rural Committees raised no objection to the proposed project, but the Rural Committees of Ta Kwu Ling and Sha Tau Kok were concerned about the compensation arrangement for squatter clearances and the progress of the various requests made by Loi Tung and Tai Tong Wu as mentioned in paragraph 20.

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22. We gazetted the proposed road scheme (the Scheme) of the project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (R(WU&C)O) on 12 and 19 November 2010. During the statutory objection period, we received 158 objections. To accommodate design development and to ameliorate the effect of the proposed works on the public upon receipt of their objections, amendments to the Scheme (the Amendment Scheme) were made. We gazetted the Amendment Scheme under the R(WU&C)O on 9 and 16 September 2011 and received 32 objections.

23. We received a total of 190 objections to the Scheme and the Amendment Scheme. More detailed descriptions of the objections and the Government responses are in Enclosure 7.

24. We explained to the objectors details of the alignment, the prevailing policy on land resumption and re-housing and their statutory rights. Despite our effort in resolving the objections, only 24 objections were unconditionally withdrawn and 166 objections to the Scheme and the Amendment Scheme remained unresolved by 8 February 2012. The Chief Executive in Council overruled the unresolved objections and authorised the proposed roadworks without modification on 27 March 2012. We note that about 150 of the unresolved objections are about clearance of dwellings and land compensation issues. We consider that with the proposed “Cottage House Option” and the special ex-gratia allowance for qualified households (mentioned in paragraphs 41 and 42 below), as well as the adoption of “Zone A” ex-gratia compensation rate for land resumption, the concerns and views of these unresolved objections should have been largely addressed.

25. On 12 and 19 November 2010, we gazetted the proposed sewerage works of the project under the R(WU&C)O as applied by section 26 of the Water Pollution Control (Sewerage) Regulation and received no objection. The works and use of the sewerage works were authorised and the authorisation notice was gazetted on 18 and 25 February 2011.

26. We consulted the Legislative Council Panel on Development on the proposed works on 24 April 2012. Members supported the proposed works.

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## ENVIRONMENTAL IMPLICATIONS

27. The project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and an environmental permit is required for the construction and operation of the project. On 24 March 2011, the EIA report for the project was approved with conditions under EIA Ordinance and an Environmental Permit (EP) was issued on the same day. The EIA report concluded that the environmental impact of the project can be controlled to within the criteria under EIA Ordinance and the Technical Memorandum on EIA Process.

28. We shall implement the mitigation measures recommended in the approved EIA report. The key mitigation measures under the proposed works include installation of noise barriers at various heights, low noise road surfacing, re-provisioning of woodland compensation areas, wetland compensation areas and compensatory plantings.

29. We shall also implement EM&A programme for the project. As stipulated in the EP, an Environmental Team will be established and an Independent Environmental Checker shall be employed for the implementation and audit of the approved EM&A programme. We have included \$150.8 million (in September 2011 prices) in the project estimate for provision of necessary environmental mitigation measures and implementation of an EM&A programme.

30. At the planning and design stages, we have considered the design of the proposed works and construction sequence to reduce 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 facilities<sup>10</sup>. We will encourage the contractor to maximise the use of recycled/recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

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<sup>10</sup> 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.

31. 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 the 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 construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

32. We estimate that the proposed works will generate in total about 7.07 million tonnes of construction waste. Of these, we will reuse about 1.94 million tonnes (27%) of inert construction waste on site and deliver 5.01 million tonnes (71%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 117 520 tonnes (2%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$150 million for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne<sup>11</sup> at landfills).

## ENERGY CONSERVATION MEASURES

33. This project will adopt various energy efficient features, including –

- (a) building energy management system;
- (b) T5 energy efficient fluorescent tubes with electronic ballast and lighting control by occupancy sensors, daylight sensors and timers;
- (c) optimisation of power factor and supply voltage;
- (d) high efficiency motors;
- (e) on-demand control of fresh supply air;
- (f) heat pump units for air conditioning;

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<sup>11</sup> This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90 per m<sup>3</sup>), nor the cost to provide new landfills (which is likely to be more expensive), when the existing ones are filled.

- (g) automatic condenser tube cleaning equipment;
- (h) light-emitting diode (LED) exit signs; and
- (i) automatic on / off switching of lighting and ventilation fans inside the lifts.

34. For renewable energy technologies, we will adopt photovoltaic system and solar hot water heating.

35. For green features, there will be green roof on the administration building and ventilation buildings, and shrub planting on viaducts for environmental and amenity benefits.

36. For recycled features, we will adopt a rainwater recycling system for irrigation.

37. The total estimated additional cost for adoption of the above features is around \$20 million, which has been included in the cost estimate of the project. The energy efficient features will achieve 12% energy savings in the annual energy consumption with a payback period of about 7 years.

## **TRAFFIC IMPLICATIONS**

38. According to the traffic impact assessment (TIA) for the BCP project, the traffic impact on the existing road networks arising from the operation of the BCP in 2018 with the CR in place is insignificant. Furthermore, the TIA also indicated that the CR as well as the major road links in the NENT connecting to the CR will be able to cope with the future traffic including those generated from the BCP and the future developments in the area. During construction, we will also carry out necessary junction improvement works and implement temporary traffic arrangement to alleviate any possible traffic problems.

## **HERITAGE IMPLICATIONS**

39. This project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

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## LAND ACQUISITION

40. We have reviewed the design of the project to minimise the extent of land acquisition required for the proposed works. We have to resume about 417 681 square metres (m<sup>2</sup>) of private land and cleared 513 500 m<sup>2</sup> of government land for the proposed site formation and infrastructure works. The cost of land resumption and clearance estimated at \$4,062.37 million will be charged to **Head 701 – Land Acquisition**. The land resumption and clearance will affect 772 lots (including 723 agricultural lots and 49 building lots) involving 585 persons, and 19 commercial/industrial undertakings. The land owners of 772 lots, eligible households and commercial/industrial undertakings would be offered ex-gratia allowances and/or accommodation in public housing in accordance with the established rehousing policy. A breakdown of the land resumption and clearance costs is at Enclosure 8.

41. In view of the unique circumstances of Chuk Yuen Village<sup>12</sup>, we reported to the Development Panel on 22 November 2011 (Panel Paper No. CB(1)346/11-12(04)) that the special arrangement of “Cottage House Option”<sup>13</sup> would be offered to non-indigenous villagers (non-IVs) residing within the village environs (VE) of Chuk Yuen Village as an alternative to taking care of their rehousing needs under the prevailing policy<sup>14</sup>. Taking account of the villagers’

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<sup>12</sup> The unique circumstances comprise (i) Chuk Yuen Village being a pre-1898 recognised village located within the Frontier Closed Area with entry restrictions; (ii) the need to clear the whole Chuk Yuen Village for construction of the BCP; (iii) the IVs and non-IVs who have been living there together in a closely-knitted community for a long time have expressed a strong wish to continue living together after relocation of the village; and (iv) the availability of suitable agricultural land adjoining the Village Resite Area for village type development.

<sup>13</sup> Under the original “Cottage House Option”, the non-IVs within the VE of Chuk Yuen Village may purchase suitable agricultural land in the Extended Village Area adjoining the Village Resite Area and apply to LandsD for building a 2-storey domestic structure of 17 feet high with a maximum roofed-over area of 500 square feet per floor on their purchased private agricultural land by way of an in-situ land exchange, subject to their paying full market value premium for the land exchange. A non-alienation clause for a period of three years after the issuance of Certificate of Compliance under the lease conditions upon completion of the building will be included in the land exchange conditions.

<sup>14</sup> Under the prevailing policy, the non-IVs who do not own any building land are not entitled to the New Territories Village Removal Policy and are only eligible for rehousing to public rental housing upon meeting the comprehensive means test, or interim housing (IH), or an Ex-gratia Allowance for Permitted Occupiers in lieu of IH, or in the case of genuine farmers, the agricultural resite arrangement.

response after the announcement of the “Cottage House Option”, we have decided to extend the “Cottage House Option” to eligible non-IVs residing in Chuk Yuen South<sup>15</sup>, subject to the determination by the SDEV at her discretion on a case-by-case basis, provided that their claim of strong social ties with residents within the VE of Chuk Yuen Village could be established and recognised by the Chuk Yuen Village community. Their eligibility criteria for the “Cottage House Option” are the same as their fellow non-IVs residing within the VE of Chuk Yuen Village and SDEV’s discretion on whether a non-IV not meeting fully the eligibility criteria should be granted the “Cottage House Option” is also applicable to them. We have also decided to relax the maximum building height of the cottage house from 17 feet to 19 feet in response to the villagers’ request for taking into account the requirement for installation of ceiling fans, which are commonly used in low-rise domestic dwellings in the New Territories. Details are provided in PWSC Paper No. PWSC(2012-13)27.

42. Smooth land resumption and clearance is crucial to the timely completion of the BCP in 2018. In view of the need for early implementation of this strategically important project, we propose that a special ex-gratia allowance for qualified households affected by land resumption and clearance required for the proposed works be provided. Details of the proposed special ex-gratia allowance which is estimated to cost about \$211 million are set out in PWSC Paper No. PWSC(2012-13)27.

## BACKGROUND INFORMATION

43. We upgraded **13GB** to Category B in July 2008.

44. On 9 January 2009, the FC approved the upgrading of part of **13GB** to Category A as **14GB** “Liantang/Heung Yuen Wai Boundary Control Point and associated works – investigation and preliminary design” at an estimated cost of \$89.0 million in MOD prices for carrying out the investigation and preliminary design for the development of the BCP. The preliminary design was completed in December 2010.

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<sup>15</sup> Chuk Yuen South is an existing cluster of domestic structures in Ta Kwu Ling which lies outside the VE of Chuk Yuen Village but within the village representative election boundary of Chuk Yuen Village (as at the pre-clearance survey date on 12 November 2010) and is affected by the BCP Project. Non-IVs residing in Chuk Yuen South claim that they have strong social ties with their fellow villagers residing in the VE of Chuk Yuen Village.



45. On 30 April 2010, the FC approved the upgrading of another part of **13GB** to Category A as **16GB** “Liantang/Heung Yuen Wai Boundary Control Point and associated works – village reprovisioning works” at an estimated cost of \$51.3 million in MOD prices to provide a village resite area with supporting infrastructure for reprovisioning of the existing Chuk Yuen Village to make way for the construction of the BCP. Construction was substantially completed in March 2012.

46. On 18 February 2011, the FC approved the upgrading of another part of **13GB** to Category A as **17GB** “Liantang/Heung Yuen Wai Boundary Control Point and associated works – detailed design and ground investigation” at an estimated cost of \$265.8 million in MOD prices for carrying out the detailed design and ground investigation for the development of the BCP and the associated SZ River improvement works. We engaged consultants in March 2011 to undertake the detailed design of the BCP site formation and the connecting road for completion by mid-2012, and engaged consultants jointly with the SZMG in July 2011 to undertake the detailed design of the SZ River improvement works for completion by July 2013.

47. On 6 January 2012, the FC approved the upgrading of another part of **13GB** to Category A as **18GB** “Liantang/Heung Yuen Wai Boundary Control Point and associated works – reprovisioning of boundary patrol road and associated security facilities” at an estimated cost of \$393.5 million in MOD prices for the reprovisioning of a section of boundary patrol road and the associated security facilities for the development of the new BCP. Construction commenced in March 2012 for completion in early 2015.

48. Of the about 11 380 trees within the project boundary, about 590 are dead. Of the remaining 10 790 trees, about 3 160 will be preserved. The proposed construction works will involve the removal of about 7 630 trees, including about 7 044 trees to be felled and about 586 trees to be transplanted within the project site. Of the 29 important trees<sup>16</sup> identified within the project boundary, 11 will be retained, 16 will be transplanted to a new location within the

/project .....

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<sup>16</sup> An “important tree” refers 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) tree of cultural, historical or memorable significance e.g. Fung Shui tree, tree 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 overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, tree growing in unusual habitat; or
- (e) trees with trunk diameter equal or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

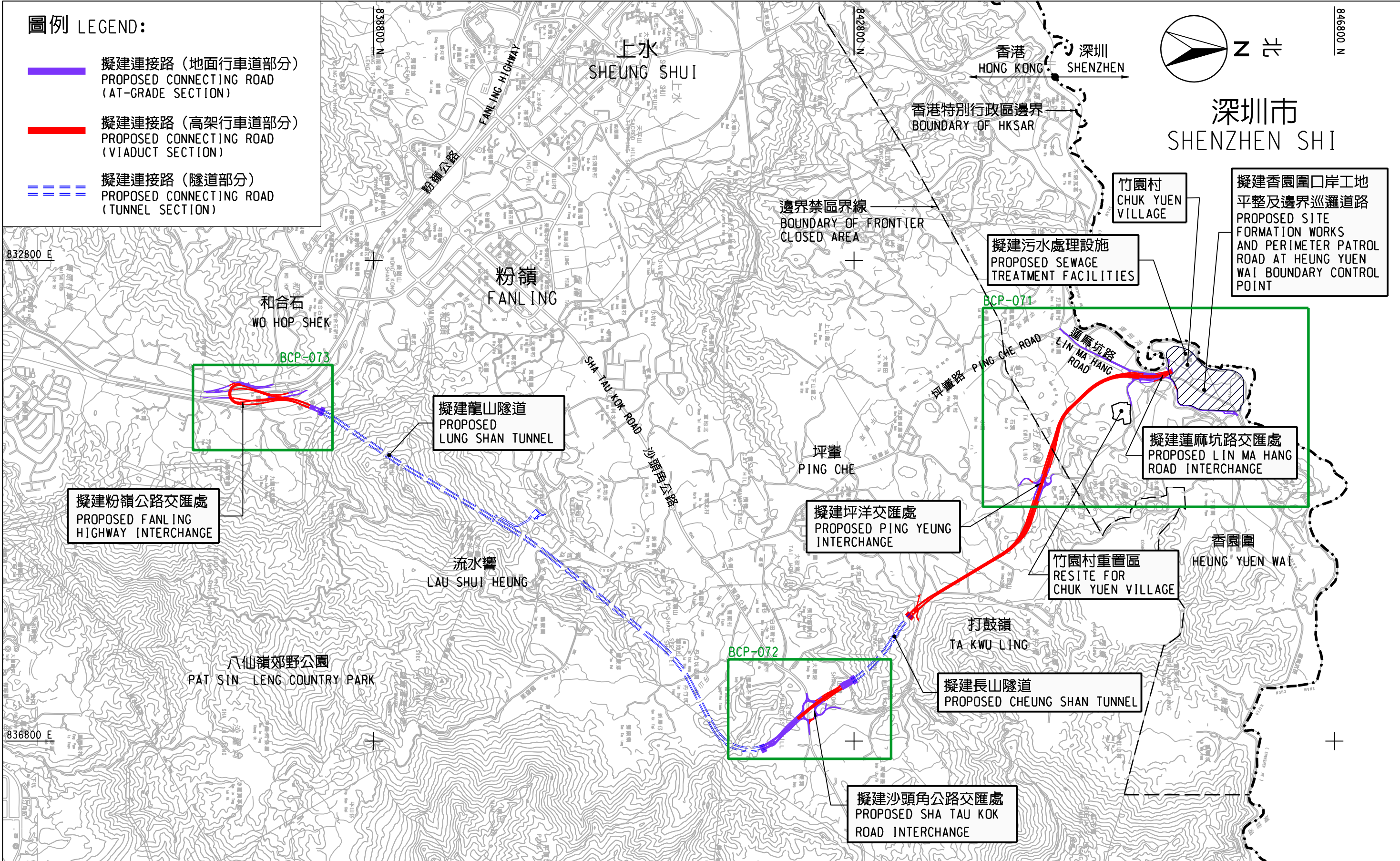
project site and 2 will be felled. None of the important trees identified are registered Old and Valuable Trees. A summary of important trees involved is provided at Enclosure 9. We will incorporate planting proposals as part of the project, including planting approximately 5 050 heavy standard and standard trees, at least 20 000 seedling trees for 186 000 m<sup>2</sup> of woodland compensation area, and approximately 25 000 whip trees for planting on new slopes.

49. We estimate that the proposed works will create about 2 864 jobs (2 323 for labourers and another 541 for professional/technical staff), providing a total employment of 141 461 man-months.

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**Development Bureau**  
**May 2012**





drawing title 圖則名稱

蓮塘/香園圍口岸與相關工程 - 擬建口岸及連接路之平面圖

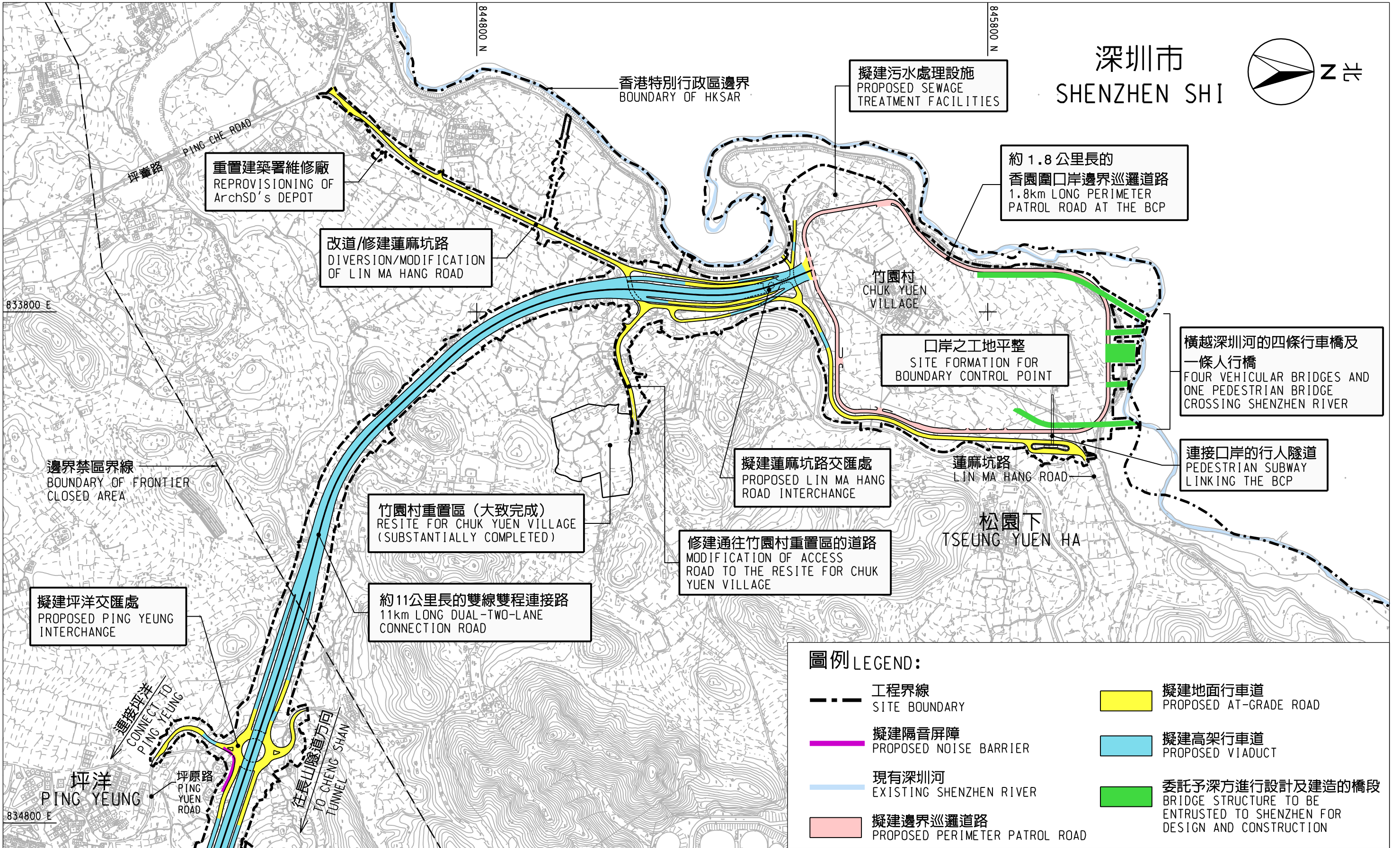
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS  
- LAYOUT OF THE PROPOSED BOUNDARY CONTROL POINT AND CONNECTING ROAD

drawing no. 圖則編號  
BCP - 070

scale 比例  
1 : 30 000







drawing title 圖則名稱

# 擬建香園圍口岸工地平整及相關連接路

PROPOSED SITE FORMATION FOR HEUNG YUEN WAI BOUNDARY CONTROL POINT  
AND ASSOCIATED CONNECTING ROAD

drawing no. 圖則編號

BCP - 071

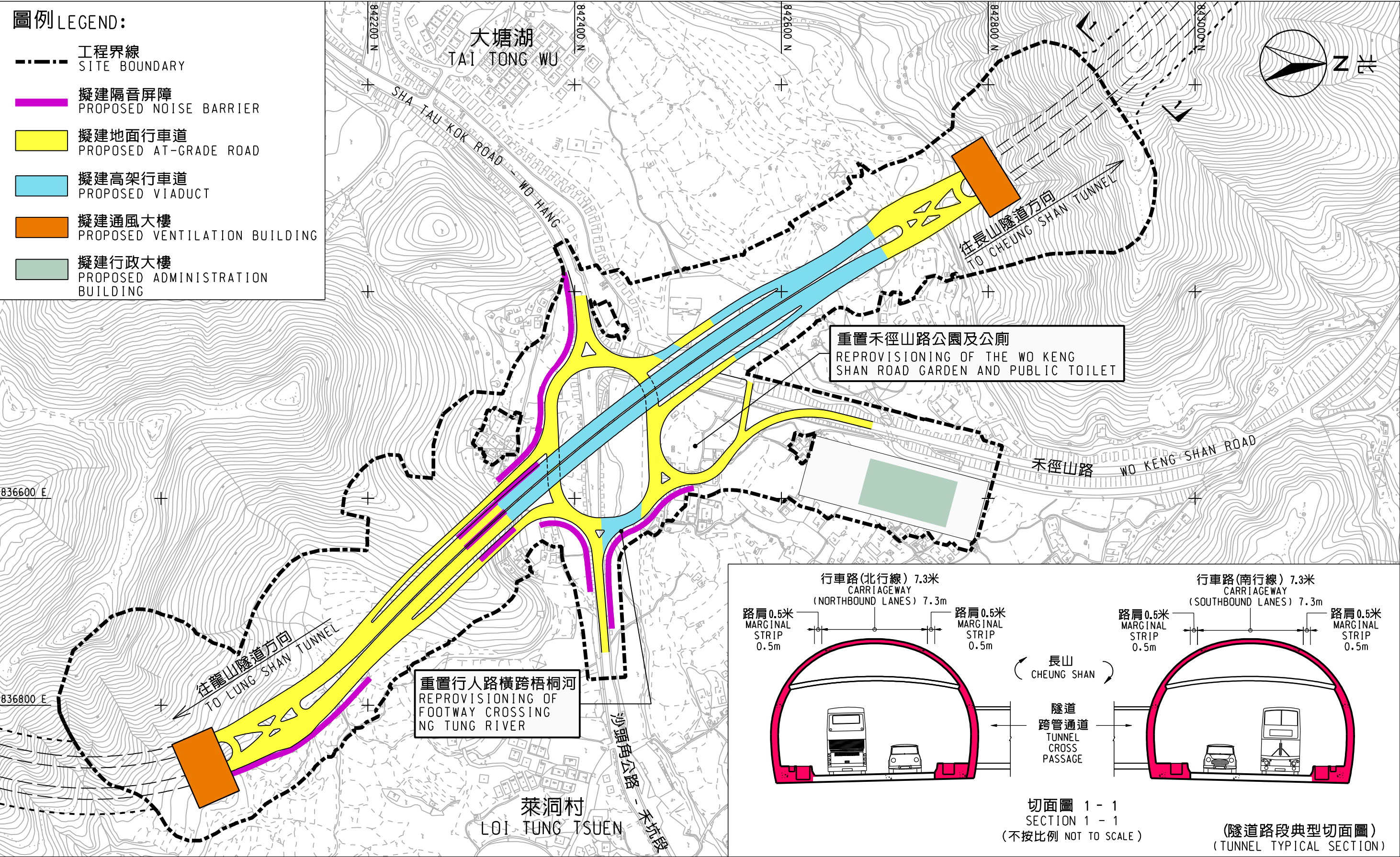
scale 比例	
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: 7 000



CIVIL ENGINEERING  
AND DEVELOPMENT  
DEPARTMENT  
HONG KONG





drawing title 圖則名稱

擬建沙頭角公路交匯處

PROPOSED SHA TAU KOK ROAD INTERCHANGE

drawing no. 圖則編號

BCP - 072

scale

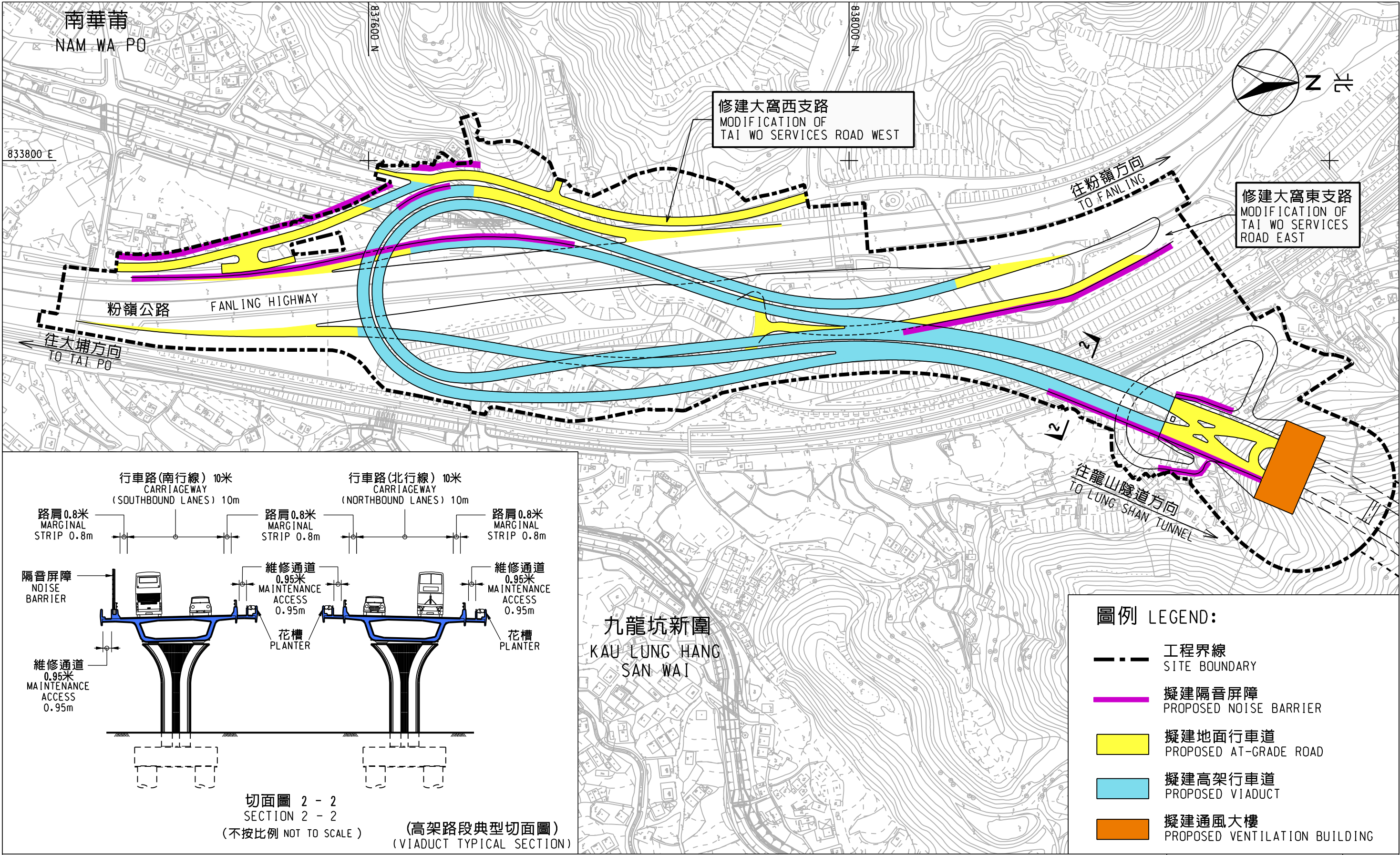
比例

1 : 3 500



CIVIL ENGINEERING  
AND DEVELOPMENT  
DEPARTMENT  
HONG KONG





drawing title 圖則名稱

擬建粉嶺公路交匯處  
PROPOSED FANLING HIGHWAY INTERCHANGE

drawing no. 圖則編號  
BCP - 073

scale  
比例  
1 : 3 000

CEDD  
CIVIL ENGINEERING  
AND DEVELOPMENT  
DEPARTMENT  
HONG KONG





**蓮塘/香園圍口岸及深圳東部過境通道**  
**Liantang / Heung Yuen Wai**  
**Boundary Control Point and**  
**Shenzhen Eastern Corridor**

km 0 2 4 6 8 10 12 km  
 SCALE

PLANNING DEPARTMENT 規劃署



Plan No. 圖則編號: M/CID/12/100

Date 日期: 16-04-2012

圖 PLAN

### 13GB (Part) – Liantang/Heung Yuen Wai Boundary Control Point and associated works

#### Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2011 prices)

			Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fees (\$million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	–	–	–	32.1
		Technical	–	–	–	8.2
					Sub-total	40.3
(b)	Resident site staff costs (Note 3)	Professional	3 369	38	1.6	336.4
		Technical	14 398	14	1.6	487.8
					Sub-total	824.2
	Comprising –					
	(i) Consultants' fees for management of resident site staff					31.7
	(ii) Remuneration of resident site staff					792.5
(c)	Independent environmental checker service <sup>(Note 4)</sup>	Professional	27	38	2.0	3.4
		Technical	38	14	2.0	1.6
					Sub-total	5.0
					<b>Total</b>	<b>869.5</b>

\* MPS = Master Pay Scale

#### Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of resident site staff supplied by the consultants. A multiplier of 2.0 is applied to the average MPS salary point to estimate the full staff cost including the consultants' overheads and profit for the staff employed in the consultants' offices. (As at now, MPS salary point 38 = \$62,410 per month and MPS salary point 14 = \$21,175 per month.)
2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade the proposed works to Category A.
3. The actual man-months and actual costs will only be known after completion of the construction works.



4. The actual man-months and actual costs will only be known after the consultants have been selected through the usual competitive lump-sum bid system.

**Details of Objections to the Scheme and the Amendment Scheme of the project under the Roads (Works, Use and Compensation) Ordinance (Cap 370) Gazetted on 12 & 19 November 2010 and 9 & 16 September 2011 respectively.**

During the statutory period for objection to the Scheme and the Amendment Scheme, 190 objections were received. The details of the objections are described as follows.

**Group A: Clearance of Dwellings (138 cases)**

The objectors are mainly concerned about the clearance of their dwellings. They requested the Government to review and amend the road alignment to avoid clearance of their structures. Upon receipt of the objections, the Government has critically reviewed the design, including the road alignment and the design of the concerned interchanges and the project boundary. Wherever possible, amendments to the proposed road scheme have been made to avoid affecting some of the objectors' dwellings. The proposed amendments were gazetted on 9 and 16 September 2011. In response to the remaining objections, the Government explained that the current design of the connecting road had minimised the land to be resumed and avoided affecting surrounding structures as far as possible. The design of the connecting road has to comply with road safety standard, as well as take into account land requirement and safety and environmental issues etc. during construction. Therefore, clearance of the objectors' structures is unavoidable.

Twenty objection cases in this group were subsequently withdrawn unconditionally after objection resolution by 8 February 2012, leaving 118 unresolved objections. With the proposed "Cottage House Option" and the special ex-gratia allowance for qualified household, we consider that the major concerns and views of these unresolved objections should have been addressed.

**Group B: Land Compensation Issues (31 cases)**

This group of objectors requested the Government to upgrade the ex-gratia compensation rates for resumption of their agricultural land and resume the whole piece instead of part of their land concerned. In response, the Government explained that under the prevailing policy, the Government will offer ex-gratia compensation to owners of agricultural land to be resumed according to the zonal compensation rate and the area of the land to be resumed. In addition, under the prevailing policy, the Government will only resume land essential for a project and avoid resumption of any unnecessary private land in order to minimise the impact on the public.

One objection in this group was subsequently withdrawn unconditionally after objection resolution leaving 30 unresolved objections. In view of the territory-wide significance of the Liantang/Heung Yuen Wai BCP project, an ex-gratia compensation rate at "Zone A" for land resumption will be adopted for this project. This should largely address the requests of the objectors in this group.

**Group C: Compensation for Building Lots (4 cases)**

The objectors requested the Government to provide land for construction of their resite houses. In response, the Government explained to the objectors that under the prevailing policy, the villagers would be compensated with either resettlement sites with resite houses (to be built by the Government or by the landowners) or rehousing allowance in lieu. The former option should have met the objectors' request. The objectors' concerns should have been largely addressed. The Government will continue to discuss with the objectors on the details of the compensation arrangement according to the prevailing policy.

**Group D: Loss of Permitted Burial Grounds and Fung Shui Related Issues (2 cases)**

This group of objectors are mainly concerned about the compensation for the area of burial grounds affected by the proposed works and the potential "Fung Shui" issues on their villages and requested the Government to implement mitigation measures, including "Tun Fu", Buddhist Taoist ceremony, provision of village office and pai-lau, etc. In response, the Government explained to the objectors that it would continue to study and discuss with them the compensation proposals concerning the burial grounds and their proposed mitigation measures pursuant to the prevailing policy.

**Group E: Clearance of Graves (6 cases)**

This group of objectors are mainly concerned about the clearance of their ancestral graves within the limit of works area of the proposed road scheme. In response, the Government explained that the Government will offer ex-gratia allowance to eligible persons according to the prevailing policy. The ex-gratia allowance will be determined in accordance with the type, size and construction materials of the affected graves.

**Group F: Loss of Local Accesses and/or Minor Structures (5 cases)**

This group of objectors are mainly concerned about the loss of local accesses to their dwellings and the loss of minor structures such as gates, hoardings and boundary fences of their dwellings. In response, the Government explained to the objectors that the Government would maintain the accesses to their dwellings during and after completion of the construction works, and would assist in reinstating their affected minor structures. Three objection cases were subsequently withdrawn unconditionally after objection resolution leaving two unresolved objections in this group.

**Group G: Environmental Issues (2 cases)**

This group of objectors are mainly concerned about the environmental impact, including the visual impact and ecological impact arising from the connecting road, including the proposed Sha Tau Kok Road Roundabout and Lin Ma Hang Road Roundabout. In response, the Government explained to the objectors that the potential environmental impact had been fully identified and evaluated in the Environmental Impact Assessment of the project. Where deemed necessary, suitable mitigation measures have been proposed. The EIA report was approved by the Director of Environmental Protection on 24 March 2011.

**Group H: Loss of Future Development Potential (1 case)**

The objectors are mainly concerned about the proposed connecting road, which would pass through their lots and impose a major adverse impact on the development potential of the lots. They requested the Government to examine the feasibility of shifting the alignment of the connecting road to the east and/or constructing the connecting road in the form of a tunnel. In response, the Government explained that in the design of the connecting road, the Government would take into account the impact on the existing land uses and the future committed/approved land uses. The current gazetted alignment is a result of thorough consideration and assessment of various options and is in compliance with the environmental legislation and standards. The concerned objectors' alternative proposals will unnecessarily increase the impact on the surroundings.

**Group I: Loss of Employment (1 case)**

The objectors of this objection requested detouring of the alignment of the road and reducing the area of the land required so as to ameliorate the impact on a workshop in which they are working. In response, the Government explained that the current design of the alignment of the connecting road had minimised its impact on the surroundings and was considered to be an optimal option.

**13GB (Part) – Liantang / Heung Yuen Wai Boundary Control Point and associated works**

**Breakdown of the land resumption and clearance costs** <sup>Note 1</sup>

	<b>\$ million</b>				
<b>(I) Estimated resumption cost</b>	<b>3,589.69</b>				
<p>a) Building land compensation (see Notes 2 to 4 below)</p> <p>49 building lots (with a total area of 3 170.21 m<sup>2</sup>) will be resumed, comprising –</p> <table> <tr> <td>Village Removal Terms Compensation</td><td style="text-align: right;">74.22</td></tr> <tr> <td>Ex-gratia Compensation</td><td style="text-align: right;">8.53</td></tr> </table>	Village Removal Terms Compensation	74.22	Ex-gratia Compensation	8.53	
Village Removal Terms Compensation	74.22				
Ex-gratia Compensation	8.53				
<p>b) Agricultural land ex-gratia compensation (see Notes 3 &amp; 4 below)</p> <p>723 agricultural lots (with a total area of 414 510.62 m<sup>2</sup>) will be resumed (agricultural land for “Zone A” is \$8,460.43 per m<sup>2</sup>)</p>	3,506.94				
<b>(II) Estimated clearance cost</b>	<b>103.34</b>				
a) Ex-gratia allowance for crop compensation	50.90				
b) Ex-gratia allowance for farm structures and miscellaneous permanent improvements to farms	21.00				
<p>c) Ex-gratia allowances for miscellaneous indigenous villager matters</p> <p>e.g. removal of graves/urns and shrines and “Tun Fu” ceremonies</p>	8.46				
d) Ex-gratia allowance for domestic occupiers and business undertakings	22.98				

<b>(III) Interest and contingency payment</b>	<b>369.34</b>
a) The interest payment on various ex-gratia compensations for private land	0.04
b) Contingency on the above costs	369.30
<b>Total</b>	<b>4,062.37</b>

### Notes

1. This has not included the proposed special ex-gratia allowance for qualified households affected by land resumption and clearance under the project, which is estimated at about \$211 million. Details are provided in PWSC Paper No. PWSC(2012-13)27.
2. The building land compensation includes compensation costs under the NT Village Removal Policy and building land ex-gratia compensation excluding professional valuation.
3. There are four ex-gratia compensation zones, namely Zones A, B, C and D, for land resumption in the New Territories as approved by 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 under the project: "PWP Item **13GB** – Liantang / Heung Yuen Wai Boundary Control Point and associated works" has been upgraded to "Zone A".
4. In accordance with G.N. 2128 dated 16 March 2012 on the revised ex-gratia compensation rates for resumed land, the ex-gratia compensation rate of agricultural land for "Zone A" is \$786 per square foot (or \$8,460.43 per m<sup>2</sup>). The ex-gratia compensation rate for building land for "Zone A" is \$1,557 per square foot (or \$16,759.41 per m<sup>2</sup>).

## 13GB (Part) – Liantang / Heung Yuen Wai Boundary Control Point and associated works

Summary of "Important Trees"

Tree ref. no. (3)	Tree species (Botanical name)	Tree maintenance department	Tree Size			Form <sup>(1)</sup> (Good / Fair / Poor)	Health condition (Good / Fair / Poor)	Amenity value (High / Medium / Low)	Survival rate after transplanting (High / Medium / Low)	Recommendation (Retain / Transplant / Fell)	Remarks (including justification for proposed tree removal / ecological and historical significance (if any) of affected trees, etc.)
			Overall height (metres)	Trunk <sup>(2)</sup> diameter (millimetres)	Average crown spread (metres)						
T561	<i>Melaleuca quinquenervia</i>	LCSD	12	1180	7	Fair	Fair	Medium	---	Retain	
T583	<i>Melaleuca quinquenervia</i>	LCSD	14	1120	7	Fair	Fair	Low	---	Retain	
T825	<i>Melaleuca quinquenervia</i>	LCSD	15	1160	11	Fair	Fair	High	---	Retain	
STK828	<i>Melaleuca quinquenervia</i>	LCSD	18	1100	6	Poor	Poor	Low	----	Retain	
U269	<i>Melaleuca quinquenervia</i>	AFCD	18	1070	8	Fair	Fair	Medium	---	Retain	
STK3225	<i>Celtis sinensis</i>	AFCD	16	1000	14	Fair	Fair	Medium	---	Retain	
T2768	<i>Ficus elastica</i>	AFCD	11	5000	10	Fair	Good	High	---	Retain	
U75	<i>Ficus elastica</i>	LCSD	18	1800	16	Good	Fair	High	---	Retain	
STK4694	<i>Ficus microcarpa</i>	AFCD	18	1400	12	Poor	Poor	Low	---	Retain	
T973	<i>Ficus microcarpa</i>	LCSD	12	1340	15	Fair	Fair	Medium	---	Retain	
T556	<i>Cinnamomum camphora</i>	AFCD	20	1110	26	Good	Fair	High	---	Retain	

Tree ref. no. (3)	Tree species (Botanical name)	Tree maintenance department	Tree Size			Form <sup>(1)</sup> (Good / Fair / Poor)	Health condition (Good / Fair / Poor)	Amenity value (High / Medium / Low)	Survival rate after transplanting (High / Medium / Low)	Recommendation (Retain / Transplant / Fell)	Remarks (including justification for proposed tree removal / ecological and historical significance (if any) of affected trees, etc.)
			Overall height (metres)	Trunk <sup>(2)</sup> diameter (millimetres)	Average crown spread (metres)						
STK751	<i>Melaleuca quinquenervia</i>	LCSD	18	1100	8	Fair	Fair	Medium	Low	Transplant	
STK756	<i>Melaleuca quinquenervia</i>	LCSD	18	1000	5	Fair	Fair	Medium	Low	Transplant	
STK757	<i>Melaleuca quinquenervia</i>	LCSD	19	1100	5	Poor	Fair	Medium	Low	Transplant	
STK758	<i>Melaleuca quinquenervia</i>	LCSD	20	1000	5	Fair	Fair	Medium	Low	Transplant	
STK759	<i>Melaleuca quinquenervia</i>	LCSD	18	1000	6	Fair	Fair	Medium	Low	Transplant	
STK1171	<i>Melaleuca quinquenervia</i>	LCSD	14	1100	8	Fair	Fair	Low	Low	Transplant	
T519	<i>Melaleuca quinquenervia</i>	LCSD	12	1120	7	Fair	Fair	Low	Low	Transplant	
T520	<i>Melaleuca quinquenervia</i>	LCSD	12	1010	7	Fair	Fair	Low	Low	Transplant	
T523	<i>Melaleuca quinquenervia</i>	LCSD	9	1080	6	Fair	Fair	Low	Low	Transplant	
T728	<i>Melaleuca quinquenervia</i>	LCSD	15	1050	7	Fair	Fair	Medium	Low	Transplant	
T770	<i>Melaleuca quinquenervia</i>	LCSD	15	1300	5	Fair	Fair	Medium	Low	Transplant	
T1179	<i>Melaleuca quinquenervia</i>	LCSD	17	1070	6	Fair	Fair	Medium	Low	Transplant	
T1180	<i>Melaleuca quinquenervia</i>	LCSD	16	1140	7	Fair	Fair	Medium	Low	Transplant	



Tree ref. no. (3)	Tree species (Botanical name)	Tree maintenance department	Tree Size			Form <sup>(1)</sup> (Good / Fair / Poor)	Health condition (Good / Fair / Poor)	Amenity value (High / Medium / Low)	Survival rate after transplanting (High / Medium / Low)	Recommendation (Retain / Transplant / Fell)	Remarks (including justification for proposed tree removal / ecological and historical significance (if any) of affected trees, etc.)
			Overall height (metres)	Trunk <sup>(2)</sup> diameter (millimetres)	Average crown spread (metres)						
T1181	<i>Melaleuca quinquenervia</i>	HyD	17	1040	7	Fair	Fair	Medium	Low	Transplant	
T1186	<i>Melaleuca quinquenervia</i>	HyD	17	1490	10	Fair	Fair	Medium	Low	Transplant	
T1192	<i>Melaleuca quinquenervia</i>	AFCD	16	1410	7	Fair	Fair	Medium	Low	Transplant	
T753	<i>Ficus microcarpa</i>	LCSD	6	1060	2	Fair	Poor	Low	Low	Fell	In poor condition and decaying.
T1549	<i>Cinnamomum camphora</i>	LCSD	14	1130	11	Fair	Poor	Low	Low	Fell	In poor condition with wilt branches.

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1. Form of a tree will take account of the overall tree size, shape, and any special feature.
  2. Trunk diameter of a tree refers to its diameter at breast height (i.e. measured at 1.3 metres above ground level).
  3. The important trees in the summary are not registered Old and Valuable Trees.
  4. Abbreviations : AFCD: Agriculture, Fisheries and Conservation Department  
HyD : Highways Department  
LCSD : Leisure and Cultural Services Department