

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 – detailed design, site investigation and advance works”, to Category A at an estimated cost of \$1,909.6 million in money-of-the-day prices; and
- (b) the retention of the remainder of **825TH** in Category B.

PROBLEM

We need to take forward the detailed design, site investigation and advance works of the Tuen Mun–Chek Lap Kok Link (TM-CLKL) so that it can be completed by phases to synchronise with the commissioning of the Hong Kong–Zhuhai–Macao Bridge (HZMB) and to meet the local traffic demand, thereby enhancing the overall efficiency of the transport network of 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 \$1,909.6 million in money-of-the-day (MOD) prices to engage consultants to undertake the detailed design and associated site investigation for the TM-CLKL and to construct the advance TM-CLKL southern landfall reclamation works.

PROJECT SCOPE AND NATURE

3. The part of **825TH** that we now propose to upgrade to Category A comprises –

(a) the construction of the advance works of the TM-CLKL, which comprises –

(i) construction of a permanent seawall of approximately 2 kilometres (km) long;

(ii) reclamation to form extra land of approximately 20 hectares (ha) at the proposed reclamation of the Hong Kong Boundary Crossing Facilities (HKBCF) for the southern landfall of the TM-CLKL sub-sea tunnel. The reclamation works will be taken forward at the same location under the same works contract together with the HZMB HKBCF reclamation; and

(iii) implementation of the associated environmental protection works and mitigation measures; and

(b) the detailed design and site investigation of the TM-CLKL as described in paragraph 4 below (save for the advance works as mentioned under (a) above¹), which includes –

(i) review of preliminary design;

(ii) reference design and detailed design;

/ (iii)

¹ The detailed design of the advance works was funded under **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme”. Please refer to paragraph 11 for details.

- (iii) site investigation for detailed design and the associated works supervision; and
- (iv) preparation of tender documents and assistance in assessment of tenders.

Layout plans showing the location and conceptual layout of the TM-CLKL and its advance works (with artist's impression view) are at Enclosure 1.

4. The scope of the remainder of **825TH** comprises –
- (a) the construction of the TM-CLKL, a dual two-lane highway of approximately 9 km² long connecting the proposed Tuen Mun Western Bypass (TMWB) at Tuen Mun Pillar Point in the north with the HKBCF, the Airport, and with North Lantau in the south, excluding the advance works described in paragraph 3(a) above. About 5 km of the TM-CLKL is in the form of sub-sea tunnel;
 - (b) the construction of the TMWB, a dual two-lane highway of approximately 9 km long connecting Kong Sham Western Highway in the north and the proposed TM-CLKL in the south; and
 - (c) the associated building, civil, structural, geotechnical, marine, electrical and mechanical, landscaping, and environmental protection and mitigation works for the two highways mentioned above.

5. We plan to commence the advance works as described in paragraph 3(a) above by end 2011 in order to tie in with the target completion of the reclamation works for the HZMB HKBCF in early 2016. We also plan to commence the detailed design and site investigation as described in paragraph 3(b) above by end 2011 for completion in mid 2015. Tenders have already been invited separately to enable the advance works and the detailed design consultancy to commence as soon as possible after funding approval.

/ **JUSTIFICATION**

² It comprises about 1 km of viaduct and about 5 km of sub-sea tunnel connecting Tuen Mun with the HZMB HKBCF, and about 3 km of viaduct connecting the HZMB HKBCF with the North Lantau Highway.

JUSTIFICATION**Strategic Need for TM-CLKL**

6. The TM-CLKL greatly complements the HZMB project to produce synergy effect. It is a strategic link connecting the HZMB with Northwest New Territories (NWNT) and North Lantau to enhance cross-boundary transportation. Traffic can go to Shenzhen via the proposed TMWB, Kong Sham Western Highway and Shenzhen Bay Bridge by routing through its northern connection, and to North Lantau Highway (NLH) by routing through its southern connection. For the Pearl River Delta Region, the TM-CLKL thus helps complete a regional transportation network between Hong Kong, Macao, Shenzhen and Zhuhai, and is very important for fostering closer economic integration of Hong Kong with the Pearl River Delta Region.

7. For Hong Kong, this road network will bring about significant benefits in the following aspects –

(a) Benefiting the development of various sectors

Hong Kong will benefit from the expanded economic hinterland, which will provide ample opportunities for Hong Kong businesses to enlarge their operation in the Mainland. The improved cross-boundary connectivity will also benefit various domestic sectors, such as tourism, logistics, finance and commerce.

(b) Satisfying the transportation needs of Lantau and NWNT

The TM-CLKL is important for satisfying the rising transportation needs of Lantau and NWNT. Based on the NWNT Traffic and Infrastructure Review conducted by Transport Department in 2005, the existing traffic corridor comprising Tuen Mun Road, Ting Kau Bridge, Lantau Link and NLH will be operating beyond their capacities after 2017 due to the increase in cross-boundary traffic and projected developments in NWNT and North Lantau. We need to construct the TM-CLKL to cope with the anticipated increase in traffic demand between NWNT and Lantau.

/ (c)

(c) Improvement of journey time and road capacity between NWNT and Lantau

The TM-CLKL, together with the proposed TMWB³, will provide the most direct route between NWNT and Lantau, joining Kong Sham Western Highway, the port back-up areas in NWNT, Tuen Mun River Trade Terminal, Ecopark, the Airport and the HZMB. Upon completion, the new route will significantly reduce the journey time between NWNT and Lantau, and also release some capacity of the existing roads (such as Tuen Mun Road, Ting Kau Bridge, Lantau Link and NLH), and offer strong support to the logistics industry.

(d) Provision of an alternative route to Airport

There is also a need to provide an alternative road access independent of the existing traffic corridor to serve the Airport. At present, Lantau Link and the NLH form the only road corridor connecting the Airport and North Lantau with the urban area. In case of any incidents resulting in blockage of this corridor, the northern connection of the proposed TM-CLKL (connecting Tuen Mun with the HKBCF of the HZMB, which in turn connects to the Airport) will serve as an alternative and emergency route to the Airport independent of the NLH, thus reinforcing the Airport as an international and regional aviation hub. The landslide incident in June 2008 which blocked the NLH also illustrates the importance of having an alternative route connecting the Airport.

Development of TM-CLKL during Investigation and Preliminary Design

8. In May 2008, we engaged consultants to undertake the investigation and preliminary design (I&PD) study of the TM-CLKL to determine the alignment, general layout, land requirement and impacts of the TM-CLKL project. The I&PD consultancy has recommended the following –

/ (a)

³ In November 2010, the Highways Department (HyD) conducted a series of public consultation meetings with Tuen Mun and Yuen Long District Councils, Tuen Mun Rural Committee and Heung Yee Kuk. The HyD will refine the design of TMWB in response to the opinions received, with a view to further taking forward the project. We are currently taking forward the investigation and preliminary design of the TMWB while funding for its detailed design will be sought.

- (a) with the selection of the northeast of the Airport for the HKBCF site, the TM-CLKL southern landfall reclamation will be taken forward at the same location under the same works contract together with the reclamation of the artificial island of HKBCF to save a length of approximately 1.8 km of permanent seawall⁴, thus minimising the environmental impact;
- (b) with the TM-CLKL located at the east of the HKBCF, traffic from the HZMB can go directly to the NWNT via the TM-CLKL's northern connection or to the urban area via the TM-CLKL's southern connection and NLH. Traffic to/from the HKBCF will not need to route through Tung Chung and the Airport, thus minimising the environmental and traffic impact on Tung Chung New Town;
- (c) the sub-sea tunnel is proposed to be constructed by tunnel boring machine (TBM) instead of the traditional immersed tube method. This construction method could greatly reduce dredging and disposal of substantial amount of marine sediment, avoid diversion of the submarine power cables currently serving the Airport and reduce the impact on the marine traffic on the busy Urmston Road. It also minimises the impact on the marine ecology; and
- (d) for the works programme, to complete the TM-CLKL southern connection which connects the HZMB HKBCF with the NLH in 2016 to tie in with the commissioning of the HZMB and reduce the environmental and traffic impact to Tung Chung New Town; and to complete the TM-CLKL northern connection which connects the HZMB HKBCF with Tuen Mun in 2017 to alleviate the emergence of traffic saturation at Tuen Mun Road by 2017.

/ **Proposed**

⁴ Reclamation is needed for each of these two projects to provide land for the development of the HKBCF superstructures and infrastructures and the southern landfall of the TM-CLKL sub-sea tunnel. Carrying out the reclamation works at the same location to provide the land required for the two projects will reduce the total length of the seawalls.

Proposed Advance Works and Detailed Design Consultancy

9. We will implement the southern connection and northern connection sub-sea tunnel by the design and build (D&B) approach, while the designer-led approach will be adopted to implement works such as the advance southern landfall reclamation, the design of the toll plaza and design of the tunnel buildings (such as the administration building).

Advance Works

10. As mentioned in paragraph 8(a) above, the TM-CLKL southern landfall reclamation and the HKBCF reclamation will be taken forward at the same location under the same works contract together with the reclamation of the artificial island of HKBCF to reduce the length of permanent seawall to be constructed by approximately 1.8 km, thus minimising the environmental impact. Moreover, in order to achieve a compatible seawall and reclamation design, enable better integration, and avoid complicated interfacing issues between the two projects at the construction stage, the detailed design for the reclamation for the TM-CLKL southern landfall and HKBCF will be carried out under the same consultancy contract.

11. To implement the HKBCF reclamation, we engaged consultants in July and September 2009 to undertake the ground investigation and detailed design for the HKBCF reclamation works respectively after obtaining funding approval from the Finance Committee of LegCo in May 2009 for **839TH** – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - detailed design and site investigation. To match with the programme of the HKBCF's reclamation, a Category D item was also created under **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme" to fund the detailed design and tendering of the TM-CLKL southern landfall reclamation works (i.e. the advance works).

12. The detailed design for both parts of the reclamation has now been completed. We have submitted another funding application for the HKBCF reclamation works (please see PWSC paper PWSC(2011-12)30). To dovetail with the implementation programme of the HKBCF reclamation, we need to take forward the TM-CLKL southern landfall reclamation (as advance works) in parallel.

Environmental Protection Measures

13. We recommend adopting various environmental protection measures to minimise the possible environmental impact on the surrounding areas. The most important measure of which is the non-dredge reclamation method. With a view to minimising impact on the environment when reclaiming the artificial island, the HyD together with its consultants have developed a non-dredge reclamation method, which will be the first of its kind in Hong Kong in respect of reclamation⁵. The non-dredge construction method applies to both the seawall and main reclamation. Instead of dredging the soft marine mud in the seabed before backfilling, a series of interlocked large diameter steel cells (to be backfilled with inert construction and demolition material) will be sunk through the marine mud and fixed on the underlying firmer alluvium to form the perimeter seawall; while the more commonly used band drains and preloading method without dredging will be used for the main reclamation⁶.

14. The new non-dredge reclamation method can almost completely avoid the dredging and disposal of marine mud as well as significantly reduce the amount of backfilling material required (compared to the dredge reclamation method, the non-dredge reclamation method can reduce the amount of marine mud to be dredged by about 97% and backfilling material required by about one half). As a result, the amount of released suspended particles at sea during reclamation and the construction marine traffic can be reduced by about 70% and by about one half respectively. Therefore, it is more environmentally friendly and meets the principle of sustainable development. The above construction method will increase the cost of reclaiming the entire artificial island of about 150 ha by about \$670 million (in MOD prices).

Detailed Design

15. As mentioned in paragraph 9 above, we will implement works, such as the advance southern landfall reclamation, the design of the toll plaza and design of the tunnel buildings by a designer-led approach. We need to engage consultants under a detailed design consultancy to review the preliminary design, carry out the detailed design for the designer-led contracts, carry out the reference design for the D&B contracts, prepare tender documents, assist in the assessment of tenders, and supervise the site investigation works.

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⁵ The 150 ha artificial island includes roughly 130 ha of reclamation for the HKBCF and 20 ha of reclamation for the TM-CLKL southern landfall. The TM-CLKL southern landfall reclamation will be taken forward at the same location under the same works contract together with the reclamation of the artificial island of HKBCF as one works package to reduce the length of permanent seawall to be constructed by approximately 1.8 km, thus minimising the environment impact.

⁶ The more commonly used reclamation method is to install the band drains into the soft mud and then place the surcharge on the reclaimed land to accelerate its consolidation and settlement.

16. We are now applying for funding for the part of the work covered by the detailed design consultancy first, and will make funding application for the construction part⁷ in due course. Our aim is to complete the southern connection in 2016 to tally with the commissioning of the HZMB, and to complete the northern connection in 2017 to meet forecast traffic demand.

FINANCIAL IMPLICATIONS

17. We estimate the cost of this part of **825TH** to be \$1,909.6 million in MOD prices (please see paragraph 23 below), broken down as follows –

		\$ million
(a) Construction of advance works –		1,321.6
(i) Reclamation works	1,225.1	
(1) Construction of permanent seawall of about 2 km long	706.3	
(2) Reclamation about 20 ha of land	518.8	
(ii) Environmental mitigation measures including environmental monitoring and auditing	8.8	
(iii) Consultants' fees –	7.7	
(1) Contract administration	1.4	
(2) Management of resident site staff (RSS)	5.8	
(3) Independent Environmental Project Office (ENPO) ⁸ and independent environmental checker services	0.5	

/ \$ million.....

⁷ Construction part includes the designer-led type of construction contracts and the D&B contracts as described in paragraph 15 above.

⁸ The Environmental Permit for the TM-CLKL project requires the setting up of an independent ENPO to be set up, 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	
(iv) Remuneration of RSS	80.0	
(b) Consultants' fees for detailed design of the TM-CLKL –	61.5	
(i) review preliminary design and carry out reference design and detailed design	41.3	
(ii) prepare tender documents and assist in assessing tenders	9.6	
(iii) supervise site investigation	10.6	
(c) Electrical and Mechanical Services Trading Fund (EMSTF) charges ⁹	2.4	
(d) Site investigation	120.6	
(e) Contingencies	150.3	
	Sub-total	<u>1,656.4</u> (in September 2011 prices)
(f) Provision for price adjustment	253.2	
	Total	<u>1,909.6</u> (in MOD prices)

 A breakdown of the estimated consultants' fees and resident site staff costs for the construction of the advance works is at Enclosure 2. A breakdown of the estimated consultants' fees for reviewing preliminary design, carrying out reference design and detailed design, preparing tender documents and assisting in assessing tenders of the TM-CLKL remaining works is at Enclosure 3.

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⁹ 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 (EMSD). 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.

18. For the HZMB-related local projects¹⁰, we originally planned to commence construction before end 2010. The works commencement date for HZMB-related local projects has been affected by the legal proceedings of a judicial review (JR) case, as a Tung Chung resident 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 HKLR projects.¹¹ Therefore, we now plan to submit the funding application of the HZMB-related local projects to the FC in November 2011. Subject to funding approval, the construction of these projects will commence by end 2011. As there is now a difference of about one year compared to the original construction timetable, we estimate that there will be an overall cost increase of about \$6.5 billion in MOD prices for the HZMB-related local projects. Main reasons include: (i) adjustment in construction method to compress the construction timetable in order to ensure the timely commissioning of the HZMB by end 2016 (associated cost increase is about \$4.15 billion); and (ii) increase in construction price levels (associated cost increase is about \$2.35 billion). For the TM-CLKL advance works, out of the estimated cost of \$1,909.6 million in MOD prices, about \$0.2 billion in MOD prices arises from the additional cost due to the JR case, which includes the additional costs for: (i) adjustment of the construction method, including adopting more sand as filling material; and the use of additional manpower, equipment and facilities for accelerating the works progress (associated cost increase is about \$0.1 billion); and (ii) the increase in construction price levels (associated cost increase is about \$0.1 billion). The remaining \$6.3 billion out of the aforesaid \$6.5 billion cost increase is attributable to the cost increase under the HKBCF project (see PWSC paper No. PWSC(2011-12)30). If the works are not implemented immediately, we anticipate that the cost will continue to rise significantly.

19. 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 (exit of the sub-sea tunnel) will be carried out with the reclamation of HKBCF under the same contract.

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

11 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.

20. We originally planned to commission the TM-CLKL together with the HZMB, but we will now implement the project by phases. As the 3 km viaduct connecting the HKBCF with the NLH has to be commissioned together with the HZMB, we will complete this section of the TM-CLKL first in 2016. As the sub-sea tunnel portion connecting the HKBCF with Tuen Mun will not affect the commissioning of the HZMB, this part of works will be completed in 2017.

21. The HZMB project is a major cross-boundary transport infrastructure project that has been adequately discussed in the community and under planning for a long time. It has very important strategic value in terms of further enhancement of the economic development between Hong Kong, the Mainland and Macao. In respect of the works programme of the Bridge itself, works of the Main Bridge within Mainland waters and the Zhuhai Macao Boundary Crossing Facilities are progressing well. As regards the bridge section of the Main Bridge, contracts for the detailed design of bridges were signed in March 2011 and works have been formally commenced. Works for the Main Bridge are anticipated to be completed in 2016.

22. The HZMB connects Hong Kong, Zhuhai and Macao. The HZMB Hong Kong local projects would connect the HZMB Main Bridge located in Mainland waters at the HKSAR boundary. The road leading to the eastern artificial island at the Mainland waters has to connect the HKLR in Hong Kong waters in order to complete the entire traffic network. Therefore, apart from the HZMB Main Bridge, the associated Hong Kong projects need to be completed in tandem for connection to enable the commissioning of the HZMB. If the local projects cannot be completed on time, which in turn cause the HZMB cannot be commissioned by end 2016, it would incur direct financial loss and indirect economic loss not only to Hong Kong, but also to the Mainland and Macao. Therefore, we hope that funding approval can be obtained from LegCo as soon as possible so that construction can commence early. We will also endeavour to adopt different methods to compress the construction period so that the HZMB Hong Kong projects can be completed in tandem for the commissioning of the HZMB by end 2016.

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

Year	\$ million (September 2011 prices)	Price Adjustment Factor	\$ million (MOD)
2011 – 2012	15.6	1.00000	15.6
2012 – 2013	409.1	1.05375	431.1

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Year	\$ million (September 2011 prices)	Price Adjustment Factor	\$ million (MOD)
2013 – 2014	426.8	1.11171	474.5
2014 – 2015	364.5	1.17285	427.5
2015 – 2016	249.6	1.23736	308.8
2016 – 2017	148.9	1.30541	194.4
2017 – 2018	41.9	1.37721	57.7
	1,656.4		1,909.6

24. 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 input for the period 2011 to 2018. Subject to funding approval, we will award the proposed consultancy for the detailed design of the TM-CLKL on a lump sum basis. We will deliver the reclamation works and site investigation works under standard re-measurement contract because the quantities of reclamation works and site investigation works involved will vary depending on actual ground conditions. We will also engage consultants for providing the ENPO and Independent Environmental Checker services on a lump sum basis. All relevant contracts will provide for price adjustments.

25. The proposed detailed design and associated site investigation works and the advance works will not give rise to any recurrent expenditure.

PUBLIC CONSULTATION

26. On 23 November 2007, we consulted the LegCo Panel on Transport when seeking funds for the I&PD of the TM-CLKL and TMWB. The Panel supported the funding application. On 11 January 2008, the Finance Committee approved the funding.

27. From September 2008 to October 2008, we conducted a series of public engagement on the TM-CLKL, TMWB, HKBCF and HKLR, including ten focus group meetings with Chairmen of the Islands, Tuen Mun and Yuen Long District Councils, professional institutions, Heung Yee Kuk, Lantau Area Committee, Area Committees in Tuen Mun, public transport trades, trade associations, fisherman groups, marine industry and green groups; and held two public workshops concerning the Hong Kong-Shenzhen-Zhuhai corridor¹² at Tung Chung and Tuen Mun respectively. To further engage views concerning the Hong Kong-Shenzhen-Zhuhai corridor from local residents, 13 meetings with Tung Chung residents, Tai O Rural Committee and Tung Chung Rural Committee were held in early 2009.

28. In the context of the above public engagement exercises, the views of different groups and residents of Lantau and Tuen Mun on the overall layout and alignment of the TM-CLKL were collected. In general, the public was supportive of the proposed project and asked for its early implementation. However, some Tung Chung residents suggested that tunnel instead of sea viaduct should be considered for the southern connection between the HKBCF and the NLH. In this regard, we explained to them the drawbacks of the tunnel option, including the need for reclamation to protect the tunnel which would have potential impact on the navigation channel. To address the concerns raised by some Tuen Mun residents on the proximity of the TM-CLKL to Butterfly Beach, the northern landfall of the TM-CLKL sub-sea tunnel has been repositioned near the River Trade Terminal, thus maximising the distance from the beach.

29. We consulted the Islands District Council and Tuen Mun District Council on the proposed alignment of the TM-CLKL on 17 April 2009 and 5 May 2009 respectively. Members generally supported the implementation of the TM-CLKL.

Latest Consultation in respect of Environmental Impact Assessment Reports

30. We exhibited for public inspection the Environmental Impact Assessment (EIA) reports of the HKBCF, HKLR and TM-CLKL between 14 August and 12 September 2009. On 8 September 2009, we briefed the Islands District Council on the EIA findings. On 21 September 2009, we consulted the EIA Subcommittee of the Advisory Council on the Environment (ACE). On 12 October 2009, the ACE endorsed the EIA reports with conditions. The Director of Environmental Protection (DEP) approved the EIA reports with conditions on 23 October 2009 and issued the Environmental Permits (EP) on 4 November 2009.

/ Objection

¹² Hong Kong - Shenzhen - Zhuhai Corridor comprises: (i) HZMB HKLR and HKBCF; and (ii) TM-CLKL and TMWB.

Objection-handling process in respect of the amendment to the Chek Lap Kok Outline Zoning Plan and the road and reclamation works

31. We gazetted on 12 and 19 June 2009 the draft Chek Lap Kok Outline Zoning Plan (OZP) No. S/I-CLK/11¹³ under the Town Planning Ordinance (Cap. 131). 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 period for objection, 789 representations on the draft Chek Lap Kok OZP and 313 objections to the road scheme were received. Most of the objections and representations are in the form of standard emails / letters / forms expressing concerns on the proposed works for their perceived negative impacts to Tung Chung residents, environment and ecology, and requesting alternative solutions. Descriptions of the representations / objections are spelled out in Enclosure 4. 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 uphold the representations under the Town Planning Ordinance.

32. In respect of the unresolved objections as mentioned in paragraph 31 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 presentations 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 the road scheme of the project without amendment 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.

33. We briefed the LegCo Panel on Transport on the latest progress of the HZMB and related local projects and consulted it on our plan to submit the funding applications for the projects (including TM-CLKL) on 26 October 2011. The Panel supported the submission of funding applications to PWSC. We will separately write to the Transport Panel to provide supplementary information requested by Members, and will copy the same to the PWSC Secretariat for onward submission to PWSC Members for reference.

/ ENVIRONMENTAL

¹³ 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.

ENVIRONMENTAL IMPLICATIONS

34. The TM-CLKL project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and an EP is required for the construction and operation of the TM-CLKL. The Director of Environmental Protection issued the EP for 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 of the advance works, with particular emphasis on the protection of Chinese White Dolphins living in the vicinity of the project site, are summarized at Enclosure 5.

35. The proposed detailed design consultancy and site investigation works will generate very little construction waste. We will require the consultants to fully consider measures to minimise the generation of construction waste and to reuse/recycle construction waste as much as possible in the construction of the remaining works of the TM-CLKL.

36. During the detailed design of the reclamation, the HyD developed a new non-dredge reclamation method. When compared with the scheme proposed in the 2009 EIA report, we can further reduce the dredging and disposal of marine deposits by about 3.8 million cubic metres; the demand for backfilling material by about one half; the release of marine suspended solids by about 70%; and the construction marine traffic during construction by about one half. The DEP issued the Variation of EP on 8 December 2010 for the non-dredge reclamation method.

37. 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 also require the contractor to reuse inert construction waste (e.g. excavated materials) 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 facilities¹⁴. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

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¹⁴ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap 354N). Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

38. At the construction stage of the advance works, we will also 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 whenever practicable 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.

39. With the adoption of the new non-dredge reclamation scheme, no dumping of dredged marine mud at designated dumping ground is required for the advance reclamation works. The minimal amount of dredged mud will be reused within site. We estimate that the advance works will consume in total about 2.61 million tonnes of inert construction waste (soft public fill) during the reclamation process. We estimate that the project will also generate in total about 1.26 million tonnes of construction waste. Of these, we will reuse about 0.28 million tonnes (22.2%) of inert construction waste on site and 0.09 million tonnes (7.2%) of inert construction waste on other construction site(s) and deliver 0.89 million tonnes¹⁵ (70.6%) of inert construction waste to public fill reception facilities for subsequent reuse. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be about \$24 million (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne¹⁶ at landfills).

40. We will set up an independent ENPO before commencement of construction of project to oversee the cumulative environmental impacts arising from the project and other concurrent projects in the adjoining area and to liaise closely with the mainland project teams for the HZMB Main Bridge.

HERITAGE IMPLICATIONS

41. The proposed detailed design, site investigation works and advance works 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.

/ LAND

¹⁵ These are mainly the surcharge material to be removed after the settlement of the reclamation site is completed.

¹⁶ 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

42. The proposed detailed design, site investigation and advance works do not require any land acquisition. However, the advance works will affect the seabed. Under the established policy, ex-gratia allowance (EGA) will be offered to fishermen affected as a result of the loss of their habitual fishing grounds by the project. The estimated amount of the EGA payable to eligible fishermen is about \$1.8 million, which will be charged to **Head 701 - Land Acquisition**.

BACKGROUND INFORMATION

43. 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.

44. 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 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.

45. In September 2009, we engaged consultants to undertake the detailed design of the advance southern landfall reclamation works 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. We invited tender for the reclamation works in February 2011 and the tender assessment has been completed.

46. We invited tenders for the detailed design of the TM-CLKL remaining works on 18 February 2011, and for the independent ENPO and independent environmental checker services on 23 February 2011 respectively. The tender assessment for the TM-CLKL remaining works detailed design consultancy has been completed.

47. We originally scheduled to commence the construction of the HZMB-related local projects before end 2010. We therefore set out their estimated costs in the Estimates for 2010-11 and 2011-12. Apart from considering the estimates prepared at that time, we have also considered in this funding application the cost increases due to the deferral in works commencement of about one year due to the JR proceedings, the adoption of the more environmentally friendly non-dredge reclamation method as well as the additional costs caused by factors such as design development, and anticipated increase in material and construction costs, etc..

48. The proposed detailed design, associated site investigation works, and advance works will not involve any tree removal or planting proposals. We will require the consultants to take into consideration the need for tree preservation in the detailed design of the TM-CLKL project. We will also incorporate tree-planting arrangements, where possible, in the construction phase.

49. We estimate that the proposed detailed design consultancy, site investigation and advance works under the proposed upgrading of part of **825TH** to Category A, will create about 380 jobs (about 90 for professional / technical staff and 290 for workers) providing a total employment of 13 400 man-months.

Transport and Housing Bureau
November 2011

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

**Breakdown of estimates for consultants’ fees and resident site staff costs
(in September 2011 prices)**

			Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a)	Consultants’ fees for contract administration ^(Note 2)	Professional	-	-	-	0.7
		Technical	-	-	-	0.7
					Sub-total	<u>1.4</u>
(b)	Resident site staff costs ^(Note 3)	Professional	450	38	1.6	44.9
		Technical	1 206	14	1.6	40.9
					Sub-total	<u>85.8</u>
	Comprising:-					
(i)	Consultants’ fee for managing resident site staff					5.8
(ii)	Remuneration of resident site staff					80.0
(c)	Consultants’ fee for Environmental Project Office and Independent Environmental Checker services ^(Note 4)	Professional	2.4	38	2.0	0.3
		Technical	4.7	14	2.0	0.2
					Sub-total	<u>0.5</u>
					Total	87.7

* 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 and a multiplier of 2.0 is applied to the average MPS point to estimate the cost of staff employed in the consultants’ offices. (As at now, MPS pt. 38 = \$62,410 per month and MPS pt. 14 = \$21,175 per month).

2. The consultants' staff cost for the contract administration is calculated in accordance with the existing consultancies Agreement No. CE 28/2009(CE) "HZMB HKBCF (Reclamation Works) – Design and Construction" (for the reclamation works of the HKBCF under **845TH** and TM-CLKL southern landfall under **825TH**). The construction phase and completion phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade **845TH** and **825TH** to Category A.
3. We will know the actual man-months and actual costs after the completion of the construction works.
4. We will only know the actual man-months and actual costs after the consultants have been selected.

825TH – Tuen Mun – Chek Lap Kok Link and Tuen Mun Western Bypass – consultants’ fees for review of the preliminary design, carrying out detailed design and reference design, preparation of tender documents, assessment of tenders and supervision of site investigation works of TM-CLKL

**Breakdown of estimates for consultants’ fees
(in September 2011 prices)**

			Estimated man- months	Average MPS* salary point	Multiplier (Note1)	Estimated fee (\$ million)
(a) Consultants’ staff costs						
(i)	Reviewing preliminary design	Professional	55	38	2.0	6.9
		Technical	38	14	2.0	1.6
(ii)	Reference design and detailed design	Professional	205	38	2.0	25.6
		Technical	170	14	2.0	7.2
(iii)	Preparing tender documents and assisting in assessing tenders	Professional	60	38	2.0	7.5
		Technical	50	14	2.0	2.1
(iv)	Supervising the site investigation works	Professional	36	38	2.0	4.5
		Technical	144	14	2.0	6.1
Total consultants’ staff costs						61.5

* MPS = Master Pay Scale

Notes

1. A multiplier of 2.0 is applied to the average MPS point to estimate the cost of staff employed in the consultants’ offices. (As at now, MPS pt. 38 = \$62,410 per month and MPS pt. 14 = \$21,175 per month).
2. The figures given above are based on estimates with reference to the awarded consultancy agreements in HZMB Hong Kong Project Management Office. We will know the actual man-months and fees only after we have selected the consultants.

**Details of the Statutory Representations and Objections
in respect of 825TH (Part) – Tuen Mun – Chek Lap Kok Link**

A. Representations in respect of the draft Chek Lap Kok Outline Zoning Plan (OZP) No. S/I-CLK/11 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 representations are divided into two Groups, with 780 representations under Group I and one representation under Group II.

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

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 for 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 representers' 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 representers' 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 representers' 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 organisation¹. 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

¹ 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.

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 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.

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

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"> • Tuen Mun-Chek Lap Kok Link (TM-CLKL) southern landfall is located 2km away from Tung Chung. The assessment results indicate that the air quality and noise impacts brought by the project on Tung Chung 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 for the dredge seawall scheme will be limited to the vicinity of the site and fully comply with EIAO requirements. 	<ul style="list-style-type: none"> • Install perimeter silt curtain around the reclamation site and second layer silt curtain around stone column installation 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. • With adoption of the non-dredge reclamation method, the water quality impacts will be further significantly reduced.
Impact on Chinese	<ul style="list-style-type: none"> • An in-depth study by dolphin experts 	<ul style="list-style-type: none"> • Set up a dolphin exclusion zone of 250m around the

Environmental Concerns	Key Findings of Environmental Impact Assessment	Major Mitigation Measures
White Dolphins (CWD)	<p>indicates that locating the TM-CLKL southern landfall at the northeast waters of the Airport Island can keep it away from the dolphin active region on the western waters.</p> <ul style="list-style-type: none"> • Permanent loss of CWD habitat is a moderate impact requiring mitigation. 	<p>Project during the installation of perimeter silt curtains around the TM-CLKL southern landfall reclamation site and any re-deployment of the perimeter silt curtains. If dolphins are observed in the exclusion zone, the installation/re-deployment works will be delayed until the dolphins have left the area.</p> <ul style="list-style-type: none"> • Implement dolphin watching plan including regular checking of the silt curtain and monitor the waters outside the silt curtain. • Use vibratory methods for installing steel cells instead of the more noisy underwater percussive method. • Enforcement of vessel speed limit within the work areas to within 10 knots.
Ecological impact	<ul style="list-style-type: none"> • The project has avoided ecological sensitive areas. 	<ul style="list-style-type: none"> • Install perimeter silt curtain around the reclamation site and second layer of silt curtain around stone column installation 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. • With adoption of the non-dredge reclamation method, the water quality impacts will be further significantly reduced.
Impact on Fisheries	<ul style="list-style-type: none"> • Loss of fishing ground is not significant and 	<ul style="list-style-type: none"> • Additional and reprovion of artificial reefs (AR) as

Environmental Concerns	Key Findings of Environmental Impact Assessment	Major Mitigation Measures
	fisheries impact is acceptable.	mitigation and enhancement measure for affecting the existing ARs inside a Marine Exclusion Zone.
Landscape and visual impacts	<ul style="list-style-type: none"> • TM-CLKL southern landfall is located 2km away from Tung Chung. Potential visual impact by TM-CLKL southern landfall will be negligible due to integration of TM-CLKL southern landfall and the Airport in view of their similarity in appearance. 	<ul style="list-style-type: none"> • Aesthetic engineering and architectural design together with optimum greening treatment would further minimize any potential visual impacts.