

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS

Transport – Roads

825TH – Tuen Mun - Chek Lap Kok Link and Tuen Mun Western Bypass

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **825TH**, entitled “Tuen Mun – Chek Lap Kok Link – construction works”, to Category A at an estimated cost of \$44,798.4 million in money-of-the-day prices; and
- (b) the retention of the remainder of **825TH** in Category B.

PROBLEM

We need to construct the Tuen Mun – Chek Lap Kok Link (TM-CLKL) to connect North Lantau Highway (NLH) with Tuen Mun Area 40 to dovetail with the commissioning of Hong Kong-Zhuhai-Macao-Bridge (HZMB), so as to help enhance the transportation network between Hong Kong, Zhuhai, Macao and Shenzhen, and uplift the overall efficiency of transport network in Hong Kong.

/PROPOSAL

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade part of **825TH** to Category A at an estimated cost of \$44,798.4 million in money-of-the-day (MOD) for the construction of TM-CLKL.

PROJECT SCOPE AND NATURE

3. The part of **825TH** which we proposed to upgrade to Category A comprises –

(A) Northern Connection (approximately 5.5 kilometres (km) long)

- (a) construction of a dual 2-lane sub-sea tunnel of approximately 5 km long between Tuen Mun Area 40 and the HZMB Hong Kong Boundary Crossing Facilities (HKBCF);
- (b) reclamation to form extra land of approximately 16.5 hectares (ha) at Tuen Mun Area 40 as the northern landfall of the TM-CLKL sub-sea tunnel¹;
- (c) construction of a toll plaza of approximately 5.4 ha near Tuen Mun Area 40 (including 17 toll booths) and associated footbridge;
- (d) construction of associated approach roads including approximately 0.5 km of land viaducts and 230 metres (m) of vehicular underpass for linking TM-CLKL with the road network of Tuen Mun Area 40;
- (e) construction of approximately 1.3 km of at-grade roads, administration building, ventilation buildings, and other ancillary buildings/facilities to serve the proposed road tunnel and toll plaza; and

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¹ The advanced reclamation works for southern landfall have already been included under **846TH** “Tuen Mun-Chek Lap Kok Link — detailed design, site investigations and advance works”.

- (f) re-provision of facilities affected by the works for Customs and Excise Department and Fire Services Department at the northern landfall and construction of temporary pontoon.
- (B) Southern Connection (approximately 3.5 km long)
 - (a) construction of a dual 2-lane sea viaduct of approximately 1.6 km long between the HZMB HKBCF and North Lantau;
 - (b) construction of associated approach roads including approximately 1.9 km of land viaducts linking the sea viaduct with NLH and the road network of HZMB HKBCF; and
 - (c) modification and realignment of sections of Cheung Tung Road.
- (C) Other Associated Works
 - (a) ancillary works including site formation, slope, natural terrain hazard mitigation, drainage, sewerage, water supplies, utilities, landscaping, electrical and mechanical (E&M) works, retaining walls, traffic and control surveillance system (TCSS); and
 - (b) implementation of the associated environmental protection works and mitigation measures.

———— The site plans showing the above works of **825TH** proposed to be upgraded are at Enclosure 1.

4. The scope of the remainder of **825TH** comprises –
- (a) the construction of the Tuen Mun Western Bypass (TMWB), a dual two-lane highway approximately 9 km long connecting Kong Sham Western Highway in the north and the proposed TM-CLKL in the south; and
 - (b) the associated building, civil, structural, geotechnical, marine, E&M, landscaping, and environmental protection and mitigation works for the TMWB.

5. Subject to the approval of the Finance Committee, we plan to commence the construction works within this year, for substantial completion of the Southern Connection by end of 2016 in tandem with the commissioning of HZMB and the completion of the Northern Connection by end of 2018 to satisfy the local traffic demand timely.

JUSTIFICATION

Strategic Importance for TM-CLKL

6. Upon the commissioning of TM-CLKL, it will demonstrate the following functions –

(a) Improvement of journey time and road capacity between North West New Territories (NWNT) and Lantau

The TM-CLKL will provide the most direct route between NWNT and Lantau, linking Tuen Mun, the HZMB, the Hong Kong International Airport (HKIA), North Lantau and Tung Chung. Upon commissioning, the new route will reduce the traveling distance and time between NWNT and Lantau by about 22 km and 20 minutes respectively, and also release certain capacity of some existing roads (e.g. Tuen Mun Road, Ting Kau Bridge, Lantau Link (LL) and NLH) to further improve the traffic condition.

(b) Provision of an alternative route to the Airport

We need to construct an alternative route for the existing road corridor to the HKIA. Currently, LL and NLH are the sole road corridor connecting the HKIA and North Lantau with the urban areas. If there is any traffic accident causing severe blockage of this road corridor, the Northern Connection of the TM-CLKL (from Tuen Mun to HKBCF and then HKIA) will be an alternative and emergency route of NLH to HKIA so as to help ensure the normal operation of HKIA. For instance, in June 2008, the landslide and flooding incident occurred at NLH blocked the route to HKIA. This incident also explains the importance of constructing an alternative route to link HKIA and urban areas.

(c) Synergy of HZMB

The TM-CLKL is a strategic link connecting the HZMB with NWNT and North Lantau, which helps enhance the cross-boundary transportation. The TM-CLKL helps to improve the regional transport network of Hong Kong, Macao, Shenzhen and Zhuhai, and is important to the economic integration of Hong Kong and Pearl River Delta Region.

(d) Meeting the transportation demand between Lantau and NWNT

The TM-CLKL will help meet the rising transportation demand between Lantau and NWNT. Based on the latest forecast traffic flow, the projected volume to capacity (v/c) ratios² of LL and NLH (Siu Ho Wan Section) during peak hours with and without TM-CLKL are shown in the following table –

Year/Road	2021	
	Forecast v/c ratio without TM-CLKL	Forecast v/c ratio with TM-CLKL
Lantau Link	0.90	0.77
North Lantau Highway (Siu Ho Wan Section)	0.81	0.68

FINANCIAL IMPLICATIONS

7. We estimate the cost of the proposed works under the project to be \$44,798.4 million in MOD prices, broken down as follows –

\$ million

(a) Sub-sea tunnel of about 5 km long 16,171.5

/(b)

² Volume to capacity (v/c) ratio is an indicator which reflects the performance of a road. A v/c ratio equal to or less than 1.0 means that a road has sufficient capacity to cope with the volume of vehicular traffic under consideration and the resultant traffic will flow smoothly. A v/c ratio above 1.0 indicates the onset of congestion with traffic speeds deteriorating progressively.

	\$ million
(b) Viaducts	5,716.1
(i) sea viaduct of about 1.6 km long	3,692.1
(ii) land viaduct of about 2.4 km long	2,024.0
(c) Reclamation of about 16.5 ha at Tuen Mun Area 40	1,152.2
(i) seawall of about 2.1 km long	633.7
(ii) reclamation of about 16.5 ha	518.5
(d) At-grade roads (including modification and realignment of sections of Cheung Tung Road)	569.0
(e) Toll Plaza	864.4
(f) Underpass connecting Lung Mun Road/Lung Fu Road roundabout	37.5
(g) Footbridge	89.8
(h) Site formation, slope works, retaining walls, utilities and natural terrain hazard mitigation measures	286.7
(i) Drainage and waterworks	468.2
(i) drainage pipes	115.3
(ii) water pipes	122.3
(iii) box culvert	230.6
(j) Building works	625.3
(i) administration building	194.5
(ii) toll control building	93.9
(iii) ventilation building	243.5
(iv) other buildings	93.4

/(k)

	\$ million
(k) Building services	268.0
(i) administration building	83.3
(ii) toll control building	40.4
(iii) ventilation building	104.3
(iv) other buildings	40.0
(l) E&M works	837.6
(m) TCSS	478.7
(n) Re-provisioning of facilities and berths of Hong Kong Customs and Excise Department and Fire Services Department affected by the works ³	68.5
(o) Landscaping works	172.8
(p) Environmental mitigation measures including environmental monitoring and auditing	330.7
(q) Consultants' fees for	224.9
(i) contract administration	90.5
(ii) management of resident site staff (RSS)	129.9
(iii) Environmental Project Office (ENPO) ⁴ and independent environmental checker services	4.5
(r) Remuneration of RSS	1,810.9
	/(s)

³ The operation of vessels using the landing steps at the River Trade Terminal by Customs and Excise Department (C&ED) and Fire Services Department (FSD) will be affected by the proposed reclamation at northern landfall. From marine safety point of view, re-provision of associated facilities at northern landfall is required.

⁴ The Environmental Permit for the TM-CLKL project requires the setting up of an independent ENPO before the commencement of the TM-CLKL construction, to oversee the cumulative environmental impacts arising from the TM-CLKL project and other concurrent projects in the adjoining area and to liaise closely with the Mainland project teams for the HZMB Main Bridge.

	\$ million
(s) Provision for FSD to establish a dedicated rescue team ⁵	30.7
(t) Electrical and Mechanical Services Trading Fund (EMSTF) charges ⁶	11.7
(u) Contingencies	3,021.5
Sub-total	33,236.7 (in September 2012 prices)
(v) Provision for price adjustment	11,561.7
Total	44,798.4 (in MOD prices)

8. In respect of paragraph 7(a), the estimated cost of \$16,171.5 million (in September 2012 prices) for constructing the sub-sea tunnel covers the construction of approximately 5 km long twin-tube tunnel linking Tuen Mun Area 40 and the HZMB HKBCF, and approximately 40 cross passages at 100 m spacing between the tunnel tubes for emergency evacuation and rescue purpose.

9. In respect of paragraph 7(b), the estimated cost of \$5,716.1 million (in September 2012 prices) for constructing the viaducts covers approximately 1.6 km long dual 2-lane sea viaduct of the Southern Connection linking the HZMB HKBCF and North Lantau; approximately 1.9 km long land viaducts linking the sea viaduct with the road networks of NLH and HZMB HKBCF; and approximately 0.5 km long land viaducts of the Northern Connection linking TM-CLKL with the toll plaza. The cost covers foundations, superstructures, and ship impact protection works.

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⁵ The construction of the proposed TBM tunnel will require compressed air work at pressure as high as 5.2 bar, much higher than the normal 3.45 bar for compressed air works in Hong Kong. All workers and firemen will have to undergo special training prior to working or performing any rescue work under such high pressure. In the light of this, FSD will establish a dedicated rescue team to perform rescue work in the TBM tunnel during the construction stage. The fee for setting up the dedicated rescue team is mainly for providing the essential training and the necessary rescue equipments to the rescue team members.

⁶ Since the establishment of the EMSTF on 1 August 1996 under the Trading Funds Ordinance (Cap. 430), the EMSTF charges government departments for design and technical consultancy services for E&M installations provided by Electrical and Mechanical Services Department. The services rendered for this project include checking consultants' submissions on all E&M installations and providing technical advice to the Government on all E&M works and their impacts on the project.

10. In respect of paragraph 7(c), the estimated cost of \$1,152.2 million (in September 2012 prices) for reclamation covers the construction of approximately 2.1 km long seawall and the reclamation of approximately 16.5 ha of land at Tuen Mun Area 40 for the construction of the northern landfall of the sub-sea tunnel, at-grade roads, administration building, ventilation building and other ancillary facilities. We will adopt non-dredged method to carry out the main reclamation. For the seawall, we will adopt the conventional dredging method to remove the marine deposit to strengthen the foundation of seawall.

11. In respect of paragraph 7(d), the estimated cost of \$569.0 million (in September 2012 prices) for at-grade roads covers the construction of at-grade roads, associated road paving, street furniture, traffic signs and road marking etc., within the site of the project as well as modification and realignment of sections of Cheung Tung Road.

12. In respect of paragraph 7(e), the estimated cost of \$864.4 million (in September 2012 prices) for toll plaza covers the construction of a toll plaza of approximately 5.4 ha, with part of it formed by elevated deck, and the associated 17 toll booths and toll collector subway.

13. In respect of paragraph 7(i), the estimated cost of \$468.2 million (in September 2012 prices) for drainage and waterworks includes the laying of drainage pipes, water pipes and construction of approximately 400 m long 4-cell box culvert at the northern landfall.

14. In respect of paragraphs 7(j) and (k), the estimated cost of \$625.3 million and \$268.0 million (in September 2012 prices) respectively for the building works and building services covers the construction of administration building, tunnel ventilation buildings, toll control building, control rooms for TCSS, other associated buildings and the facilities for the tunnel operation and maintenance.

15. In respect of paragraph 7(l), the estimated cost of \$837.6 million (in September 2012 prices) for E&M works covers the E&M works for tunnels, viaducts and at-grade roads such as installation of tunnel ventilation and smoke extraction system, road lighting system, tunnel fire services system, tunnel drainage system, central monitoring and control system, building services systems, power supply and distribution system, toll collection system and lightning protection system, etc.

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16. In respect of paragraph 7(m), the estimated cost of \$478.7 million (in September 2012 prices) for TCSS covers installation of TCSS including traffic message displays, closed circuit television, monitoring devices, etc. at tunnels, viaducts and at-grade roads.

17. In respect of paragraph 7(o), the estimated cost of \$172.8 million (in September 2012 prices) for landscaping works covers the planting works at the landfalls of the sub-sea tunnel, the toll plaza and along NLH with a total landscaping area of 33 ha.

18. A breakdown of the estimated consultants' fees and RSS costs by man-months is at Enclosure 2.

19. For the HZMB related local projects⁷, we originally planned to commence construction before end 2010, but the works commencement date has been affected by the legal proceedings of the judicial review (JR) case of a Tung Chung resident who filed an application with the Court of First Instance (CFI) for leave for JR against the decisions of the Director of Environmental Protection (DEP) as regards the approval for the Environmental Impact Assessment (EIA) Reports and the granting of Environmental Permits (EPs) relating to the HKBCF and Hong Kong Link Road (HKLR) projects⁸.

20. In the HZMB JR case, although the applicant has explicitly excluded the TM-CLKL EIA from the JR application, the construction schedule of the TM-CLKL has also been affected by about a year because the TM-CLKL southern landfall reclamation is carried out together with the reclamation of HKBCF under the same contract. Therefore, we hope that the funding proposal could be approved by the Finance Committee as soon as possible for early commencement of the works. We plan to substantially complete the Southern Connection by end of 2016 in tandem with the commissioning of HZMB. As regards the Northern Connection, since the construction of the sub-sea tunnel is extremely complicated, it will take more time to complete. As such, the Northern Connection will be completed by end of 2018.

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⁷ Including the HKBCF, HKLR projects and advance works for the TM-CLKL.

⁸ On 22 January 2010, a Tung Chung resident filed an application with the CFI for leave for JR against the decisions of the DEP as regards the approval for the EIA Reports and the granting of EPs relating to the HKBCF and HKLR projects. The CFI handed down its judgement on 18 April 2011 quashing the EPs and therefore their construction could not commence. DEP appealed against the court's judgment. The Court of Appeal handed down its judgment on 27 September 2011, unanimously allowing DEP's appeal and therefore the EIA reports and EPs of HKBCF and HKLR projects are maintained valid.

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

Year	\$ million (Sept 2012)	Price adjustment factor	\$ million (MOD)
2013 – 2014	732.1	1.06225	777.7
2014 – 2015	2,459.2	1.12599	2,769.0
2015 – 2016	3,914.0	1.19354	4,671.5
2016 – 2017	6,004.2	1.26516	7,596.3
2017 – 2018	6,301.7	1.34107	8,451.0
2018 – 2019	5,589.4	1.41147	7,889.3
2019 – 2020	4,400.4	1.48205	6,521.6
2020 – 2021	2,276.4	1.55615	3,542.4
2021 – 2022	1,169.7	1.63396	1,911.2
2022 – 2023	389.6	1.71565	668.4
	<hr/> 33,236.7 <hr/>		<hr/> 44,798.4 <hr/>

22. We have derived the MOD estimate on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction input for the period 2013 to 2023. Upon funding approval, we will adopt the following types of contract for the construction works –

- (a) the Southern Connection Viaduct Section and the Northern Connection Sub-sea Tunnel Section under design-and-build contract on a lump sum basis because the works under these contracts are extremely complicated and highly specialized;
- (b) the toll plaza and tunnel buildings under standard re-measurement contract because the quantities of piling and other foundation works involved will vary depending on actual ground conditions; and
- (c) the TCSS works under lump sum contract because we can clearly define the TCSS scope of works in advance.

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The above contracts will provide for price adjustments. We will request the ENPO for the HZMB Hong Kong projects to provide Independent Environmental Checker services on a lump sum basis, with provision for price adjustments in the consultancy agreement.

23. We estimate the annual recurrent expenditure arising from the project to be \$261.2 million. In accordance with the "user pays" principle, we plan to recover the operating cost of TM-CLKL through the toll charges. When determining the future toll of TM-CLKL, we should take into account factors including the operating cost of the project (including the depreciation cost and the recurrent expenditure), traffic condition, public acceptability and affordability.

PUBLIC CONSULTATION

24. The Highways Department held a series of public engagements in 2008 for TM-CLKL, TMWB, HKBCF and HKLR. The public engagements included the focus groups and workshops with various stakeholders. In 2009, we consulted the Islands District Council and Tuen Mun District Council on the proposed alignment of TM-CLKL and obtained their support.

25. In general, the public was supportive of the proposed project and urged for its early implementation. However, some residents in Tung Chung opined that the Southern Connection linking HKBCF and NLH should change from sea viaduct to tunnel. We had explained to the residents that the suggestion is infeasible⁹. Besides, we had relocated the northern landfall to the River Trade Terminal as far away from the Butterfly Beach as possible in response to some Tuen Mun residents' concern over the close proximity of TM-CLKL to the beach.

26. We gazetted the draft Chek Lap Kok Outline Zoning Plan (OZP) No. S/I-CLK/11¹⁰ under the Town Planning Ordinance (Cap. 131) on 12 and 19 June 2009. We also gazetted the TM-CLKL road scheme and plans (covering both the road and reclamation works) on 21 and 28 August 2009 under the Roads (Works, Use and Compensation) Ordinance (Cap. 370). During the statutory

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⁹ If the Southern Connection of TM-CLKL (i.e. from Chek Lap Kok to North Lantau) is constructed in the form of tunnel, it would be necessary to increase the reclamation area at its ends (i.e. south of HKBCF and north of Tai Ho Wan) for provision of tunnel portals, construction of at-grade roads and protection of the tunnel structure. However, this would have impact on marine navigation and traffic, and also affect the environment and ecology at Tai Ho Wan.

¹⁰ The major amendments incorporated in the draft Chek Lap Kok OZP No. S/I-CLK/11 are mainly to incorporate the transport infrastructures and land use proposals on the proposed reclamation areas for the HZMB HKBCF, HZMB HKLR, and the southern landfall of TM-CLKL.

period for objection, 789 representations on the draft Chek Lap Kok OZP and 313 objections to the road scheme were received. Most objectors expressed concern on the proposed works for their perceived negative impacts to Tung Chung residents, environment and ecology, and requested the Administration to provide alternative solutions. Descriptions of the representations / objections are at Enclosure 3. Despite our efforts in resolving the objections, 285 objections to the road scheme still remain unresolved. In respect of the Chek Lap Kok OZP, after giving consideration to the valid representations under the Town Planning Ordinance on 13 November 2009, the Town Planning Board decided not to accept the representations under the Town Planning Ordinance.

27. In respect of the unresolved objections as mentioned in paragraph 26 above, we submitted the project together with objections to the Chief Executive in Council (CE-in-C) for consideration. On 18 October 2011, after considering the representations and unresolved objections, the representations under the Town Planning Ordinance and the decision of the Town Planning Board, CE-in-C approved the amendment of the Chek Lap Kok OZP under the Town Planning Ordinance and authorized the road scheme of the project under the Roads (Works, Use and Compensation) Ordinance. The notices of authorisation for the road scheme of the TM-CLKL and the Chek Lap Kok OZP were gazetted on 21 October 2011.

28. On 19 April 2013, we briefed the Legislative Council Panel on Transport on the latest progress of TM-CLKL and consulted it on our plan to submit the funding application for the TM-CLKL construction works. The Panel supported the Administration to seek funding from the Public Works Sub-committee.

ENVIRONMENTAL IMPLICATIONS

29. The TM-CLKL project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). The Director of Environmental Protection issued the EP for the construction and operation of TM-CLKL on 4 November 2009. The EIA Report concluded that the environmental impact due to the proposed road scheme would be acceptable with the implementation of the recommended mitigation measures. We will implement the environmental mitigation measures, and environmental monitoring and auditing programme as recommended in the approved EIA Report for the TM-CLKL project and comply with relevant conditions under the EP and other statutory requirements for environmental protection. The recommended mitigation measures during construction are summarized at Enclosure 4.

30. At the planning and design stages, we have considered measures to reduce the generation of construction waste wherever possible (e.g. using site hoardings and signboards so that they can be recycled and reused in other projects, and adopting repetitive / modular design to enable reuse of formwork). In addition, we will require the contractor to reuse inert construction waste as far as possible (e.g. excavated materials) in order to minimise the disposal of inert construction waste at public fill reception facilities¹¹. 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.

31. At the construction stage, we will control noise, dust and site run-off nuisances to the levels within established standards and guidelines through the implementation of mitigation measures in the relevant contracts. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of site and provision of wheel-washing facilities as well as other relevant measures recommended in the TM-CLKL EIA Report.

32. 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.

33. We estimate that the project will consume in total about 4.66 million tonnes of inert construction waste (soft public fill) during the reclamation process; however it will generate in total about 8.243 million tonnes of construction waste. Of these, we will reuse about 1.93 million tonnes (23.4%) of inert construction waste on site and about 1.53 million tonnes (18.6%) of inert construction waste on other construction site(s). About 4.76 million tonnes (57.7%) of inert construction waste will be delivered to public fill reception facilities for subsequent reuse. The

/remaining

¹¹ 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 license issued by the Director of Civil Engineering and Development.

remaining about 0.023 million tonnes (0.3%) of non-inert construction waste will be disposed of at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$131.4 million for this project (based on an unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne¹² at landfills).

34. We estimate that the construction works will generate about an in-situ volume of 0.84 million cubic metres (m³) of marine mud. We will dispose of the dredged marine mud at respective designated disposal sites to be allocated by the Marine Fill Committee or other disposal sites to be agreed by the Marine Fill Committee and the Environmental Protection Department.

35. In addition, we set up the ENPO in March 2012 to oversee the cumulative impacts arising from the construction works of HKBCF and HKLR projects and other concurrent projects in the adjoining area and to liaise closely with the mainland project teams for the HZMB Main Bridge. Upon the funding approval for the TM-CLKL construction works, we shall instruct ENPO to oversee the TM-CLKL project as well.

36. We have included the costs of implementing the environmental mitigation measures, including an environmental monitoring and audit programme (\$330.7 millions) in the overall project estimate.

HERITAGE IMPLICATIONS

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

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¹² 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 m³), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

LAND ACQUISITION

38. We have reviewed the design of the project to minimize the extent of land acquisition. We will resume about 6 227.7 m² of private land; and create easements and other permanent rights of about 6 155.5 m² and rights of temporary occupation of about 3 826.4 m² of private land. We will also clear about 512 318.2 m² of Government land. Due to land resumption and clearance, 15 domestic structures and 144 non-domestic structures will be affected. Ex-gratia allowance will also be provided to affected parties under appropriate circumstances. Under the established policy, ex-gratia allowance will be offered to fishermen affected as a result of the loss of their habitual fishing ground caused by the works. Based on the aforesaid items, we estimate to charge the cost of land resumption and clearance estimated at \$7.86 million to **Head 701 – Land Acquisition**. A breakdown of the land resumption and clearance costs is at Enclosure 5.

BACKGROUND INFORMATION

39. In November 2005, we engaged consultants to undertake the feasibility study of the TM-CLKL and TMWB at an estimated cost of \$11.8 million under **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme”. We have completed the feasibility study in March 2007.

40. We included **825TH** in Category B in November 2007.

41. We upgraded part of **825TH** to Category A as **828TH** “Tuen Mun – Chek Lap Kok Link and Tuen Mun Western Bypass – investigation and preliminary design (I&PD)” in January 2008 at an estimated cost of \$88.6 million in MOD prices. We engaged consultants in May 2008 and August 2008 to undertake the I&PD studies for the TM-CLKL and TMWB respectively.

42. In September 2009, we engaged consultants to undertake the detailed design of the advance southern landfall reclamation works of TM-CLKL at an estimated cost of \$6.9 million under **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme”, which was completed.

43. We upgraded part of **825TH** to Category A as **846TH** “Tuen Mun – Chek Lap Kok Link – detailed design, site investigation and advance works” in November 2011 at an estimated cost of \$1,909.6 million in MOD prices.

44. We then engaged consultants to undertake the detailed design of the TM-CLKL main works in November 2011. We also included the TM-CLKL southern landfall reclamation in the HKBCF reclamation contract, which commenced in November 2011 as advance works. We also engaged consultants for the ENPO and independent environmental checker services in March 2012. We invited tenders for the first two contracts in September 2012 and October 2012 respectively. The detailed design for the remaining contracts is ongoing.

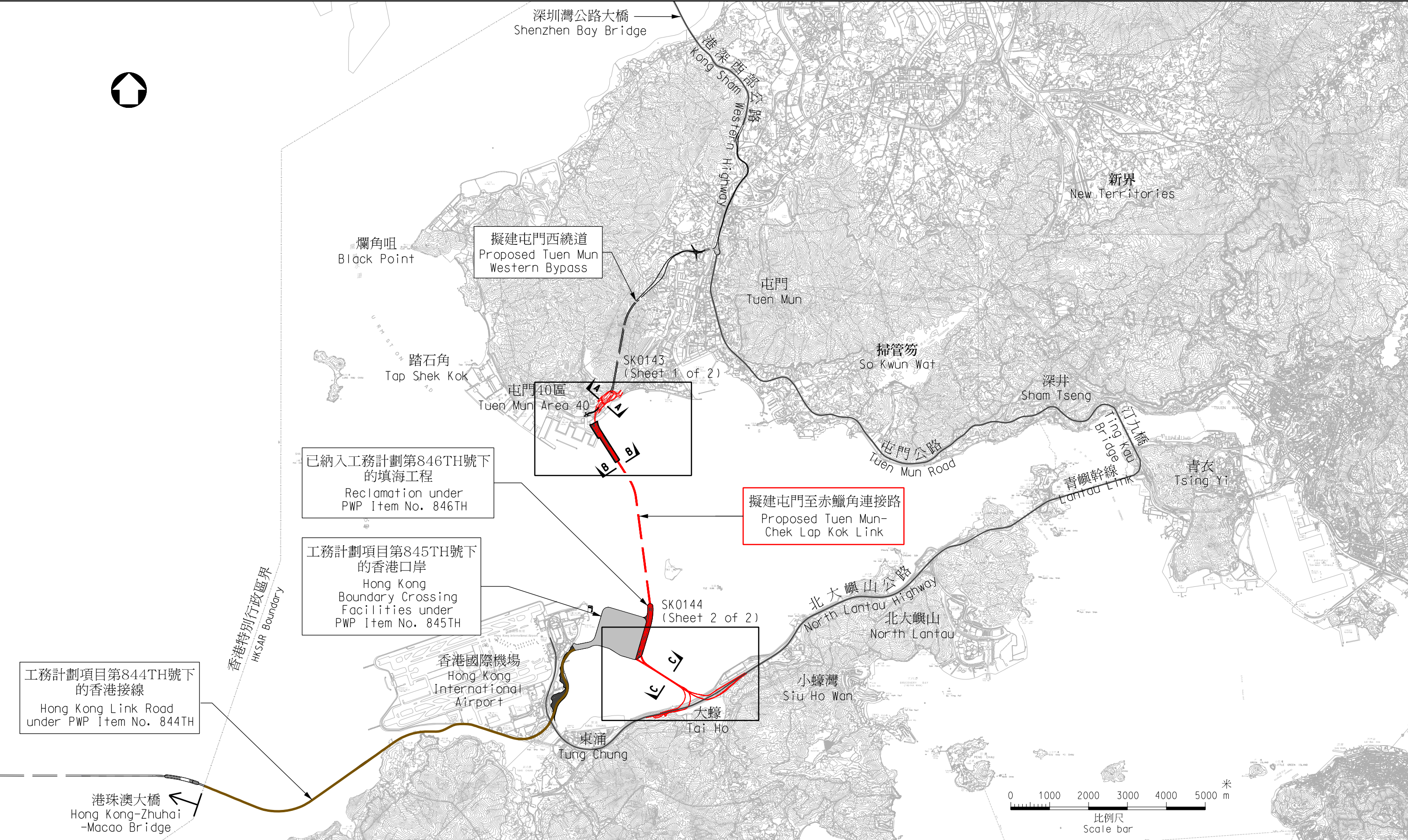
45. Of the 5 730 trees within the project boundary, 2 554 trees will be preserved. The proposed construction works will involve the removal of 3 176 trees within the project boundary, including 701 dead trees to be removed, 2 293 trees to be felled and 182 trees to be transplanted within the project boundary. A summary of the affected important tree¹³ is at Enclosure 6. We will incorporate planting proposals as part of the project, including about 3 858 trees and 1 200 000 shrubs, as well as 87 000 m² of grassed area.

46. We estimate that the works under the proposed upgrading of part of **825TH** to Category A, will create about 12 190 jobs (9 900 for labourers and another 2 290 for professional/technical staff) providing a total employment of 373 390 man-months.

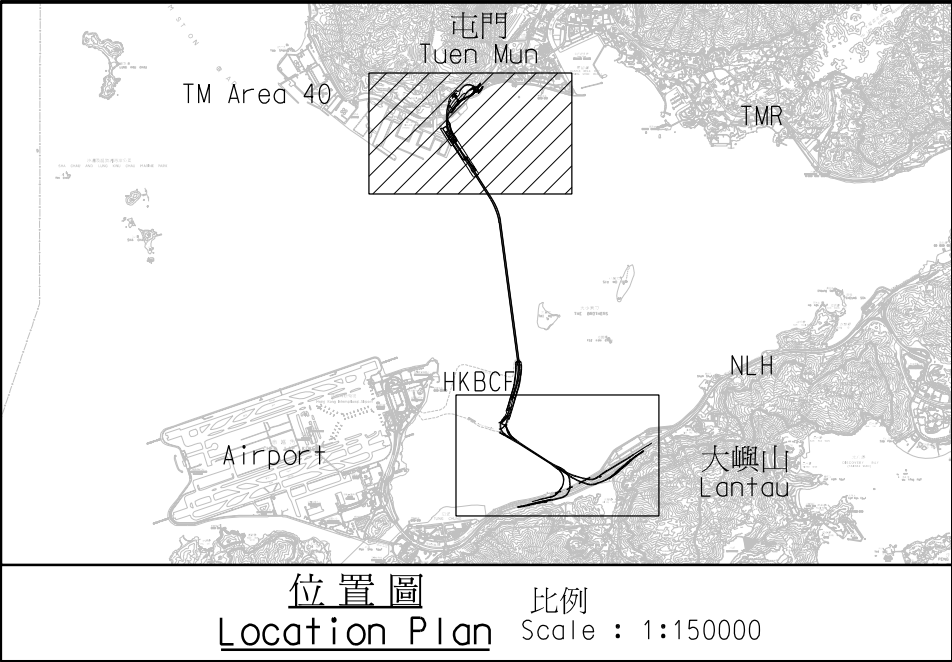
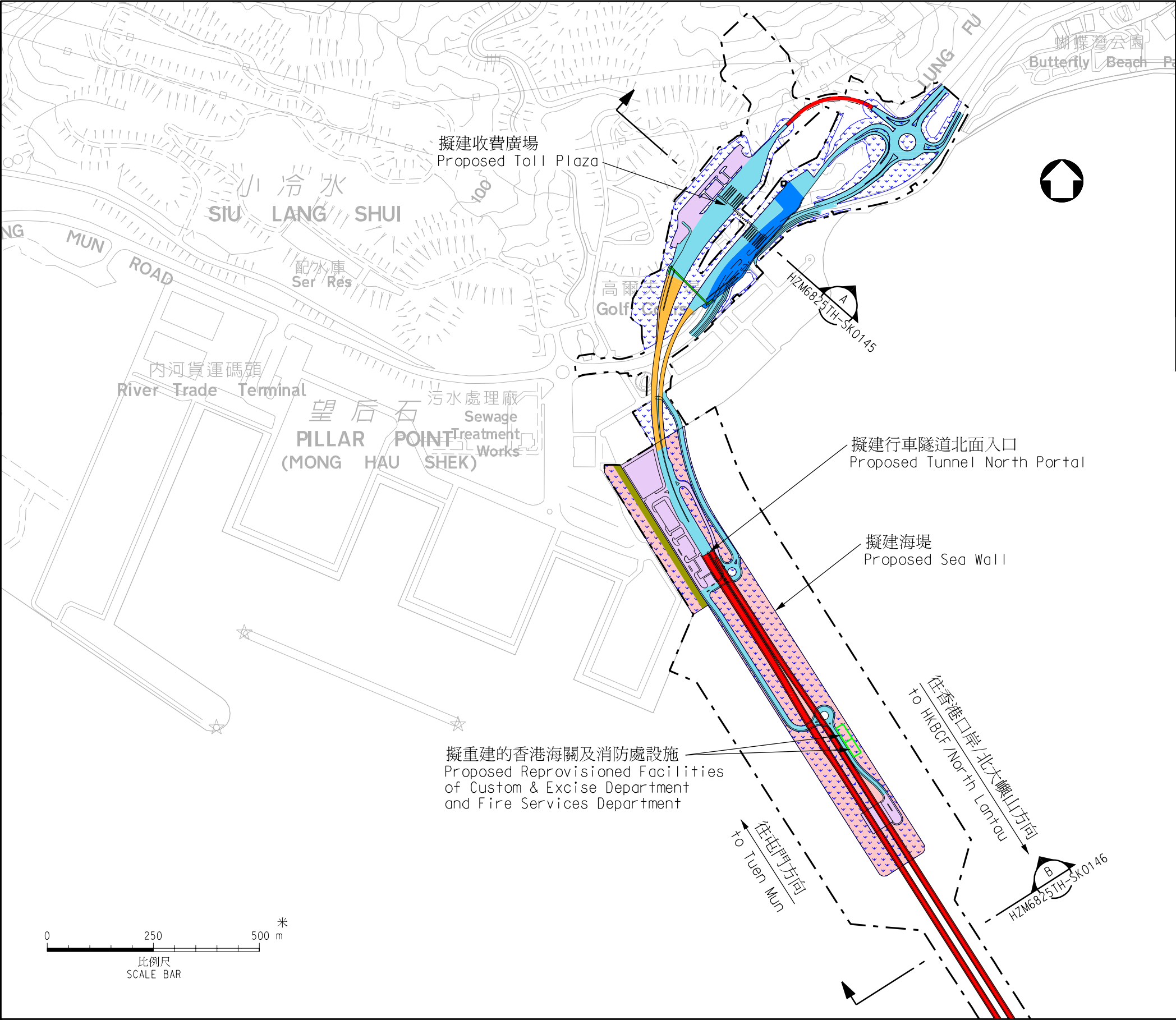
¹³ “Important trees” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

- (a) trees of 100 years old or above;
- (b) 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/canopy spread equal to or exceeding 25 m.


Transport and Housing Bureau
April 2013

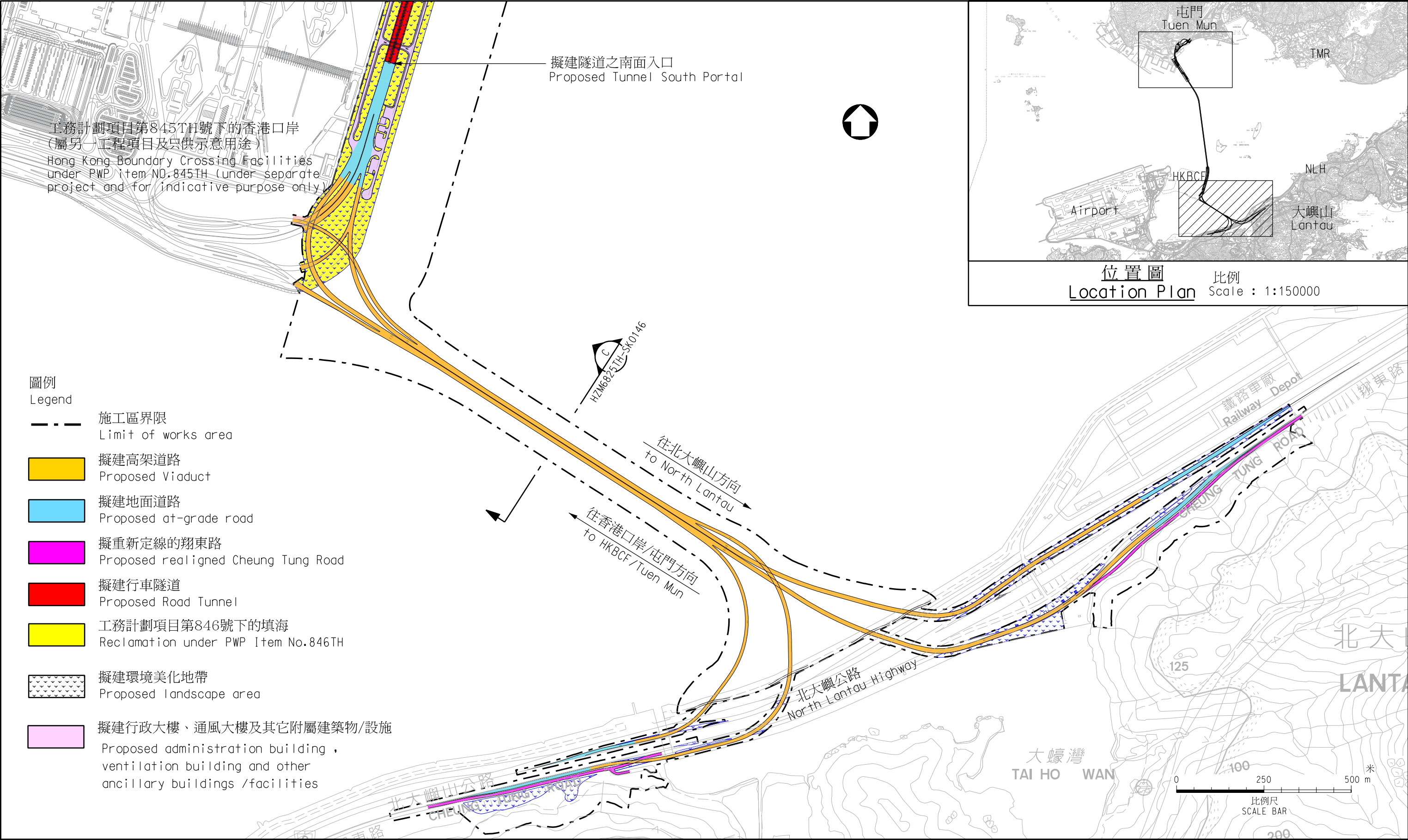



圖則名稱 plan title	圖則編號 plan no.		比例 scale	
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工務計劃項目第825TH號 - 屯門至赤鱸角連接路 - 建造工程				
PWP Item No.825TH - Tuen Mun-Chek Lap Kok Link - construction works				



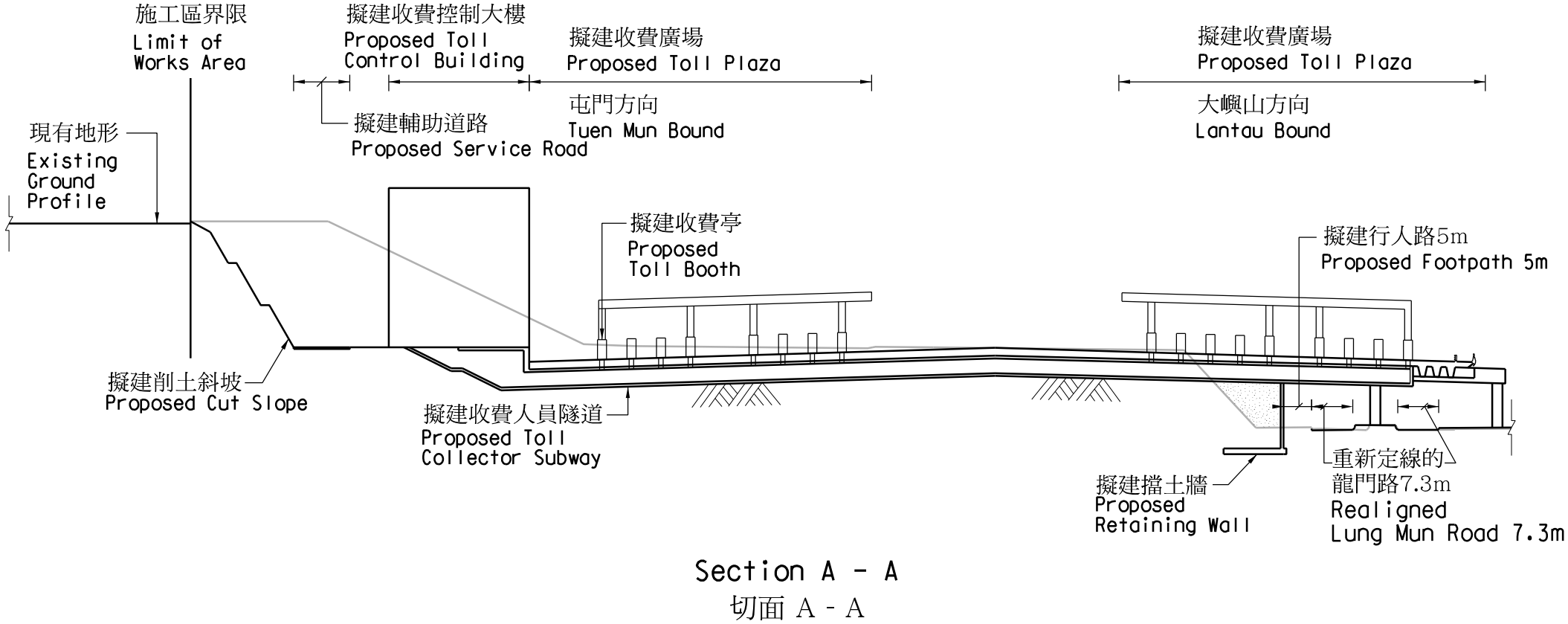
- 圖例
Legend
- 施工區界限
Limit of works area
 - 擬建高架道路
Proposed Viaduct
 - 擬建地面道路
Proposed at-grade road
 - 擬建行車隧道
Proposed Road Tunnel
 - 擬建行政大樓、通風大樓及其他附屬建築物 / 設施
Proposed administration building, ventilation building and other ancillary buildings / facilities
 - 擬建填海
Proposed reclamation
 - 擬建高架行車道
Proposed elevated carriageway
 - 擬建行人天橋
Proposed footbridge
 - 擬建箱形暗渠延伸
Proposed box culvert extension
 - 擬建環境美化地帶
Proposed landscape area

圖則名稱 plan title	圖則編號 plan no.	比例 scale
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工務計劃項目第825TH號 - 屯門至赤鱗角連接路 - 建造工程 (2張中的第1張)		
PWP Item No.825TH - Tuen Mun-Chek Lap Kok Link - construction works (Sheet 1 of 2)		
		HIGHWAYS DEPARTMENT HONG KONG 路政署 香港



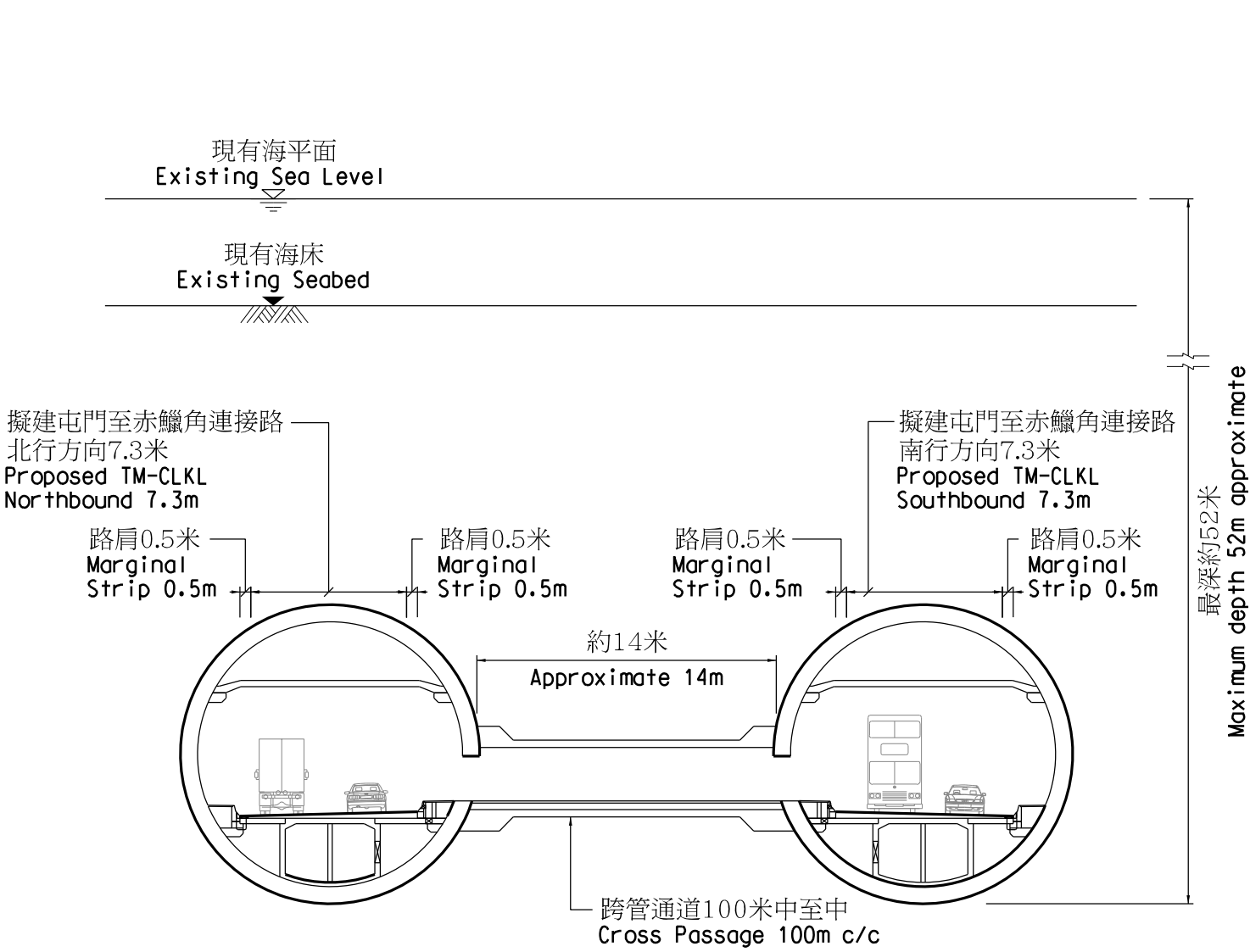
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工務計劃項目第825TH號 - 屯門至赤鱗角連接路 - 建造工程 (2張中的第2張)
PWP Item No.825TH - Tuen Mun-Chek Lap Kok Link - construction works (Sheet 2 of 2)

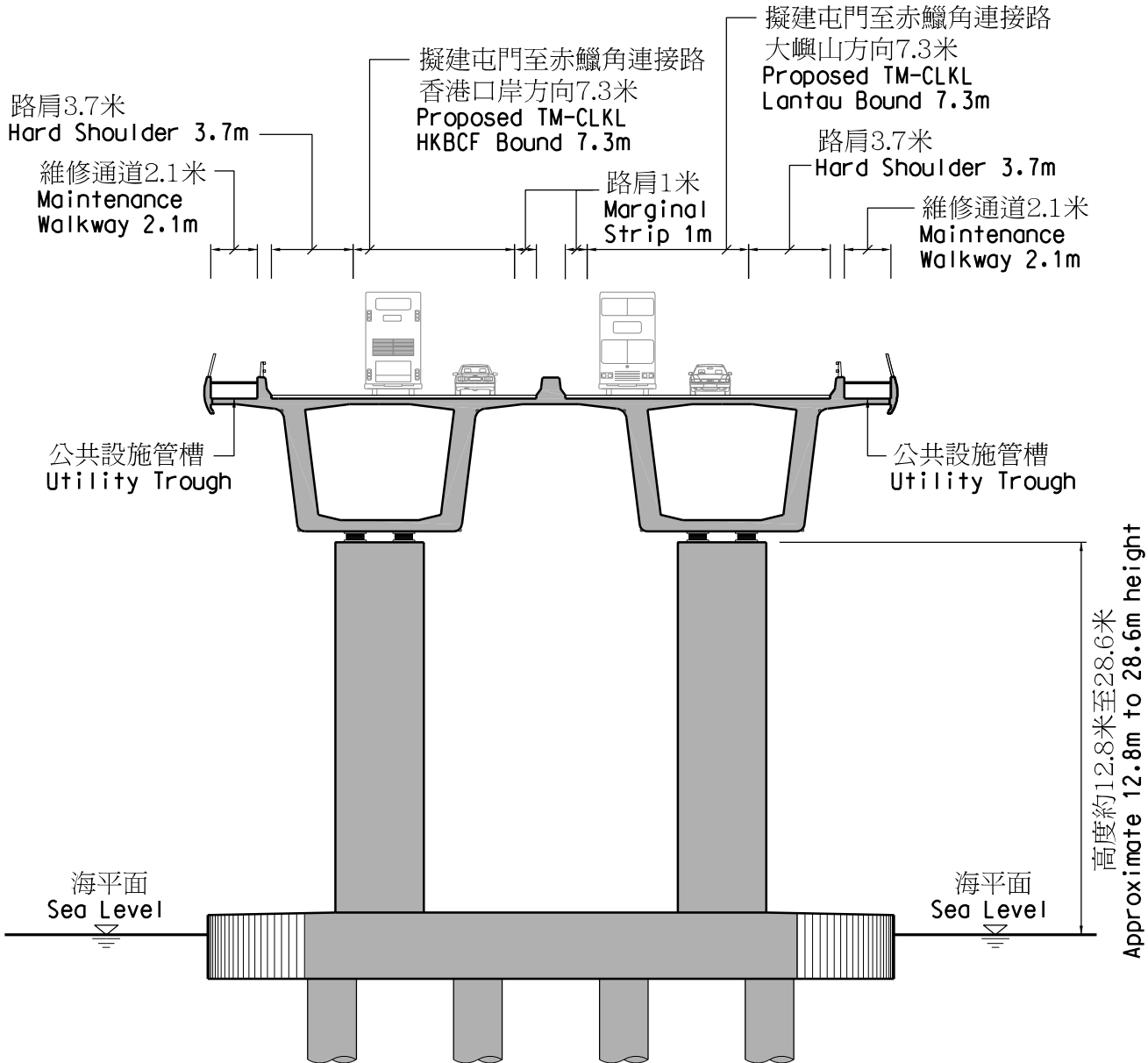


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工務計劃項目第825TH號 - 屯門至赤鱸角連接路 - 建造工程 (收費廣場的橫切面圖)
PWP Item No.825TH - Tuen Mun-Chek Lap Kok Link - construction works (Cross Section of Toll Plaza)



Section B - B
切面 B - B



Section C - C
切面 C - C

圖則名稱 plan title	圖則編號 plan no.	比例 scale
工務計劃項目第825TH號 - 屯門至赤鱗角連接路 - 建造工程 (海底隧道及高架道路的橫切面圖)	H2M6825TH-SK0146	1 : 300
PWP Item No.825TH - Tuen Mun-Chek Lap Kok Link - construction works (Cross Sections of Sub-sea Tunnel and Viaducts)		
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 HIGHWAYS DEPARTMENT HONG KONG 路政署		

**825TH – Tuen Mun-Chek Lap Kok Link and Tuen Mun Western Bypass
– Consultants’ Fees for TM-CLKL - Construction Works
and Resident Site Staff Costs**

**Breakdown of estimates for consultants’ fees and resident site staff costs
(in September 2012 prices)**

		Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a)	Consultants’ fees for contract administration (Note 2)	Professional	-	-	52.2
		Technical	-	-	38.3
				Sub-total	90.5
(b)	Resident site staff costs (Note 3)	Professional	8,838	1.6	929.0
		Technical	28,224	1.6	1,011.8
				Sub-total	1,940.8
	Comprising –				
	(i) Consultants’ fee for managing resident site staff				129.9
	(ii) Remuneration of resident site staff				1,810.9
(c)	Consultants’ fee for Environmental Project Office and Independent Environmental Checker (Note 4) services	Professional	-	-	3.1
		Technical	-	-	1.4
				Sub-total	4.5
				Total	2,035.8

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants. As at now, MPS pt. 38 = \$65,695 per month and MPS pt. 14 = \$22,405 per month.

2. The consultants' staff costs for the contract administration are calculated in accordance with the existing consultancies –
 - (a) Agreement No. CE 7/2011(HY) "Tuen Mun – Chek Lap Kok Link – Design and Construction" (for the TM-CLKL works except the TCSS (other than civil works provisions and power supply) of the TM-CLKL southern connection); and
 - (b) Agreement No. CE 13/2010(CE) "Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructures and Infrastructures) – Design and Construction" (including the TCSS (except civil works provisions and power supply) of the TM-CLKL southern connection).

The construction phase of the assignments for the TM-CLKL works will only be executed subject to Finance Committee's approval to part upgrade **825TH** to Category A.

3. We will know the actual man-months and actual costs after the completion of the construction works.
4. The consultants' staff costs for Environmental Project Office and Independent Environmental Checker services are calculated in accordance with the existing consultancy Agreement No. CE 48/2011 (EP) "Environmental Project Office for Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road, Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities, & Tuen Mun - Chek Lap Kok Link - Investigation".

**Details of the Statutory Representations and Objections
in respect of Tuen Mun – Chek Lap Kok Link – construction works**

A. Representations in respect of the draft Chek Lap Kok Outline Zoning Plan (OZP) No. S/I-CLK/1¹⁴ gazetted on 12 and 19 June 2009 under the Town Planning Ordinance (Cap. 131)

During the exhibition of the draft Chek Lap Kok OZP No. S/I-CLK/11, a total of 789 representations were received. Subsequently, 7 representations were withdrawn and one was considered invalid as the subject of representation was not related to the amendment. Excluding these, the number of valid representations was 781. The details of the representations are set out below –

Group I

2. There are 780 representations which were concerned with the proposed HKBCF, HKLR and TM-CLKL, and the related supporting facilities and the proposed rezoning of natural coastline of Chek Lap Kok Island. Among them, 777 were submitted by individuals of the public in the form of standard emails. The remaining three of them were submitted by three conservation organizations. The major grounds of representations are summarized as follows –

Site Selection of the HKBCF and alignment of the HKLR

- (a) there were general concerns on the location of the HKBCF and the alignment of the HKLR such that the project would bring traffic pollution to the Area. There were also concerns on the proximity of the facilities to the existing and future residents of Tung Chung and that the long security road (for users before and after going through Hong Kong customs, immigration and quarantine) should be reduced significantly;

Public Engagement

- (b) there were concerns that there was no comprehensive assessment on all feasible alternatives for detailed public consideration including locating the HKBCF to the south-west and the HKLR to the north and as part of the Airport Island. The proposal should include freight and passenger rail lines connecting to the container port and Lok Ma Chau to avoid container trucks passing through the urban areas. There was also concern on a lack of engagement with Tung Chung residents; and

¹⁴ The major amendments incorporated in the draft Chek Lap Kok OZP No. S/I-CLK/11 are mainly to incorporate the transport infrastructures and land use proposals on the proposed reclamation areas for the HZMB HKBCF, HZMB HKLR, and the Southern Landfall of TM-CLKL.

Impacts on the Natural Coastline and Damage to the Natural Hillside

- (c) the natural shore, zoned “CPA”, was originally a partial compensation for the loss of headland and its coastline at Sha Lo Wan during the construction of the Chek Lap Kok airport (Airport). There were concerns that the proposed removal of the natural coastline would set a negative precedent on the reliability of the environmental mitigation measures and the Government’s ability and willingness to respect them. Such proposal would contravene the original planning intention for the “CPA” zone. The proposed amendments failed to minimize the impact on hydrodynamics, particularly the water movement between north and south of the proposed HKBCF and the water channel between the Airport and Lantau Island.
3. Some representers put forward the following proposals –
- (a) to reassess the overall scheme and further evaluate other alternative solutions;
 - (b) to locate the HKBCF to the west of the Airport to avoid the reclamation of the “CPA”, “Other Specified Uses” (“OU”) annotated “(Highways Maintenance Area)” and “OU (Amenity)” zones;
 - (c) to adopt a viaduct option along the eastern coast in order to protect the water body and the natural shoreline along the “CPA” zone if HKBCF had to be located on the northeastern water of the Airport; and
 - (d) to preserve the remaining natural features such as the natural coast on the eastern shore of Chek Lap Kok.
4. The Board decided not to uphold these representations for the following reasons –
- (a) the main purpose of the HKBCF was to provide facilities for cross-boundary cargo processing and passenger clearance. Together with the HZMB Main Bridge and the HKLR as well as the Tuen Mun Western Bypass (TMWB) and TM-CLKL, the proposed HKBCF site as shown on the draft Chek Lap Kok OZP No. S/I-CLK/11 would enable the formation of a strategic road network linking Hong Kong, Zhuhai, Macao and Shenzhen, thereby further enhancing the transportation and aviation hub status of Hong Kong. The synergy effect would be considerable. With its proximity to the Hong Kong International Airport, the HKBCF would serve as a strategic multi-modal transportation hub, and air/land transit of passengers could easily switch to different modes of transport;
 - (b) the present proposed location and configuration of the HKBCF and the Southern Landfall of TM-CLKL, and the alignment of the HKLR were considered appropriate in technical, environmental and engineering terms, as confirmed by a series of consultancy studies;

- (c) the HKLR and HKBCF were located about 700m and 2 km respectively from the residential developments at Tung Chung waterfront. Also, maximum building height restrictions had been stipulated on the draft Chek Lap Kok OZP to regulate the development height profile of the HKBCF. Furthermore, the environmental implications of the HKBCF, HKLR and TM-CLKL had already been assessed and the respective Environmental Impact Assessment (EIA) studies concluded that with appropriate mitigation measures implemented, the potential environmental impacts would be acceptable. The respective EIA reports had been approved with conditions by DEP under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) on 23 October 2009;
- (d) extensive consultation and public engagement exercises had been conducted by HyD, and the alignment of HKLR amended to address the concern of some Tung Chung residents. The rationale of adopting the present proposals had also been fully explained to the residents and relevant stakeholders;
- (e) a representer's suggestion to locate the HKBCF and HKLR at the southwest and north of the Airport was not supported as there was inadequate information to demonstrate that such suggestion was technically and environmentally feasible and was better than the presently proposed location;
- (f) a representer's suggested viaduct option for the HKBCF southwest reclamation and HKLR along the east coast of the Airport was considered less favourable than reclamation as it would involve massive amount of columns which might trap rubbish underneath, jeopardise tree planting alongside for visual enhancement, and non provision of suitable habitat for ecological species to establish; and
- (g) railway provision in HZMB had not been included in the territorial railway planning and development. The representer's suggestion was not consistent with the current infrastructure planning and also not viable from engineering and financial viability view points.

Group II: Another Representation

5. Another representer (being an organisation formed by professionals in the field of transport policy and planning) opined that the draft Chek Lap Kok OZP had not fully taken account of the requirements of air logistics development when logistic industry was one of the four pillars driving and sustaining the economy of Hong Kong. Flexible land use zonings should thus be provided to facilitate air logistics development. To cater for evolution of freight forwarding and logistics industry and the increase in container vehicles delivering goods to the airport, it was proposed that the relevant OZP Notes of the Commercial ("C"), "Other Specified Uses" ("OU") annotated "Airport Services Area" and "OU" annotated "Business Park" zones should be amended. The representer also requested for information on the breakdown of the site area for the proposed "OU" annotated "Highways Maintenance Area" zone and to be informed of the mitigation measures for the rezoning of the "CPA" which was the coastline of the original Chek Lap Kok Island. However, the Town Planning Board decided not to uphold this representation for the following reasons –

- (a) there was ample space at the Airport Island reserved for air logistics development. A total of 137.99 ha and 44.74 ha of land for “OU (Airport Service Area)” and “OU (Business Park)” zones respectively had been designated on the draft Chek Lap Kok OZP in which various ‘Cargo Handling and Forwarding Facility’ uses, including cargo handling facility, cargo working area, logistics centre and freight forwarding services centre uses were always permitted in those two zones. In addition, distribution centre use was always permitted;
- (b) the reclamation area proposed for highways maintenance area was essential for the provision of backup area for operation and maintenance of the HKLR and to form protection for the HKLR’s tunnel and its portal on the eastern coast of Chek Lap Kok. There was no strong planning justification for using the site for distribution centre and/or logistics centre uses; and
- (c) environmentally sensitive design for the new sea frontage could be adopted to mitigate the loss of the natural coast so as to provide a suitable habitat for the existing species to re-establish in the new location. Greening could also be provided along the new seawall to enhance the environment.

B. Objections in respect of the TM-CLKL road scheme and plan gazetted on 21 and 28 August 2009 under the Roads (Works, Use and Compensation) Ordinance (Cap. 370)

6. During the statutory period for objection, 313 objections were received. Out of these objections, 28 have subsequently been withdrawn unconditionally. Among the remaining 285 objections, 1 contains incorrect contact details, 31 have offered conditions for withdrawal (but we could not fully meet the conditions) and 253 objections were maintained. These 285 objections were thus considered unresolved. The details of the unresolved objections are set out below –

Group A1

7. These 27 objections are from a shipping/logistics company, its staff representatives and its business partners. The objectors’ main concern was that the reclamation at Tuen Mun Area 40 for the construction of the TM-CLKL Northern Landfall would completely block off the marine frontage of a subsidiary of the company at Tuen Mun Town Lot 320. The objectors were of the view that this would result in a total shut down of the marine cargo handling operation of the subsidiary. And apart from affecting the subsidiary’s business, the development of the logistics industry in Hong Kong would be hampered and the daily supply of livelihood/household items to Hong Kong would be disrupted.

8. The Administration has responded that alternative landing points for the TM-CLKL at Tuen Mun had been examined. Taking into consideration the various site and construction constraints, the most appropriate location for the proposed northern landing point for the TM-CLKL was considered to be at Tuen Mun Area 40.

9. The company proposed to withdraw its objection on the condition that Government would directly grant a piece of land with marine frontage at the proposed reclamation at Tuen Mun Area 40 to the company to allow the subsidiary to continue its marine cargo handling operation. Other objectors also indicated conditional withdrawal of objections in the event of satisfactory arrangement to allow the subsidiary to continue its operation. The Administration has informed the company that the proposal was not within the scope of the Ordinance and the request for an alternative site would involve a Private Treaty Grant and would have to be processed separately following the existing land grant procedure. As the withdrawals are conditional, these 27 objections are considered unresolved.

Group A2

10. The objector is a conservation organisation whose main concern is that the proposed works would likely bring considerable negative impact on the environment, including the marine environment, marine ecology (Chinese White Dolphin (CWD)), fisheries, water quality and hydrodynamics at and near the proposed construction site, and it is inappropriate to gazette the project until the environmental concerns are fully addressed with potential damages being proven to be acceptable or sufficiently mitigated. The objector also separately lodged objection to the HKLR and the HKBCF project on similar grounds.

11. The Administration has explained that the projects met the requirements under the EIAO. To further enhance preservation on dolphin ecology, the Administration would seek to designate the waters around the Brothers Islands as a marine park in accordance with the Marine Parks Ordinance immediately upon completion of the HKBCF project. The Administration has further explained to the objector the various reasons why their suggested alternative proposals (including integrating the HKBCF with the Airport at its west side and integrating the HKLR with the Airport at its north side; to adopt a viaduct option to replace the at-grade road on reclamation for HKLR along the Airport east coast; and to remove the southwest reclamation of the HKBCF) were not considered feasible. The objector attended an objection-handling meeting. It did not respond to the further responses from the Administration which were sent to it further to the meeting. Hence the objection is considered to be maintained and thus remains unresolved.

Group C1

12. These 237 objections in the form of a standard e-mail template were against the HKLR, HKBCF and TM-CLKL projects gazetted under the Ordinance (hereafter collectively described as the three Projects). A number of objectors have additional comments which were in line with or similar to the content of the standard e-mail template. About half of these objectors are Tung Chung residents. The objectors raised concerns on the failure of the Administration to develop alternative solutions and the possible negative impacts arising from the projects on the residents of Tung Chung and the environment, the natural hillside and coastline of Lantau Island and the coastal protection area (CPA) at the east of Chek Lap Kok Island. They suggested integrating the HKBCF and HKLR at the south-west and north of the Airport Island respectively.

13. In response, the Administration has explained that robust and comprehensive EIA had been conducted for the three Projects and that different site and alignment options had been considered before the gazetted schemes were recommended. The Administration has also explained the reasons why their suggested location/alignment options for the HKBCF/the HKLR were not considered feasible. The Administration has further explained that the proposed scheme for the HKBCF and HKLR projects would not touch the natural hillside and coastline of Lantau Island; the terrestrial and marine ecology found at the CPA was common species in Hong Kong and that the natural habitat thereat could easily be re-colonized on the rock amours along the future seawall. Upon completion of the objection resolution exercise, 26 objections were withdrawn unconditionally. As for the remaining 211 objections, no responses were received from 165 objections and 45 objections were maintained, while 1 objection was received with incorrect contact details and follow-up was not possible. These 211 objections are considered unresolved.

Group C2

14. There were 47 objections lodged via the same standard e-mail template as that mentioned in paragraph 12 above. These objectors also raised additional concerns or further suggestions via various means (either in the objection notices, in subsequent correspondence/contacts with the Administration, or at objection handling meeting(s)) and the Administration's responses were as follows –

- (a) Some objectors opined that the HZMB should not be built. Some suggested marine transport in lieu of HZMB. Some raised concern about adverse impact on the values of their coastal properties due to the projects. In response, the Administration has explained the strategic importance of the HZMB to the further economic development of Hong Kong, Macao and the Western Pearl River Delta region.
- (b) Some objectors provided various suggestions regarding the alignments or forms of the three Projects (such as landing HZMB at Tuen Mun, putting more roadworks in the form of tunnels) or considering them together with the future third runway or Tung Chung developments. The Administration has explained the various drawbacks of their proposed options and the reasons why their proposed options are not feasible, and that the future Tung Chung or third runway development would be subject to further studies and hence could not be considered in one go.
- (c) Some objectors raised various concerns on sustainability and environmental issues, including that assessment of air quality impact should not be based on the existing Air Quality Objectives (AQOs) which were outdated and will be revised, the impact of the projects on human health, noise and visual impact, and light glare problem, and that the impact and prejudice to the health and well-being of the community had not been addressed in the EIA reports, etc. There were also concerns on global warming and peak oil crisis. In response, the Administration has explained that the Government was committed to sustainable development and has conducted robust EIAs for the three Projects. Regarding the concerns on AQOs, the Administration has responded that the AQOs were derived from scientific analyses of the relationship between pollutant concentrations in the air and the associated adverse effects of the polluted air on the health of the public. The Administration's assessments have

taken into account all the comments and requirements of the authority. The Administration has also responded that the health aspect had been addressed by detailed impact assessment during the EIA study on various relevant aspects, including air quality, noise, water quality etc. The EIA confirmed that the project would meet the current requirements under the EIAO fully when mitigation measures in specified areas are taken. Regarding the light glare problem, the Administration has responded that the HKLR and the HKBCF were in fact located well away from residential premises and the lights on the HKBCF would not be directly shining at them, and that the Administration would study this issue in the detailed design stage and provide corresponding mitigation measures.

- (d) Some objectors raised particular concerns on CWD and impacts on wildlife habitat, worrying that the HZMB project would contribute to the extinction of these species. The Administration has explained that various mitigation measures, such as setting up of dolphin protection zone and dolphin monitoring plan, would be in place to protect the CWD. The Government has also made a firm commitment to seek designation of the waters around the Brothers Islands as a marine park in accordance with the statutory process. Moreover, the projects have also avoided all the ecological sensitive areas – for instance the HKLR alignment at Scenic Hill would be in tunnel form to avoid the habitat of Romer's tree frogs and the projects have avoided the nursery sites of horseshoe crabs in the area.
- (e) One objector raised particular concern on the geological heritage and natural coastline in the area and requested for public access to the relic and new artificial coastlines. The Administration has explained that the EIA report had considered landscape, visual impacts, and value of natural coastline according to the requirements under the Technical Memorandum under the EIAO. The objector offered to withdraw her objection if a few conditions could be met. Though we will endeavour to minimize the impact in the detailed design stage, the Administration is unable to meet the conditions in full.
- (f) One objector raised concern on the public fairness of the EIA process. He complained about the logistics and meeting arrangement of the Advisory Council on the Environment (ACE). In response, the Administration has explained that the processing of the EIA reports followed the mechanism established under the EIAO and also by ACE which is a non-governmental organisation¹⁵. Another objector opined that the approval of the EIA reports and issuance of the Environmental Permit are unlawful and irrational. In response, the Administration has explained that the DEP was satisfied that the EIA reports met the requirements of the EIA study brief and the technical memorandum under the EIAO, the ACE has discussed and endorsed the three EIA reports after thorough discussion at its meeting on 12 October 2009, and it

¹⁵ The ACE is a non-statutory advisory body and the Council comprises members from different background, who are appointed by the Chief Executive to keep under review the state of the environment in Hong Kong, and to advise the Government, through the Secretary for the Environment, on appropriate measures which might be taken to combat pollution of all kinds and to protect and sustain the environment.

was only after such stringent scrutiny that the EIA reports were approved by DEP on 23 October 2009.

15. Upon completion of the objection resolution exercise, 2 objections were withdrawn unconditionally. Among the remaining 45 objectors, 4 have offered conditions for withdrawal (the conditions cannot be fully met), no responses were received from 25 objections and 16 objections were maintained. Therefore, these 45 objections are considered unresolved.

Group C3

16. The objector is a non-profit making organization. Apart from raising similar concerns as those objections described in paragraph 12 above, in the objection letter, the objector also objected to the construction of the toll plaza for the TM-CLKL. It suggested avoiding or significantly reducing the size of the toll plaza by making electronic tolling mandatory or by means of territory wide electronic road pricing scheme. The objector had further stated that the health impact on people, in addition to other environmental impacts, due to the projects had not been assessed in the EIAs.

17. In response, the Administration has explained that the health aspect had been addressed by detailed impact assessment during the EIA study as described in paragraph 14 (c) above; and that mandatory electronic tolling or territory wide ERP scheme were not feasible at the present stage in view of issues such as personal privacy and public acceptability. Notwithstanding the Administration's explanation, the objector did not respond to the correspondence sent by the Administration to it after the meeting. Therefore, the objection is considered to be maintained and unresolved.

Tuen Mun - Chek Lap Kok Link – construction works

Environmental Concerns and Mitigation Measures

Environmental Concerns	Key Findings of Environmental Impact Assessment	Major Mitigation Measures
Air quality and noise impacts	<ul style="list-style-type: none"> • The EIA results indicate that the air quality and noise impacts brought by the project will be minimal. • The outcome of the Environmental Impact Assessment (EIA) on the project shows that the air and noise impacts fully comply with the EIA Ordinance (EIAO) requirements. 	<ul style="list-style-type: none"> • Carry out regular watering on all exposed soil. • Carry out regular monitoring of air quality and noise levels during construction.
Water quality impact	<ul style="list-style-type: none"> • The EIA shows that with suitable mitigation measures, impacts on water quality during construction stage will be limited to the vicinity of the site and fully comply with EIAO requirements. 	<ul style="list-style-type: none"> • Install silt curtain along the relevant reclamation site while the dredging works and filling works are in progress. • Complete leading seawall section before reclamation filling. • Control the number of filling barge trips and daily filling rate. • Carry out regular monitoring of water quality. • Use tunnel boring machine for the construction of submarine tunnel. • Undertake bored-piling within metal casing for the construction of marine viaducts. • Use grab dredgers, enclosed with cage type silt curtain, for carrying out dredging works.

Environmental Concerns	Key Findings of Environmental Impact Assessment	Major Mitigation Measures
Impact on Chinese White Dolphins (CWD)	<ul style="list-style-type: none"> The EIA study indicates the location and proposed scheme of the TM-CLKL has been selected in order to avoid or minimize impacts to the CWD. 	<ul style="list-style-type: none"> Set up a dolphin exclusion zone of 250m around the Project. If dolphins are observed in the exclusion zone, the dredging, reclamation and sheet-piling works will be delayed until the dolphins have left the area. Application of acoustic decoupling for dredging and reclamation vessels. Enforcement of vessel speed limit within the work areas to within 10 knots. Carry out regular dolphin monitoring throughout the project.
Other ecological impact	<ul style="list-style-type: none"> The EIA study indicates the location and proposed scheme of the TM-CLKL has been selected in order to avoid or minimize impacts (i.e. avoided coral and horseshoe crab habitats). 	<ul style="list-style-type: none"> Install silt curtain along the relevant reclamation site to control plumes of suspended solids. Complete leading seawall section before reclamation filling. Control the number of filling barge trips and daily filling rate. Carry out regular monitoring of water quality. As an enhancement measure, translocation of corals communities to be affected will be performed.
Impact on Fisheries	<ul style="list-style-type: none"> Loss of fishing ground is not significant and fisheries impact is acceptable. 	<ul style="list-style-type: none"> The mitigation measures for water quality impact will also ensure adequate protection of fisheries resources in the area.
Landscape and visual impacts	<ul style="list-style-type: none"> The EIA result shows that the residual landscape and visual impacts of the proposed TM-CLKL are acceptable with mitigation measures during construction and operation phase. 	<ul style="list-style-type: none"> Aesthetic engineering and architectural design together with optimum greening treatment would further minimize any potential visual impacts.

Tuen Mun - Chek Lap Kok Link – construction works

Breakdown of Land Resumption and Clearance Costs

	\$ million
(I) Estimated Land Resumption and Clearance Costs	7.145
<ul style="list-style-type: none">• Compensation on resumption, creation of easements and other permanent rights, creation of rights of temporary occupation of land and ex-gratia allowance for clearance.	
(II) Interest and contingency payment	0.715
	Total = 7.860

Summary of “Important Trees” Affected

Project No. : 825TH Project Title : Tuen Mun - Chek Lap Kok Link and Tuen Mun Western Bypass

Tree ref. no.	Tree species (Botanical name)	Tree maintenance department	Tree size			Form ¹⁶ (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 ¹⁷ diameter (millimetres)	Average crown spread (metres)						
T3209	Ficus virens Var Sublanceolata 黃葛樹	LCSD	15	1430	10	Fair	Fair	Medium	Medium	Transplant	The concerned tree is in conflict with proposed carriageway and cut slope near Lung Fu Road

¹⁶ Form of a tree will take account of the overall tree size, shape, and any special feature.

¹⁷ Trunk diameter of a tree refers to its diameter at breast height (i.e. measured at 1.3 metres above ground level).