For discussion
on 28 April 2010

EC(2010-11)2

ITEM FOR ESTABLISHMENT SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 60 – HIGHWAYS DEPARTMENT
Subhead 000 Operational expenses

Members are invited to recommend to Finance Committee the following proposals relating to the Highways Department –

(a) the retention of the following two supernumerary posts –

1 Principal Government Engineer
(D3) ($135,025 - $147,375)

1 Chief Engineer
(D1) ($97,840 - $106,925)

for a period of four years from 1 July 2010 to 30 June 2014

(b) the extension of the redeployment of the following permanent post –

1 Chief Engineer
(D1) ($97,840 - $106,925)

for a period of four years from 1 July 2010 to 30 June 2014

/PROBLEM …..

PROBLEM

The existing supernumerary posts of Principal Government Engineer (PGE) (D3) and Chief Engineer (CE) (D1) in the Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Project Management Office (HKPMO) of the Highways Department (HyD) will lapse on 1 July 2010. The time-limited redeployment of one permanent CE post will also expire on the same date. HyD needs the continued support of the above directorate posts to sustain the implementation of the HZMB and related highway infrastructure projects.

PROPOSAL

2. We propose to –

(a) retain two supernumerary posts of one PGE and one CE; and

(b) extend the redeployment of one permanent CE post from the Major Works Project Management Office (MWPMO)

for a period of four years with effect from 1 July 2010.

JUSTIFICATION

Existing Directorate Staffing in HZMB HKPMO

3. The Finance Committee (FC) approved on 14 May 2004, vide EC(2004-05)4, the creation of two supernumerary posts (i.e. one PGE and one CE) and the redeployment of one permanent CE post in HyD as listed in paragraph 1 above with effect from 1 July 2004 for a period of six years for establishing the HZMB HKPMO, which was a dedicated office for overseeing the planning and implementation of the HZMB and related highway infrastructure projects[1]. On 13 February 2009, the FC further approved vide EC(2008-09)16 the creation of one supernumerary post of CE to lead a new division in the HZMB HKPMO to undertake the planning and implementation of the HZMB Hong Kong Boundary Crossing Facilities (HKBCF) for a period of five years up to 31 March 2014.

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[1] Including the HZMB Main Bridge, Hong Kong Link Road (HKLR), Hong Kong Boundary Crossing Facilities (HKBCF), Tuen Mun-Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB). The HKBCF will be a multi-modal transportation hub integrating passenger and cargo facilities, and linking the HKLR and the Hong Kong International Airport. The HKLR will be the part of the HZMB in Hong Kong waters linking the Main Bridge of the HZMB to the HKBCF. The TM-CLKL and TMWB are planned to provide a direct route between the Northwest New Territories (NWNT) and Lantau, linking the Kong Sham Western Highway, the port back-up areas in the NWNT, the Tuen Mun River Trade Terminal, the Ecopark, the HZMB Main Bridge via HKBCF and HKLR, the Airport and various North Lantau developments.

4. The supernumerary PGE post, designated as Project Manager/Hong Kong-Zhuhai-Macao Bridge (PM/HZMB), heads the HZMB HKPMO and is underpinned by the three CEs described in paragraph 3 above. The three CEs are responsible for the following projects –

(a) CE/HZMB HK[2] is responsible for the HZMB Main Bridge and Hong Kong Link Road (HKLR);

(b) CE/NWNT[3] is responsible for the Tuen Mun-Chek Lap Kok Link (TM-CLKL), Tuen Mun Western Bypass (TMWB) and planning for highway infrastructure for Northwest New Territories (NWNT); and

(c) CE/HKBCF[4] is responsible for the HKBCF.

Encl. 1 The existing organisation chart of the HZMB HKPMO is at Enclosure 1.

Recent Developments of the HZMB and Related Highway Infrastructure Projects

HZMB Main Bridge

5. With the approval of the Feasibility Study report of the HZMB Project by the State Council of the Central People's Government, the governments of the Mainland, the Hong Kong Special Administrative Region (HKSAR), and the Macao SAR (the three governments) commenced the construction works of the HZMB Main Bridge in the Mainland waters on 15 December 2009. The three governments are also setting up the HZMB Authority in the Mainland in accordance with Mainland laws to take forward the construction, operation, maintenance and management of the HZMB Main Bridge. The three governments will play a supervisory role over the HZMB Authority through the establishment of a Joint Works Committee.

HKLR and HKBCF

6. The HKSAR Government has gazetted the two projects under various ordinances. Subject to funding approval and necessary authorisations

/required …..

[2] The supernumerary CE post proposed for extension in this paper. Post retitled from CE/HZMB1 as endorsed vide EC(2008-09)16.

[3] The redeployed permanent CE post proposed for extension of the redeployment in this paper. Post retitled from CE/HZMB2 as endorsed vide EC(2008-09)16.

[4] The supernumerary CE post created for five years up to 31 March 2014 vide EC(2008-09)16.

required under the various ordinances, HyD will invite tenders for the reclamation works of the HKBCF and for the detailed design and construction of the HKLR projects. The completion of the projects will need to tie in with the planned commissioning of the Main Bridge in 2016.

TM-CLKL and TMWB

7. The Investigation and Preliminary Design Study of the two projects are in progress. The HKSAR Government has gazetted the TM-CLKL project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370). Subject to funding approval and necessary authorisation, HyD plans to commence the advance works for the TM-CLKL to tie in with the tight schedule of the HKBCF project, and to facilitate the interface of the two projects. As regards the TMWB project, HyD is actively considering various alignment options, taking into account comments received from local residents, relevant District Councils as well as Rural Committees and Heung Yee Kuk. It will further consult the local community on the way forward.

Need for Retention of the Directorate Establishment in HZMB HKPMO

8. We have critically reviewed the directorate complement of the HZMB HKPMO in the light of the recent developments and the construction works in the pipeline as described above. Since the HZMB project has already entered into a full-fledged implementation stage, and given the scale, complexity and volume of works still required to sustain the implementation of the HZMB and related highway projects, we consider it critical to maintain operational continuity and adequate supervision at the directorate level by retaining the two supernumerary posts of PGE (PM/HZMB) and CE (CE/HZMB HK) and extending the redeployment of one permanent CE post (CE/NWNT). Detailed justifications for the continued requirement for these three directorate posts are given in the following paragraphs.

PM/HZMB (PGE)

9. PM/HZMB will continue to head the HZMB HKPMO and oversee all the projects mentioned above. He has to take charge of all the professional, technical, contractual and interface issues, and to steer the resolution of the whole range of matters related to the smooth and timely implementation of these projects. He is also responsible for providing expert advice and technical support to the Transport and Housing Bureau in overseeing the projects from a policy perspective.

10. At the inter-governmental level, PM/HZMB has to attend high-level meetings on a frequent basis with representatives of the Mainland Government (at both the Central People's Government as well as provincial levels) and the Macao SAR Government, to provide strategic steer as well as impetus to the projects. Enhanced input will be required of him in supporting new establishments which will be in place in the next few months, namely the HZMB Authority and the Joint Works Committee described in paragraph 5 above. PM/HZMB will play an important role in steering and supervising the work of this HZMB Authority through regular meetings with the key staff in the Authority and in providing strong professional support to the Transport and Housing Bureau in the Joint Works Committee for vetting and approval of the HZMB Authority's submissions. In particular, support will be given to key matters concerning the Authority's general management system as well as financial management, personnel management and tendering and contract management; engineering and technical standards, quality and safety of the works concerned; and the actual operation of the HZMB Main Bridge. The support of a senior directorate officer with strong professional expertise as well as sound management skills is especially important given the scale of the project, technical complications of the works anticipated and the high level of coordination between the three governments required for taking forward the construction of this mega cross-boundary project.

11. Internally, PM/HZMB is responsible for spearheading and supervising the development of the HZMB-related Hong Kong highway infrastructure projects, including the HKBCF, the HKLR, the TM-CLKL and the TMWB, as well as other highway projects in NWNT under planning. Each being a major works project on its own, the taking-forward of these various projects at the same time under a tight timeline requires careful coordination and close supervision at a high level to ensure smooth handling and timely completion. In this regard, the expertise of PM/HZMB, a seasoned professional officer at D3 level, is essential in providing the required steer and guidance to the three CEs throughout – from planning and design to tender and then construction – and, more importantly, ensuring a high level oversight to these various time-critical projects in the overall.

12. Taking into account the scale, complexity and importance of the various local projects undertaken by the HZMB HKPMO, as well as the frequent high-level contacts with Mainland as well as Macao SAR government officials and the key staff in the HZMB Authority regarding the HZMB project and the coordination among local related projects undertaken by the three governments in the construction phase of the HZMB project, we consider it operationally necessary for the Office Head of HZMB HKPMO to be maintained at D3 level on a full-time basis.

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CE/HZMB HK (CE)

13. CE/HZMB HK will continue to oversee all the technical, design, construction and environmental issues for the works of the HZMB Main Bridge within Mainland waters and the HKLR within Hong Kong territory. The HZMB Main Bridge will be in the form of bridge-cum-tunnel with a total length of about 30 km – consisting of a 23 km sea-crossing bridge with three long span bridges and a 6.7 km long submerged sea tunnel – crossing several major navigation channels in the Pearl River Delta. Upon completion, the HZMB Main Bridge will be one of the world's longest sea-crossing bridge-cum-tunnel road with dual three lanes.

14. As a chief professional, CE/HZMB HK deals with the technical aspect of the HZMB Main Bridge and oversees HKSAR Government's participation in the financial, legal and institutional arrangements and construction matters regarding the Main Bridge project. He has to work closely with the other two governments on these matters, including but not limited to the arrangement of syndicated bank loan for financing the project and finalisation of the details of the loan arrangement, and the drafting and subsequent implementation of the Inter-governmental Agreement on the construction, operation, maintenance and management of the Main Bridge. He also needs to work with the two governments on the preparation of the Articles of Association for the HZMB Authority and the vetting of its internal office procedures for proper corporate governance.

15. Furthermore, with the anticipated establishment of the HZMB Authority, CE/HZMB HK will be the key officer assisting PM/HZMB in providing the necessary professional support to the Transport and Housing Bureau in overseeing the Authority through the Joint Works Committee mechanism. In particular, CE/HZMB HK will help oversee major issues concerning the HZMB project as well as vetting and approval of the HZMB Authority's submissions as described in paragraph 10 above.

16. On the local front, CE/HZMB HK assists in taking forward the HKLR. The 12-km long HKLR consists of a dual three-lane carriageway connecting the proposed HZMB at the HKSAR boundary with the HKBCF and associated ancillary works[5]. CE/HZMB HK is required to conduct intensive

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[5] Ancillary works include civil, structural, geotechnical, marine, environmental protection, landscaping and drainage works, street lighting, traffic aids (including sign gantries), water mains and fire hydrants, traffic control and surveillance system and electrical & mechanical works. There is also a tunnel section which will pass under the Scenic Hill and Airport Railway, and connect to the proposed at-grade road along the eastern coast of Airport Island so as to reduce the environmental and visual impact to Tung Chung.

discussions with various policy bureaux and departments within HKSAR government, and to organise public consultation with different stakeholders, including environmental concern groups and the Islands District Council in taking forward the project, having regard to concerns on air quality, noise, shorelines, preservation of Chinese White Dolphins, etc. Other than resolving these issues during the detailed design stage, it is envisaged that as the project progresses to the construction stage in time, effective coordination by an experienced professional officer at the directorate level with different departments and parties concerned is even more important to ensure that the project could be taken forward smoothly and in a timely manner.

17. During the construction stage, notwithstanding the mitigating measures planned to alleviate the possible impact of the works on nearby residents in Sha Lo Wan and Tung Chung as well as the natural environment along the alignment of the road, close monitoring at a senior level on the actual implementation will be essential to ensure their smooth and effective implementation. The officer would need to continue to spearhead the public engagement with different stakeholders, including environmental concern groups, the Islands District Council as well as local residents groups to ensure that early actions are taken to address their concerns regarding the construction works.

18. Given the complex and sensitive nature of the HZMB Main Bridge and HKLR projects, the continued service of CE/HZMB HK is required to closely monitor the projects before and during the whole construction period and to ensure the HKLR could be completed in time to tie in with the delivery of the Main Bridge in 2016. With the heavy workload as mentioned above, a dedicated CE is required.

CE/NWNT (CE)

19. Apart from providing technical support to the planning of long-term NWNT road infrastructure projects such as the Tuen Mun Eastern Bypass and the Tsing Yi Lantau Link and taking forward these projects when the traffic condition warrants their implementation, CE/NWNT will continue to be mainly responsible for two highway projects, the TM-CLKL and TMWB.

20. The two projects will involve the construction of two longest road tunnels, one undersea and one on land, in Hong Kong. There is a wide spectrum of complicated and challenging administrative and engineering issues associated with the construction of these tunnels. The sub-sea road tunnel for the TM-CLKL will be constructed using a tunnel boring machine, the first time such a technique is to

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be adopted in Hong Kong for the construction of sub-sea tunnel, and will present an engineering challenge[6]. Moreover, the reclamation for the tunnel will require careful handling to mitigate impact on the Urmston Road Channel, which is a very busy marine navigation channel in Hong Kong, and nearby marine life. As for the TMWB, some of the alignment options currently being evaluated also involve long road tunnels of over 8 km (which will be the longest in Hong Kong) with merging and diverging traffic inside the tunnel (an arrangement without precedent locally). Complicated considerations in engineering design as well as traffic and incident management are hence required.

21. On the public engagement front, apart from normal environmental concerns that would need to be addressed during the construction stage, considerable efforts will be required to facilitate the reaching of consensus on the alignment of the TMWB, which involves environmental concerns and livelihood considerations of the local rural community. The attention of a seasoned officer would be necessary for spearheading the multi-party public consultation exercise involving local residents, relevant District Councils, Rural Committees, Heung Yee Kuk and environmental concern groups, such that an option generally acceptable to all parties concerned could be reached.

22. To smoothly take forward these projects, the personal and dedicated attention of a chief professional officer is required to develop innovative engineering designs, devise complex traffic and incident management schemes, resolve sensitive environmental issues, and liaise with and consult the local communities. It is not practicable to release the CE/NWNT post to take up further duties outside his current portfolio.

CE/HKBCF (CE)

23. CE/HKBCF is heavily engaged in pushing forward the design and construction of the HKBCF. This is a mega project involving the formation of an artificial island of about 130 hectares at northeast of the Airport, and the construction of superstructures for accommodating the necessary Customs, Immigration and Quarantine facilities. These include Passenger Clearance Building of about 100 000m^2 construction floor area, 13 clearance and examination buildings, ten office and ancillary facility buildings together with the coaches/private cars/goods vehicles clearance areas, public transport interchange and the necessary internal and peripheral road systems that link up the HKLR, TM-CLKL and the access to and from the Airport.

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[6] The sub-sea tunnel for the TM-CLKL will be a large diameter road tunnel bored through mixed soil and rock layers at a depth of about 51 m below sea level under a maximum water pressure of about 5 bars, leading to challenges in construction technique as well as extra safety and rescue precautions during construction.

24. Apart from handling challenges on the technical and engineering aspects of the project due to the very tight timeframe for completing the reclamation works before the superstructures works can commence, CE/HKBCF also needs to consolidate multi-disciplinary professional inputs, and maintain close high-level liaison and coordination with the relevant parties during both the design and construction stages. In particular, as there will be about ten user departments and ten maintenance and utility agents involved in the design and construction of the various facilities, close liaison and complex interface and coordination are required between HyD, the consultants, contractors and these stakeholders to ensure the timely completion of the different facilities under the tight programme.

25. In terms of works process, CE/HKBCF is currently involved in the preparation for the tendering to facilitate early commencement of the reclamation works. We expect that from now until the commissioning of the HZMB (and hence the HKBCF), CE/HKBCF will be busily engaged in preparing the commencement of the detailed design for the superstructure works with a view to starting construction, drawing reference from the winning entries of a currently ongoing international design ideas competition for the HKBCF; liaising with the various users and stakeholders of the BCF and the Mainland and Macao authorities on the requirement and future operation of the various facilities on the BCF; and supervising the various construction works on the BCF covering reclamation, roads and bridges, buildings, electrical and mechanical works, sewerage, etc.

26. In particular, given the concern expressed by some members of the public and green groups regarding the environmental impact of the large-scale reclamation works involved in this project, particular effort is required to handle and minimise the amount of dredging and dumping of marine sediments in an environmentally friendly and effective manner. Apart from the need to develop various mitigation and preventive measures in this regard, CE/HKBCF will need to implement a comprehensive environmental monitoring and auditing programme. Special attention would also need to be given by the officer to the public engagement efforts during the construction phases so that possible environmental concerns from members of the public as well as green groups could be carefully monitored and addressed or responded to in a timely manner. Furthermore, as the HKBCF is located in the vicinity of the Airport, careful planning and close collaboration with the Airport Authority and Civil Aviation Department by a sufficiently experienced officer are required to provide efficient road connections that enhance the synergy between the two major infrastructures and at the same time minimise any interface issue that may affect the safe and efficient operation of the Airport.

/27. …..

27. Having regard to the sensitivity and complexity of the tasks to be undertaken, the HZMB HKPMO requires the support of CE/HKBCF on a full-time basis in taking forward the above work initiatives, and it is impossible for him to share out the work of other CEs in the team.

Duration of the Proposed Extension

28. The HZMB project is planned to be completed by the end of 2016. The HZMB Main Bridge, HKBCF, HKLR and TM-CLKL would be in full swing from design, tender to construction from now up to 2014. After then, the reclamation works of HKBCF and HKLR and the bridge foundation works of HKLR and TM-CLKL would be substantially completed while the superstructure works would continue to be actively under construction. We therefore need to retain the three posts (one PGE and two CEs) in HZMB HKPMO for four years until 30 June 2014 to provide the required directorate support to implement these projects. We will review the continued need of these three posts together with the CE/HKBCF post (due to lapse in April 2014) in the second half of 2013, taking into account the progress of the projects (such as the construction of the superstructure and the time required to manage claims resolution and contract finalisation work of the reclamation contracts), as well as the target commissioning date of the HZMB and the overall staffing situation in HyD by that time. The updated job descriptions of PM/HZMB and the three CEs are at Enclosure 2(a) to (d).

Encl. 2

Alternatives Considered

29. We have critically examined the possible redeployment of existing directorate officers in other offices within HyD to take on the work of the proposed posts. As all other directorate officers are already fully engaged in their respective work schedules, it is operationally not possible for them to take up the tasks without adversely affecting the discharge of their current duties. The key portfolios of the existing PGE and CE posts and our assessment of the possibility for them to take up additional responsibilities are detailed in Enclosure 3.

Encl. 3

30. In the light of the upcoming workload in the different divisions in HyD, we consider that the proposed retention of the two supernumerary posts (PM/HZMB and CE/HZMB HK) and extension of redeployment of the one permanent post (CE/NWNT) in question for another four years is the only viable arrangement to sustain the implementation of the HZMB and related highway infrastructure projects. The existing organisation charts of HyD are at Enclosure 4.

Encl. 4

Job Creation

31. The implementation of the HKBCF, HKLR, TM-CLKL and TMWB are estimated to create about 18 000 jobs (about 3 000 for professional and technical staff and 15 000 for labourers) during the construction stage.

FINANCIAL IMPLICATIONS

32. The proposed retention of two supernumerary directorate posts will bring about an additional notional annual salary cost at mid-point of $2,962,440 as follows –

Rank	Notional annual salary cost at mid-point ($)	No. of Posts
Supernumerary Posts		
Principal Government Engineer (D3)	1,716,840	1
Chief Engineer (D1)	1,245,600	1
Total	2,962,440	2

The additional cost expressed in terms of full annual average staff cost, including salaries and staff on-costs, amounts to $4,266,000. The proposed extension of redeployment of the CE post within HyD is cost neutral. The proposed retention of posts and extension of redeployment will not give rise to any increase in the team of supporting staff in the HZMB HKPMO. We have included sufficient provision in the 2010-11 draft Estimates under Head 60 – HyD to meet the cost of this proposal.

PUBLIC CONSULTATION

33. We consulted the Legislative Council Panel on Transport on 30 March 2010. Members did not raise objection to the staffing proposals. However, a few members enquired about the complexity of the HKBCF project which requires a dedicated CE post, the support to be provided by these posts in HZMB HKPMO to the operation of the Joint Works Committee and the public engagement exercises to be conducted by the team on the HZMB related works. The Administration's response, with additional details and justifications, has been incorporated into this paper.

ESTABLISHMENT CHANGES

34. The establishment changes in HyD for the last two years are as follows –

/**Establishment** …..

Establishment (Note)	**Number of posts**		
	Existing (as at 1 April 2010)	**As at 1 April 2009**	**As at 1 April 2008**
A	31 + (5)#	31 + (5)	31 + (2)
B	500	480	440
C	1 545	1 524	1 508
Total	**2 076 + (5)**	**2 035 + (5)**	**1 979 + (2)**

Note :

A - ranks in the directorate pay scale or equivalent
B - non-directorate ranks the maximum pay point of which is above MPS Point 33 or equivalent
C - non-directorate ranks the maximum pay point of which is at or below MPS Point 33 or equivalent
( ) - number of supernumerary directorate posts
\# - as at 1 April 2010, there is no unfilled post in HyD.

CIVIL SERVICE BUREAU COMMENTS

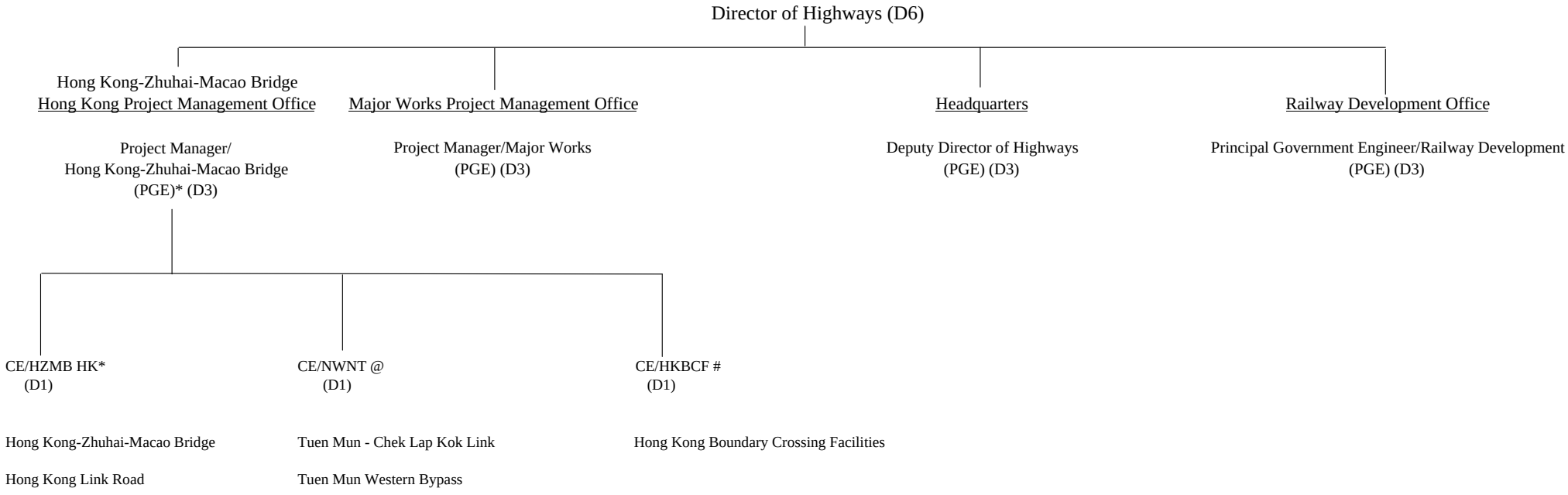
35. The Civil Service Bureau supports the proposed retention of the supernumerary PGE and CE posts as well as extension of redeployment of the CE post for a period of four years to sustain the implementation of the HZMB and related highway infrastructure projects. The grading and ranking of the posts are considered appropriate having regard to the level and scope of the responsibilities and the professional input required.

ADVICE OF THE STANDING COMMITTEE ON DIRECTORATE SALARIES AND CONDITIONS OF SERVICE

36. As the posts are proposed on a supernumerary basis, their extension, if approved, will be reported to the Standing Committee on Directorate Salaries and Conditions of Service in accordance with the agreed procedure.

Transport and Housing Bureau
April 2010

Existing Organisation Chart of Hong Kong-Zhuhai-Macao Bridge Hong Kong Project Management Office of Highways Department



Legend

CE	- Chief Engineer	*	- Supernumerary posts (1 PGE and 1 CE) to lapse on 1 July 2010
HK	- Hong Kong	@	- 1 CE post redeployed from Major Works Project Management Office to Hong Kong-Zhuhai-Macao Bridge Hong Kong Project Management Office on a time-limited basis up to 30 June 2010
HKBCF	- Hong Kong Boundary Crossing Facilities		
HZMB	- Hong Kong-Zhuhai-Macao Bridge	#	- Supernumerary CE post to lapse on 1 April 2014
NWNT	- North West New Territories		
PGE	- Principal Government Engineer		

Job Description for
Project Manager/Hong Kong-Zhuhai-Macao Bridge

Rank **:** Principal Government Engineer (D3)

Responsible to **:** Director of Highways (D6)

Main Duties and Responsibilities –

1. Planning, administering and directing the work of the Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Project Management Office to ensure that the HZMB and related highway infrastructure projects are completed on time and within budget.

2. Providing expert advice and professional support to the policy bureau on the implementation of the HZMB and related highway infrastructure projects, including the pre-construction planning and technical studies, negotiations for various agreements among the three governments, and the monitoring of technical standards and expenditure during construction for the HZMB Main Bridge in the Mainland.

3. Engaging in high-level discussion and liaising with the governments of the Mainland and the Macao SAR, including liaison with the Mainland and Macao authorities and consultants engaged on matters relating to the planning, design and implementation of the HZMB project and leading the HKSAR team in any technical groups to be formed with the Mainland and Macao authorities for the HZMB project.

4. Giving support to and, where necessary, deputising for the Director of Highways in inter-governmental committees (e.g. the HZMB Advance Work Co-ordination Group or the Joint Works Committee to be established) and those committees within the HKSAR Government (e.g. the Steering Committee on the HZMB and Related Hong Kong Infrastructure Projects and Works Progress Sub-committee).

5. Implementing the planning, design, tender and construction of the related infrastructure within Hong Kong to support the HZMB (including the Hong Kong Boundary Crossing Facilities and Hong Kong Link Road) and the Tuen Mun-Chek Lap Kok Link and Tuen Mun Western Bypass projects to meet the traffic growth in Northwest New Territories, including the public engagements for the projects.

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6. Formulating strategies and procedures in respect of the HZMB and related highway infrastructure projects.

7. Recommending the selection of consultants, overseeing the consultants engaged in the project studies, evaluating and advising on the selection of schemes for the HZMB related highway infrastructure projects and acting as the Director's Representative under the consultancy agreements.

8. Chairing the technical assessment panels on tender submissions and the assessment panels for consultants selection, and recommending the tenders for construction of projects.

9. Overseeing the construction contracts and acting as the Employer's Representative under the contracts.

Job Description for
Chief Engineer/Hong Kong-Zhuhai-Macao Bridge Hong Kong

Rank : Chief Engineer (D1)

Responsible to : Project Manager/Hong Kong-Zhuhai-Macao Bridge (PM/HZMB) (D3)

Main Duties and Responsibilities –

1. Executing the strategies and procedures as formulated by the PM/HZMB in respect of the HZMB Main Bridge and Hong Kong Link Road (HKLR) projects.

2. Leading and directing his/her subordinates in providing technical support and professional advice relating to the planning, feasibility studies, Environmental Impact Assessment studies, design, construction, financial and legal matters for the implementation of the HZMB Main Bridge and HKLR projects, including the public engagement and consultation exercises for HKLR project.

3. Liaising with the Mainland and Macao officials and consultants engaged on the HZMB Main Bridge project and attending meetings as and when required for the financial, legal and institutional arrangement matters, including selection of loan bank and negotiation of loan arrangement, and the drafting of the Inter-government Agreement and the Articles of Association for the HZMB Authority, for the implementation of the HZMB Main Bridge project.

4. Vetting studies and reports from the Mainland authorities and consultants engaged in relation to the HZMB Main Bridge project (including design, construction, maintenance and operation standards, physical modeling study on the hydrology and flood control in the Pearl River Delta, etc.) and attending the Mainland's expert meetings as required.

5. Handling statutory process in respect of the environmental impact assessment study and carrying out the required statutory procedures under Environmental Impact Assessment Ordinance and Roads (Works, Use and Compensation) Ordinance.

6. Consulting and coordinating with the policy bureau and other departments in preparing the project briefs for studies as well as the documents for the construction contracts in connection with the HZMB Main Bridge and HKLR projects.

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7. Procuring and administering consultancies and construction contracts for the delivery of the HKLR project, including the resolving of claims and disputes raised by the contractors. Assuming overall responsibility for the control of project scope, cost and programme for the HKLR project.

8. Managing the professional and technical staff in the project team and overseeing the general administration of the HZMB Drawing Office.

Enclosure 2(c) to EC(2010-11)2

Job Description for
Chief Engineer/North West New Territories

Rank **:** Chief Engineer (D1)

Responsible to **:** Project Manager/Hong Kong-Zhuhai-Macao Bridge (PM/HZMB) (D3)

Main Duties and Responsibilities –

1. Executing the strategies and procedures as formulated by the PM/HZMB in respect of the Tuen Mun-Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) projects and highway infrastructure projects identified in the North West New Territories Traffic and Infrastructure Review (the projects).

2. Leading and directing his/her subordinates in providing technical support and professional advice relating to the planning, feasibility studies, Environmental Impact Assessment studies, design, construction, financial and legal matters for the implementation of the above projects, including the public engagement and consultation exercises for the TM-CLKL and TMWB projects.

3. Handling statutory process in respect of the environmental impact assessment study and carrying out the required statutory procedures under Environmental Impact Assessment Ordinance and Roads (Works, Use and Compensation) Ordinance.

4. Consulting and coordinating with the policy bureau and other departments in preparing the project briefs for studies, as well as the documents for the construction contracts in connection with the projects above.

5. Procuring and administering consultancies and construction contracts for the delivery of the projects, including the resolving of claims and disputes raised by the contractors. Assuming overall responsibility for the control of project scope, cost and programme.

6. Coordinating land matters and resolving interface issues arising from the HZMB and related highway infrastructure projects.

7. Managing the professional and technical staff in the project team.

Job Description
Chief Engineer/Hong Kong Boundary Crossing Facilities

Rank : Chief Engineer (D1)

Responsible to : Project Manager/Hong Kong-Zhuhai-Macao Bridge (PM/HZMB) (D3)

Major Duties and Responsibilities –

1. Executing the strategies and procedures as formulated by PM/HZMB in respect of the Hong Kong Boundary Crossing Facilities (HKBCF) project.

2. Leading and directing his/her subordinates in providing technical support and professional advice relating to the planning, feasibility studies, EIA studies, design, construction, financial and legal matters for the implementation of the HKBCF project, including the public engagement and consultation exercises.

3. Managing the performance of contractors engaged in all consultancy services and contract works for the site formation/reclamation, civil and building works of HKBCF, award of construction contracts and the subsequent contract administration, including the resolving of claims and disputes raised by the contractors. Assuming overall responsibility for the control of project scope, cost and programme of the HKBCF project.

4. Handling statutory process in respect of the environmental impact assessment study and carrying out the required statutory procedures under Environmental Impact Assessment Ordinance, Roads (Works, Use and Compensation) Ordinance, Foreshore and Seabed (Reclamations) Ordinance and Town Planning Ordinance.

5. Consulting and coordinating with bureaux/departments, Airport Authority Hong Kong, the Mainland and Macao SAR authorities and any other relevant stakeholders to resolve cross-boundary and interface issues for the timely implementation of the HKBCF project.

6. Consulting and coordinating with the policy bureau and other departments in preparing the project briefs for studies, as well as the documents for the construction contracts in connection with the HKBCF project.

7. Managing the professional and technical staff in the project team.

Key portfolios of the existing Principal Government Engineer (PGE) and Chief Engineer (CE) posts in Highways Department and assessment of the possibility for them to take up additional responsibilities

Headquarters (HQs) and Regional Offices (ROs)

Deputy Director of Highways (DDHy) (at PGE rank) currently oversees the HQs and two ROs (i.e. Urban and New Territorities). At the HQs, DDHy is assisted by two Government Engineers (GEs) (at D2 rank) (Assistant Director/Technical (AD/T) and Assistant Director/ Development (AD/D)[1]) and four CEs to manage seven Divisions and ten Units. As regards the ROs, each office is led by one GE and two CEs.

2. DDHy has to deputise Director of Highways in the overall management of the Department, including formulation of departmental policies, overseeing staff matters of all professional and technical grades, and monitoring expenditures. He is the internal departmental administrative head and also has to oversee the work of HQs and the two ROs. In view that DDHy already has a wide span of responsibilities and is fully engaged, he cannot take on the responsibilities of Project Manager/Hong Kong-Zhuhai-Macao Bridge (PM/HZMB), which is a full-time job, on top of his own schedule.

3. As for the four CEs in the HQs, we have also assessed their current and anticipated workload, and concluded that they have no spare capacity to share out duties of the HZMB-related projects. They are/will be fully engaged as follows –

(a) Chief Highway Engineer/Works oversees the implementation of all capital works (other than major works) in the territory, including planning and construction, public consultation and statutory procedures. His personal attention is required in determining project scope, steering the public consultation process, approving documents for the relevant statutory procedures, administration of

/tendering…..

[1] AD/T is responsible for formulating technical and administrative policies, standards, techniques and guidelines on highway engineering, landscaping, surveying, quality management, environmental matters etc. and administering the public relation and training matters for the department, as well as personnel matters (including staff deployment, grade management as well as appointments). For AD/D, he is tasked to manage minor to medium size capital works projects, public lighting and road maintenance in two legally designated Control Areas, oversee the selection, employment and supervision of consultants and contractors, negotiate fees and agreements, and supervise the consultants and contractors when necessary.

tendering process and approving tendering documents as well as the management and administration of contracts. Currently, there are about 80 projects under construction which would be completed in 2014, while 75 projects are under planning or study. Each year there are new road improvement projects arising from local traffic needs to be added to the list.

(b) Chief Highway Engineer/Bridges and Structures is responsible for bridge and highways design and standard setting, retrofitting of disabled facilities (involving over 200 existing footbridges and subways), supervision of structural design for in-house highway projects (over 20 every year) plus technical support for ongoing construction works of in-house designs. Furthermore, he also supervises the maintenance of major bridges and roads within the Tsing Ma and Tsing Sha Control Areas[2].

(c) Chief Engineer/Lighting provides specialist professional services and advice on all matters relating to the policies, design, planning and construction of public lighting provisions, as well as the maintenance and administration of some 220 000 units of public lighting in the territory. He is also studying and reviewing the standard and latest technologies for public lighting from the energy saving perspective which requires his substantial personal inputs and attention in the short to medium term.

(d) Chief Highway Engineer/Research and Development conducts research on an on-going basis in setting and upgrading highway design, construction, maintenance and material specifications and standards to meet operational needs and enhance environmental protection. He also oversees the Division's work in formulating and reviewing the departmental Information Technology Strategies, coordinating the management of road excavations, and supervising centralised audit inspection teams on road opening works. The personal and dedicated attention of a chief professional officer is required to ensure incorporation of updated technology in highway engineering specifications and standards, to make use of state-of-the-art knowledge in formulating the departmental

/information …..

[2] Highway facilities within the two Control Areas comprise four long span cable-supported bridges, four dual three-lane tunnels, viaducts and roads all lying along strategic routes linking to the Airport. Three major cable bridges within the Tsing Ma Control Area, built in the 1990s, now require more attention due to their normal wear and tear. Apart from the regular repairs of road surfacing, the essential structural elements require frequent inspection and maintenance.

information technology strategies, to devise sophisticated coordinating and control mechanisms for road excavation, and to liaise with concerned parties for timely implementation of new initiatives. It is not practicable to release him to take up further duties outside his current portfolio.

4. As regards the two ROs (each led by one GE and supported by two CEs), they are responsible for district administration of highway infrastructure and maintenance works in their respective geographic area. They provide comments on public and private developments affecting public roads and technical advice on new highway projects (including gazettal-processing and objection-handling for road works initiated by the ROs and the private sector), and plan, design and supervise maintenance and upgrading works for about 2 000 km of roads, 2 500 highways structures and 12 800 road side slopes. They also oversee the processing of road excavation permits, resolve road opening coordination matters, and monitor the performance of utility undertakers in their excavation works. In the light of these ongoing and heavy duties, and to ensure that the highway network is maintained in a safe and satisfactory condition, the directorate officers concerned cannot be spared/redeployed for taking on additional duties.

Major Works Project Management Office (MWPMO)

5. There are eight directorate officers in the MWPMO, including one PGE (designated as Project Manager/Major Works (PM/MW)), two GEs and five CEs. PM/MW heads the MWPMO and is responsible for the planning, design and implementation of major highways infrastructure projects. With an average expenditure for projects handled by the MWPMO for the coming five years (from 2010-11 to 2014-15) amounting to about $6 billion per year, PM/MW has a very heavy workload in liaison work at the senior level and decision-making on major technical and funding issues. It is not practicable for him to take on the responsibilities of PM/HZMB on top of his own schedule.

6. We have also assessed the current and anticipated workload of the five CEs under the two major works project management teams. The outcome is that all of them do not have spare capacity in the short to medium term to take on additional work, as follows –

/(a) …..

(a) CE1/MW is mainly responsible for the planning and implementation of a number of mega projects[3]. In the next five years, CE1/MW will be heavily involved in the multi-billion Tolo Highway and Fanling Highway widening project, which involves extensive public consultation and intensive temporary traffic management measures. The continued dedicated attention of CE1/MW is required to closely monitor this project before and during implementation. It is therefore unlikely that he would have spare capacity to take on additional duties in the interim.

(b) CE2/MW is mainly responsible for the planning and implementation of Central Kowloon Route (CKR) linking West Kowloon with Kai Tak Development as well as retrofitting of noise barriers for existing roads[4]. In particular, the planning and preliminary design of CKR, which requires wide public consultation and detailed assessment on different aspects, are in progress. To smoothly take forward this project, the personal and dedicated attention of a chief professional officer is required to develop engineering designs, resolve sensitive land, traffic and environmental issues, and liaise with and consult the local communities. It is not practicable to release the CE2/MW post to take up further duties.

(c) CE3/MW and CE4/MW are responsible for the planning and implementation of Central–Wanchai Bypass and Island Eastern Corridor Link (CWB) at a total estimated cost of over $28 billion[5]. The construction of this mega CWB project has just commenced. Complexity of the works aside, the likely impact of the works on

/traffic …..

[3] Including the widening of Tolo Highway and Fanling Highway; retrofitting of noise barriers for existing roads including Tseung Kwan O Road, Kwun Tong Bypass, New Clear Water Bay Road, Hoi On Road, Tsing Tsuen Bridge and Tsuen Wan Approaches; and feasibility studies on proposed improvement to Fan Kam Road and proposed road improvement works for West Kowloon Reclamation Developments.

[4] Including Tai Po Tai Wo Road, Sha Tin Road, Wong Uk Tsuen, Tai Po Road, Yuen Wo Road, Fanling Highway, Po Shek Wu Road, Po Lam Road North, Po Ning Road, Ma Wang Road, Chai Wan Road, Tuen Mun Road, Long Tin Road and Castle Peak Road.

[5] The CWB consists of a 4.5 km dual three-lane trunk road with 3.7 km in tunnel between Central and North Point, 3 km of the approach roads and slip roads, and associated of 0.8 km Island Eastern Corridor between Hing Fat Street and Po Leung Kuk Yu Lee Mo Fan Memorial School. It is the last missing link of the strategic highway along the north shore of the Hong Kong Island and there is strong public expectation for its completion to help relieve traffic congestion along the Connaught Road/Harcourt Road/Gloucester Road corridor.

traffic and the environment (hence strong community interest in the works, and careful monitoring and extensive public consultation required) demands high level involvement of the two CEs throughout till its completion and commissioning in 2017. It is therefore not practicable to release the CE3/MW and CE4/MW to take up further duties.

(d) CE5/MW is mainly responsible for the planning and implementation of the Tuen Mun Road Improvement Project and Hiram's Highway Improvement Project as well as the outstanding works and the finalisation of the Tung Chung Road Improvement Project. The large scale of the above projects aside, given the traffic, engineering, environmental and cultural heritage impacts of the Hiram's Highway project and hence very diverse views of the public, CE5/MW and his team have to carefully handle and address public concern in working out a preferred improvement option. To smoothly take forward these projects, the personal and dedicated attention of a chief professional officer is required and it is not practicable to release CE5/MW to take up extra duties.

Railway Development Office (RDO)

7. Principal Government Engineer/Railway Development (PGE/RD) heads the RDO and is responsible for the planning, design and implementation of railway projects, and overseeing the MTR Corporation Limited (MTRCL) on these aspects. With a number strategically important railway projects under planning, design and implementation in the coming ten years (2010-11 to 2019-20), PGE/RD has a heavy workload in liaison work at senior level and decision making on planning, funding, technical and other implementation issues. It is not possible for him to take on the responsibilities of PM/HZMB on top of his own schedule.

8. PGE/RD is supported by two GEs who are underpinned by six CEs and a supporting team. We have assessed the responsibilities of the office. As the majority of the railway projects under implementation and planning have their construction commencing in early 2010's for completion during the period from 2014 to around 2020, all directorate staff are also fully committed to the tasks as mentioned above and will not have spare capacity to share other offices' duties. The key duties of the CEs are set out below –

/(a) …..

(a) CE/RD1-1 is responsible for the planning of the South Island Line East, the construction of which will commence in 2011 for completion no later than 2015. Apart from handling the statutory objection procedures, during the construction stage, CE/RD1-1 and his team also have to liaise closely with MTRCL and the stakeholders including the Southern District Council, local organisations and residents to minimise the disruption to public. He is also responsible for the engineering planning of the Northern Link, expected to be in critical planning and construction stages in mid 2010's, which will allow the existing East Rail to connect with the existing West Rail at the Northwest New Territories.

(b) CE/RD1-2 is responsible for the planning and implementation of the North-South Line of the Shatin to Central Link (SCL), which is the extension of the existing East Rail Line across Victoria Harbour, reaching Admiralty through the Wan Chai North Area. At the Wan Chai North area, there is complex interface with two mega-projects (namely Central-Wanchai Bypass and Wan Chai Development Phase II project). Added with the already congested urban setting in this district, the interface problem is extremely complex and requires time consuming efforts to resolve.

(c) CE/RD1-3[6] is mainly responsible for planning and implementation of the East-West Line of SCL and the Kwun Tong Line Extension. Currently under active planning, both projects have very complicated interface issues. Besides, CE/RD1-3 has to work closely with the railway corporation in conducting the public engagement exercises for both projects.

(d) Apart from finalisation work of Kowloon Southern Link, CE/RD2-1 is responsible for the implementation of the West Island Line (WIL) which commenced in July 2009. As WIL works are carried out in the highly urbanised Central and Western District, negotiation with affected parties on careful engineering planning, sophisticated building monitoring, as well as land and reprovisioning issues require close professional and directorate attention.

/(e) …..

[6] Occupying a supernumerary post created in April 2009 with the approval of FC for a period of seven years.

(e) CE/RD2-2 is responsible for administering the railway transport model, which involves the maintenance of a comprehensive database of transport statistics, and collation of key planning and land use information to generate forecasts on rail patronage and revenue for different railway network configuration with different socio-economic and developments assumptions. He is required to carry out detailed analysis on various railway schemes proposed by Government departments, Legislative Council/District Council members or the public and make recommendations to the top management on whether a railway scheme should proceed based on model run results. Apart from transport modeling work, he also has to examine all public and private development proposals, about 150 per annum, near the existing and planned railway lines so that these railway lines would be properly protected. He is also required to take part in the various planning and development studies, about ten per annum in the last few years, so that the railway perspective can be fully taken into account.

(f) CE/RD2-3[7] is responsible for the implementation of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link. Construction of the project started in January 2010 for completion in 2015. The works are complicated and require proper attention to the complicated interfaces with the other public works projects in the vicinity.

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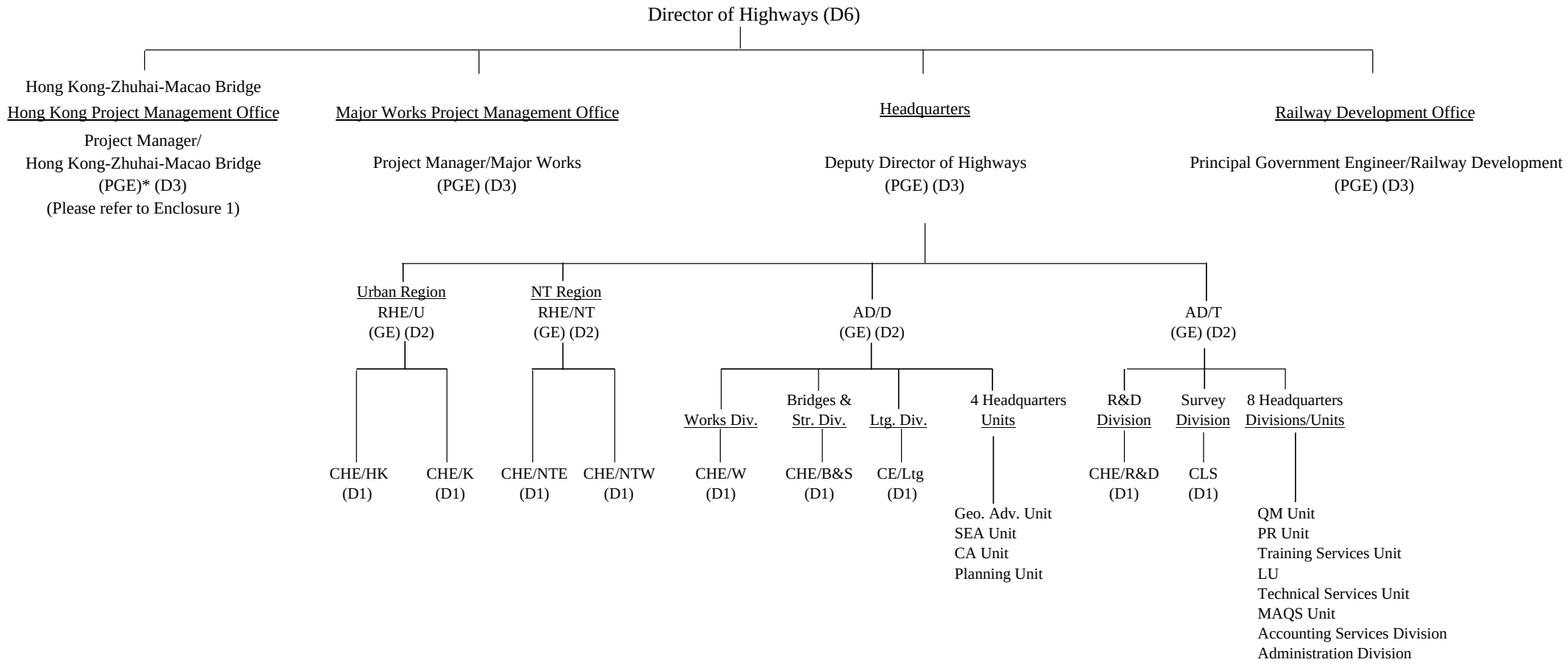
[7] Occupying a supernumerary post created in July 2008 with the approval of FC for a period of seven years.

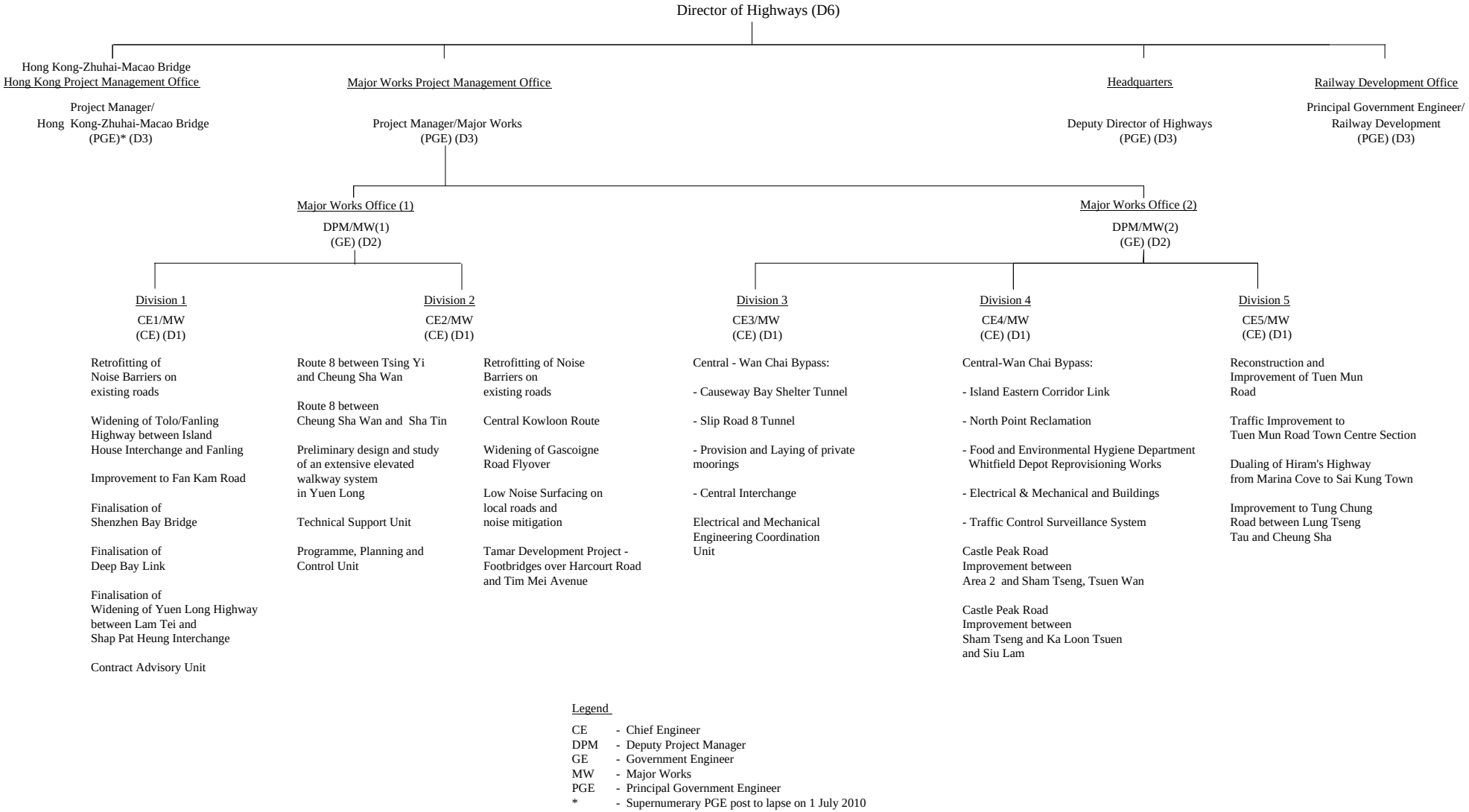
Existing Organisation Chart of Headquarters of Highways Department



Legend

AD/D	-	Assistant Director/Development
AD/T	-	Assistant Director/Technical
CA	-	Contract Advisory
CE	-	Chief Engineer
CHE	-	Chief Highway Engineer
CLS	-	Chief Land Surveyor
Div.	-	Division
Geo. Adv.	-	Geotechnical Advisory
GE	-	Government Engineer
HK	-	Hong Kong
K	-	Kowloon
Ltg.	-	Lighting
LU	-	Landscape Unit
MAQS	-	Maintenance Accounts & Quantity Surveying
NT	-	New Territories
NTE	-	New Territories East
NTW	-	New Territories West
PGE	-	Principal Government Engineer
PR	-	Public Relations
QM	-	Quality Management
R&D	-	Research and Development
B&S	-	Bridges and Structures
RHE	-	Regional Highway Engineer
SEA	-	Safety and Environmental Advisory
Str.	-	Structures
U	-	Urban
W	-	Works
*	-	Supernumerary PGE post to lapse on 1 July 2010

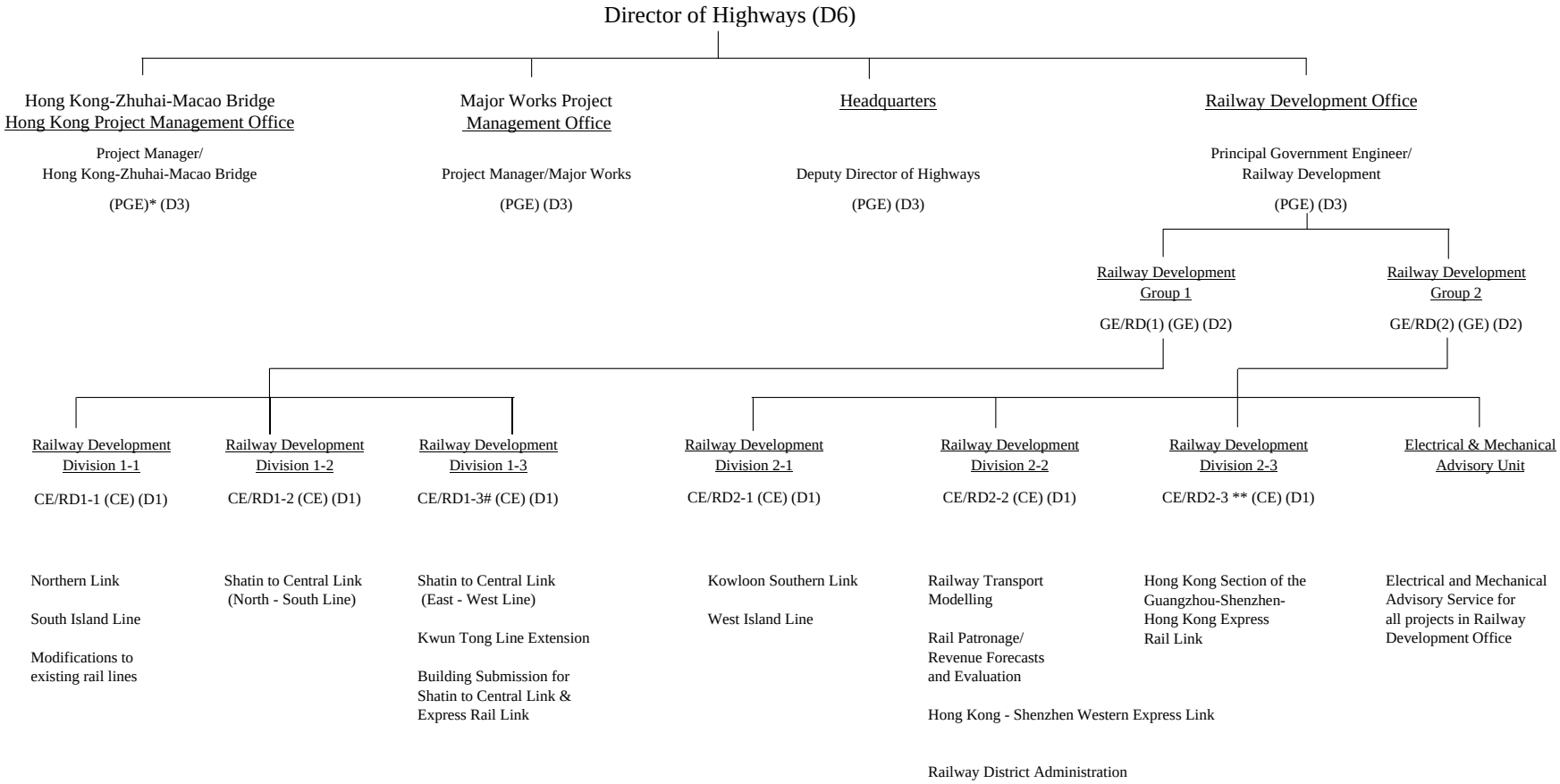
Existing Organisation Chart of Major Works Project Management Office of Highways Department



Legend

CE	-	Chief Engineer
DPM	-	Deputy Project Manager
GE	-	Government Engineer
MW	-	Major Works
PGE	-	Principal Government Engineer
*	-	Supernumerary PGE post to lapse on 1 July 2010

Existing Organisation Chart of Railway Development Office of Highways Department



Legend

CE	- Chief Engineer	*	- Supernumerary PGE post to lapse on 1 July 2010
GE	- Government Engineer	**	- Supernumerary CE post to lapse on 6 July 2015
PGE	- Principal Government Engineer	#	- Supernumerary CE post to lapse on 1 April 2016
RD	- Railway Development		