**For Discussion**
**20 December 2002**

**Legislative Council Panel on Transport**

**Shenzhen Western Corridor and Deep Bay Link**

## PURPOSE

This paper seeks Members' views on our proposal to upgrade the two projects **759TH** - Shenzhen Western Corridor and **736TH** - Deep Bay Link to Category A for the construction of the Shenzhen Western Corridor (SWC) and the Deep Bay Link (DBL).

## PROJECT SCOPE

### Shenzhen Western Corridor (SWC)

2. The latest scope of **759TH** will include –

(a) construction of a 3.2-kilometre dual three-lane carriageway spanning across Deep Bay from Ngau Hom Shek in the north west part of the New Territories of the Hong Kong Special Administrative Region (HKSAR) to the HKSAR's boundary of the SWC;

(b) construction of a traffic control surveillance system (TCSS);

(c) associated civil, structural, electrical and mechanical (E&M), marine, geotechnical, water works, fire services, environmental mitigation measures, street lighting, traffic aids and directional signs; and

(d) provision of lane change-over facilities to accommodate the different traffic configurations in Hong Kong and the Mainland.

**Deep Bay Link (DBL)**

3. The latest scope of **736TH** will include –

(a) construction of a 5.4-kilometre dual three-lane carriageway linking the SWC at its landing point in Ngau Hom Shek with the Yuen Long Highway (YLH) at Lam Tei;

(b) construction of interchanges and access roads for connection with local areas;

(c) construction of turnaround facilities with weighing station, vehicle recovery base and helipad;

(d) construction of a TCSS; and

(e) associated civil, structural, E&M, geotechnical, landscape and drainage works, fire services, water works, environmental mitigation measures, street lighting, traffic aids and directional signs.

A map showing the location of these two and other major related existing/planned project is at **Enclosure 1A**. A site plan and the typical sections of the SWC and DBL are at **Enclosures 1 and 2**.

**JUSTIFICATIONS**

4. The capacities of the three existing vehicular boundary crossings at Lok Ma Chau, Man Kam To and Sha Tau Kok between the HKSAR and Shenzhen are nearly saturated. The average total daily vehicular traffic using the three crossings in 2001 was 31 000**,** representing a 27% growth over the past five years and an average annual growth of 5%.

5. The Crosslinks Further Study (the Study) completed by Planning Department in early 2001 has assessed the future cross-boundary traffic demand and confirmed the need to construct the fourth vehicular land boundary crossing (i.e. the SWC) to cater for the increasing traffic demand and the future development needs in the Northwest New Territories (NWNT). The SWC will connect the north-western part of the New Territories to Shekou of Shenzhen. The DBL is the connecting road to convey the cross-boundary traffic from the SWC to the existing YLH. The average daily two-way traffic demand in 2001 and the estimated traffic in 2006, 2011 and 2016, assuming the commissioning

of the SWC in 2005-2006 are as follows –

| **Cross Boundary Points** | **2001**[1] | **2006** | **2011** | **2016** |
|---|---|---|---|---|
| | (two-way vehicle/day) | | | |
| Lok Ma Chau | 21 824 | 24 800 | 24 700 | 25 000 |
| Man Kam To | 6 885 | 9 700 | 9 800 | 10 000 |
| Sha Tau Kok | 2 297 | 2 200 | 2 400 | 2 300 |
| SWC | - | 28 400 | 46 100 | 80 000 |
| **Total** | **31 006** | **65 100** | **83 000** | **117 300** |

The projected daily vehicular traffic in 2006 would exceed the handling capacity of 42 500 vehicles per day for the three existing boundary crossings.

6. The SWC, together with the DBL, would facilitate the flow of people and cargo between Hong Kong and Southern China. They will enhance the status of Hong Kong as a business-cum-trade-cum-logistics hub in the Pearl River Delta, and will also bring substantial benefits to Hong Kong. The Study estimates the net benefit of the SWC would be $175 billion (1998 prices) over a 20 year planning horizon from 2000 to 2020.

## FINANCIAL IMPLICATIONS

### SWC

7. We estimate that the cost of the section of the SWC to be funded by the HKSAR Government to be HK$3,188.0 million in money-of-the-day (MOD) prices made up as follows –

| | | **$ million** |
|---|---|---|
| (a) | Approach viaduct | 1,582.2 |
| (b) | Cable-stayed bridge | 729.0 |
| (c) | Roadworks, traffic aids, lighting and waterworks | 228.5 |
| (d) | Environmental mitigation measures including Mai Po Enhancement Scheme | 18.4 |
| (e) | TCSS | 17.9 |
| (f) | E & M works | 79.0 |
| (g) | Lane change-over facilities | 110.0 |

[1] Actual figures supplied by Immigration Department.

| | | | **$ million** | |
|---|---|---|---|---|
| (h) | Overseas duty visits[2] | | 0.2 | |
| (i) | Consultants' fees | | 166.9 | |
| | (i) supervision of construction and administration of contract | 16.6 | | |
| | (ii) site staff costs | 144.3 | | |
| | (iii) environmental monitoring and audit (EM&A) programme | 3.0 | | |
| | (iv) Electrical and Mechanical Services Trading Fund (EMSTF) charges | 3.0 | | |
| (j) | Contingencies | | 280.0 | |
| | | Sub-total | 3,212.1 | (in September 2002 prices) |
| (k) | Provision for price adjustment | | (24.1) | |
| | | Total | 3,188.0 | (in MOD prices) |

8. The approach viaduct of the SWC is a 2.71-kilometre long elevated concrete viaduct with a deck area of about 87 000 square metres. The pier spacing is about 75 metres. The estimated costs for the pier and pile foundation are about $776.9 million while that for the elevated deck is about $805.3 million. The cable-stayed bridge has a main span of 210 metres and is 458 metres long. It is supported by a single central inclined tower of 158 metres high. The tower structure including its foundation and cable support system is estimated to cost $145.7 million. The elevated steel deck, which has an area of about 17 700 square metres, is estimated to cost $435.5 million. The side span supports and associated ship impact protection structures are estimated to cost $147.8 million. As for $228.5 million road and drain item, it includes road surfacing and water proofing, road drainage and street lighting, utilities, traffic aids and associated access road improvement works.

---

[2] Duty visits are required to ensure that overseas acceptance tests for some specialised components of the bridge and steel bridge deck fabrication are properly done. Attendance on factory acceptance tests of E&M components is also required. While the exact nature of the duty visits will be confirmed subject to the contractor's confirmation after the contract has been awarded, it is estimated that five overseas visits, each time to be attended by two officers, are needed. The costs of air passage, subsistence allowances, etc. are subject to the relevant provisions in the Civil Service Regulations.

9. We have also included in the proposed scope of construction of the SWC project a provision for lane change-over facilities in view of the different traffic configurations in Hong Kong and the Mainland. Owing to site constraint on the Hong Kong side, we have agreed with the Shenzhen Municipal Government that the lane change-over facilities, in the form of elevated viaducts, will be located within the Shenzhen portion of the SWC near Dongjiaotou. As the facilities are essential features serving the needs of both Hong Kong and Shenzhen, the cost would be shared between the two sides. The total cost of the facilities, as estimated by the Shenzhen side, is around RMB 220 million. Pending our discussion with the Shenzhen side over the layout design and the detailed cost sharing arrangement, we have included an estimate of HK$110 million in the total project cost.

10. We estimate the annual recurrent expenditure arising from the proposed works within HKSAR to be $21.1 million. It is expected to generate 1 980 jobs comprising 340 professional/technical staff and 1 640 labourers during the construction stage.

**DBL**

11. We estimate the cost of the DBL to be HK$4,594.6 million in money-of-the-day (MOD) prices, made up as follows –

| | | | **$ million** |
|---|---|---|---|
| (a) | Elevated highway structures | | 2735.1 |
| (b) | Site formation, slope works and retaining structures | | 216.7 |
| (c) | Roadworks, drainage, traffic aids, lighting and waterworks | | 445.7 |
| (d) | Environmental mitigation measures | | 458.9 |
| | (i) noise barriers | 323.2 | |
| | (ii) semi enclosures | 102.9 | |
| | (iii) others[3] | 32.8 | |

[3] Other environmental mitigation measures include –
(a) on site dust-control measures and noise screens during construction;
(b) construction wastewater treatment system including chemical processes and sedimentation;
(c) appraisal and remediation of existing contaminated land;
(d) construction and maintenance of temporary wetland compensation and construction of wetland compensation area;
(e) construction of a 1-m wide shoulder inside 2 road crossing drainage culverts for terrestrial wildlife to pass through; and
(f) archaeological rescue works.

| | | | **$ million** | |
|---|---|---|---|---|
| (e) | TCSS | | 37.4 | |
| (f) | Weighstation, helipad, E&M and other ancillary works | | 14.5 | |
| (g) | Landscaping works | | 32.8 | |
| (h) | Reprovisioning for Hing Tak Public School[4] | | 0.8 | |
| (i) | Consultants' fees | | 321.4 | |
| | (i) supervision of construction and administration of contract | 26.3 | | |
| | (ii) site staff costs | 290.4 | | |
| | (iii) EM&A programme | 1.8 | | |
| | (iv) EMSTF charges | 2.9 | | |
| (j) | Contingencies | | 366.0 | |
| | Sub-total | | 4,629.3 | (in September 2002 prices) |
| (k) | Provision for price adjustment | | (34.7) | |
| | Total | | 4,594.6 | (in MOD prices) |

12. The elevated highway structures comprise the construction of all sections of elevated structures, namely, the 3.4-kilometre dual-3 lane mainline of the DBL and all elevated ramps at Lam Tei and Ha Tsuen Interchanges. The cost includes piling and foundation works, column erection and the construction of the viaduct decks including street furniture such as profile barriers. The estimate has taken into account the construction method by precast segmental construction, site arrangements and access routes and the tight commissioning programme.

13. As for the item on roadworks, drainage, traffic aids, lighting and waterworks, the estimate includes earthworks for the construction of the at-grade sections of the carriageway, sign gantries and other traffic aids, street

---

[4] The DBL will affect the existing Hing Tak Public School at Lam Tei and we need to reprovision the school. A new standard school is now being constructed under PWP item **3301EP** by the Architectural Services Department near Hing Ping Road at Tuen Mun for completion before the 2004/05 school year. Apart from reprovisioning the existing school to be affected by the DBL, the new school will also cater for the projected shortfall in classrooms in the Tuen Mun District. During the period between the anticipated clearance of Hing Tak Public School in July 2003 and the completion date of the new school, we have to arrange temporary schooling in another school at Butterfly Estate of Tuen Mun. The cost of school removals as well as the student coach services as requested by the school management during the temporary schooling period will be charged to the project vote.

lighting, utilities and drainage provisions. The construction of reprovisioned and proposed tracks is also included under this item.

14. We estimate that the annual recurrent expenditure arising from the proposed works to be $32.7 million. It is expected to generate 3 180 jobs comprising 540 professional/technical staff and 2 640 labourers during the construction stage.

Easterly Link Road

15. We consulted the Panel in November 2001 and January 2002 on the two projects prior the funding submission to the Public Works Sub-committee (PWSC) of the Legislative Council on the detailed design of the two projects. In March 2002, the Finance Committee approved the funding for the detailed design of the two projects together with the requirement to investigate and design an Easterly Link Road (ELR) as requested by Members. The ELR serves as an additional access road connecting the SWC/DBL to the existing road system to facilitate traffic heading east from DBL after landing at Ngau Hom Shek.

16. We have conducted a study and identified initially 13 possible alignments for the ELR (see plan at **Enclosure 3**). Six options were shortlisted for further study. Alignment option 6A as shown in **Enclosure 3** is considered to be the most preferred one having regard to engineering, land, planning, environmental and transport considerations. An analysis of the six shortlisted options is at **Enclosure 4**.

17. The analysis also shows that the transport benefit of the preferred option of ELR is rather limited with a saving of journey time of about 2 minutes while the cost of this option is $900 million which excludes land acquisition costs. There are also other implications on the planning of the Hung Shui Kiu New Development Area.

18. Given the problems identified above, we consider it prudent to consult the Panel further on the way forward for the ELR in the context of an on-going overall review of the transport infrastructure in NWNT including projects which may need to be advanced for the transport link to the West Bank of the Pearl River Delta i.e. the Tuen Mun Bypass and the Tuen Mun-Chek Lap Kok Link. This will enable a more comprehensive look at the relative priorities of planned road projects in the NWNT in the light of limited financial resources.

19. However, the proposal for the DBL cannot be delayed since it is

the **only** link with the SWC and the local network. The SWC cannot operate without the DBL. It is the stated commitment of both the Shenzhen Government and the HKSAR Government to strive to complete the SWC by 2005 in view of its economic significance to both Shenzhen and Hong Kong. The SWC/DBL are to be taken as the center piece in our review of the transport infrastructure in NWNT.

## PUBLIC CONSULTATION

20. We presented the major findings of the detailed feasibility studies for the SWC and DBL to the Tuen Mun District Council and the Yuen Long District Council on 15 March and 19 March 2002 respectively. Both District Councils supported the projects.

21. We gazetted the road schemes for the SWC and the DBL under the Roads (Works, Use and Compensation) Ordinance on 15 March 2002. For the SWC, we received three objections. In handling the three objections, we clarified the misunderstanding of the objectors on the road scheme, and where appropriate explained the Government's policies and measures which could be taken to address their concerns. We are in the process of resolving the issues and will seek the Chief Executive-in-Council's consideration in due course. As for the DBL, we received 1 014 objections from the public. We conducted three series of meetings with the objectors and explained to them the government policies. Ten objections were resolved and the remaining unresolved objections were submitted to the Chief Executive-in-Council for consideration. The Chief Executive-in-Council authorized the road scheme of the DBL on 26 November 2002 and the notice of authorization was gazetted on 29 November 2002. A Legislative Council Brief announcing the authorization was issued on 27 November 2002.

## ENVIRONMENTAL IMPLICATIONS

22. The SWC and DBL projects are designated projects under the Environmental Impact Assessment Ordinance (EIAO) and environmental permits are required for their construction and operation. As required by the EIAO, environmental impact assessment (EIA) reports for the projects were submitted to the Director of Environmental Protection (DEP) for approval. The assessments conclude that the environmental impacts of the projects can be controlled to within statutory levels.

23. The main environmental impact of the SWC is the possible

deterioration in the water quality both during and after construction, causing damage to the ecology of Deep Bay. We will implement a series of mitigation measures during construction including installation of cofferdam and silt curtains at the dredging sites, use of close grab dredger and implementation of standard site practices to maintain the water quality of Deep Bay. Furthermore, to enhance the long term Deep Bay ecosystem and abate the impact of degrading sedimentation situation on Mai Po Nature Reserve, we have proposed an enhancement measure by dredging a water channel connecting Gei Wais to Deep Bay. This will relieve the problem of long term sediment deposition in the water channel, improve the water exchange rate to the Gei Wais and thus enhance the feeding ground for birds.

24. The key environmental mitigation measures for the DBL include low-noise road surfacing and noise barriers, establishment of a wetland compensation area, archaeological surveys and salvage excavation, screen planting and earth mounding. The noise barriers comprise three vertical types, from three metres to six metres high and two other types both having a 5.5-metre high vertical portion with either a 2.2-metre or 2.5-metre bend in 45 degrees to the vertical. In addition, there is a section of about 200 metres of semi-enclosures. A plan showing the location of the noise barriers to be provided is at **Enclosure 5**.

25. The noise barriers are of translucent vertical or vertical with overhang type while the semi-enclosures are of translucent sides with non-transparent roof type. Drawings showing the artistic impression of the noise barriers/semi-enclosures are at **Enclosures 6 and 7**. These mitigation measures will help control the noise levels to within the statutory levels. We estimate that about 2 200 existing dwellings will benefit from the provision of these noise barriers, including high rise residential buildings (e.g. the buildings at Botania Villa and Shun Tat Street), village type development (e.g. Fuk Hang Tsuen and San Sang San Tsuen) and schools (e.g. Lam Tei Gospel School). Some 8 400 dwellings mainly at Hung Shui Kiu New Development Area are also expected to benefit from the proposed noise barriers, the timing of provision of which will phase in with such developments. The average cost of providing noise barriers per dwelling is about $40,000. We will consult the Tuen Mun and Yuen Long District Councils on the detailed design of the barriers.

26. The Advisory Council on the Environment endorsed the DBL EIA report on 27 August 2002 and the SWC EIA report on 21 October 2002. Subsequently, the DEP approved the reports on 13 September 2002 and 4 November 2002 respectively. We will implement the environmental mitigation measures as recommended in the approved reports and as stipulated

in the environmental permits.

## LAND ACQUISITION

27. The project will require resumption of about 30 hectares of private land and clearance of about 41 hectares of Government land. Land acquisition and clearance will affect 2 979 structures comprising 326 families/856 persons, 56 business undertakings, 9 pig farms and 21 poultry farms. The Director of Housing will rehouse the eligible clearees in public housing in accordance with the existing policy. We will charge the land acquisition and clearance costs, estimated to be $663.6 million for DBL and $11.3 million for SWC (in September 2002 prices) to **Head 701** - "Land Acquisition" **Subhead 1100CA** - "Compensation and ex-gratia allowances in respect of projects in the Public Works Programme".

## THE WAY FORWARD

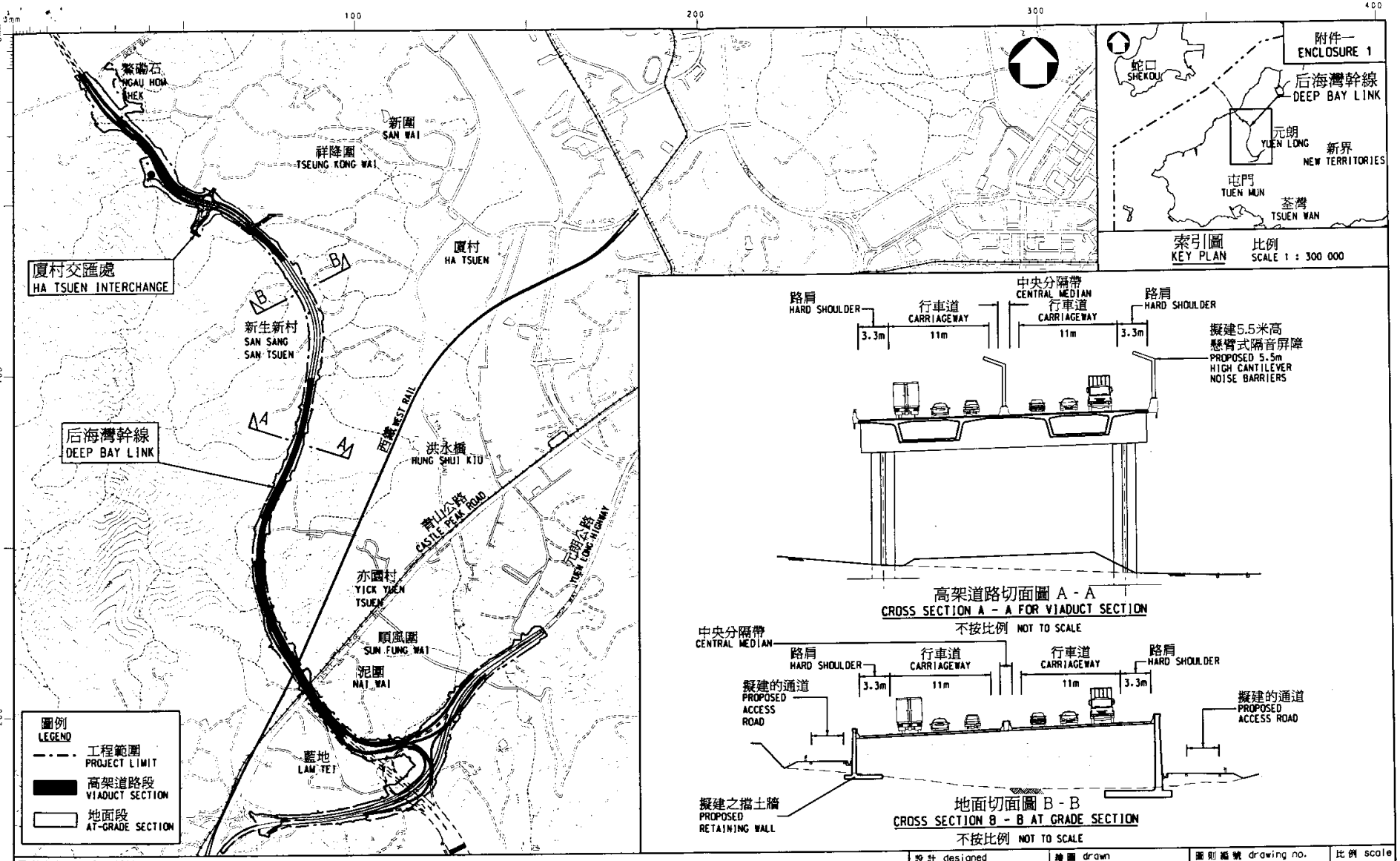
28. We intend to submit the funding proposal to the PWSC in January and the Finance Committee in February 2003. Subject to funding approval, we plan to start the construction of the DBL in June 2003 and the SWC in August 2003. We will strive to complete both projects by end of 2005.

## ADVICE SOUGHT

29. Members are invited to comment on the projects before we submit the projects to PWSC.

Environmental, Transport and Works Bureau
December 2002
(ETWB(T)CR1/1916/98 Pt.29)


附件一甲
ENCLOSURE 1A




圖則名稱 drawing title

工務計劃項目第736TH號
后海灣幹線
PWP ITEM NO.736TH
DEEP BAY LINK

| | | | |
|---|---|---|---|
| 設計 designed | C.F.KU 21/11/02 | 繪圖 drawn | M.K.LEUNG 26/11/02 |
| 覆核 checked | C.F.KU 13/12/02 | 批准 approved | |

主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE

圖則編號 drawing no. HMW6736TH-SK0036

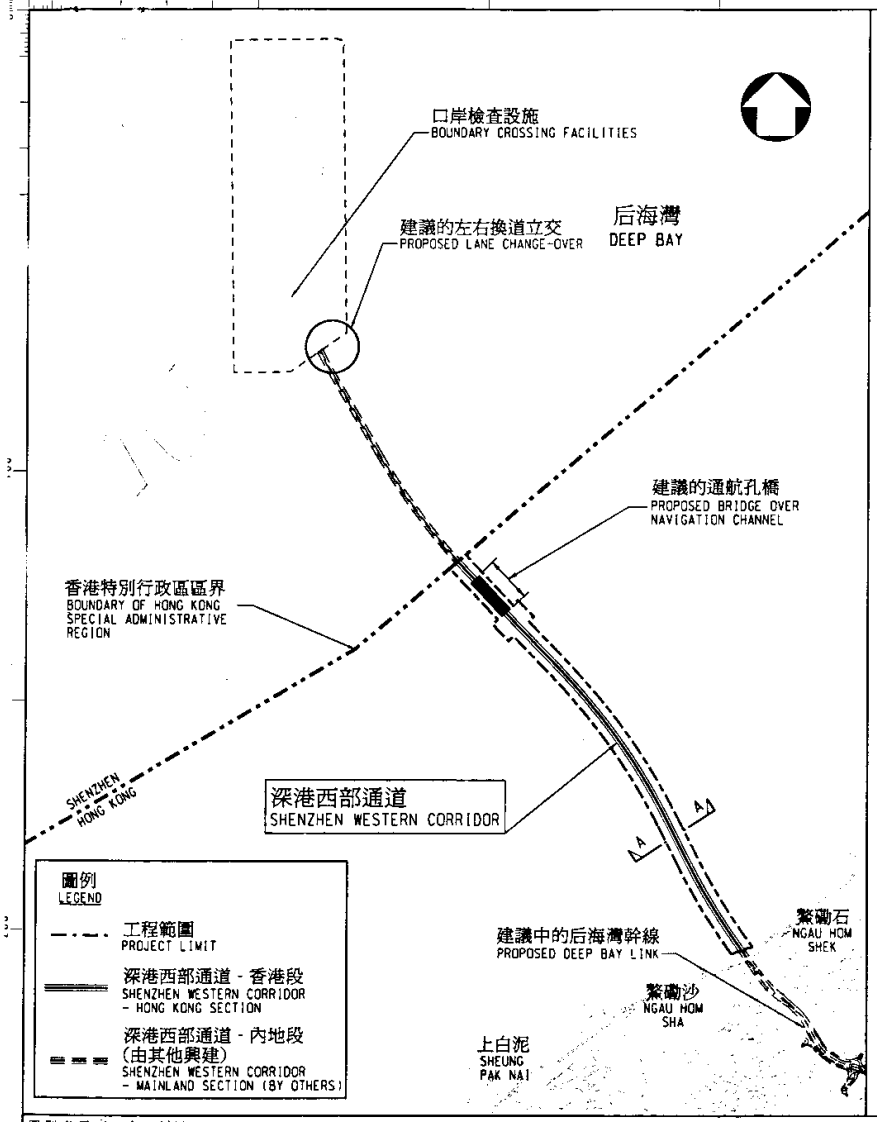
比例 scale 1:20000

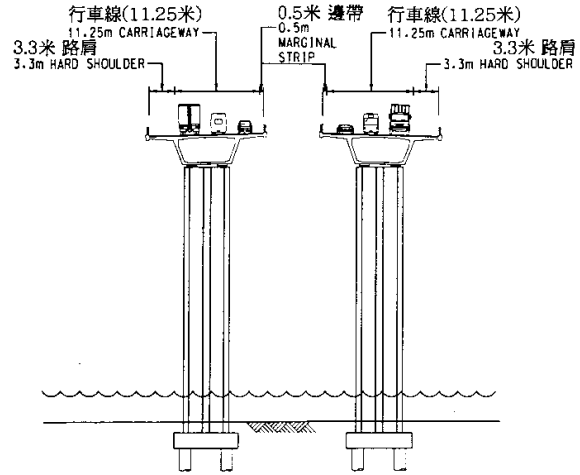


HIGHWAYS DEPARTMENT HONG KONG 路政署 香港

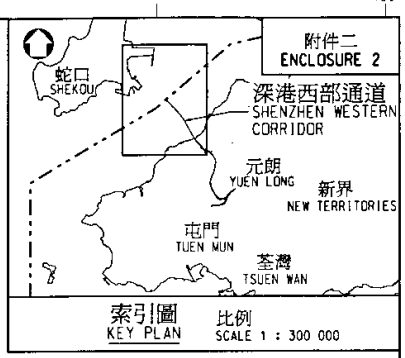
P:\6736TH\DRAWING\HMW6736TH SK0036.dgn

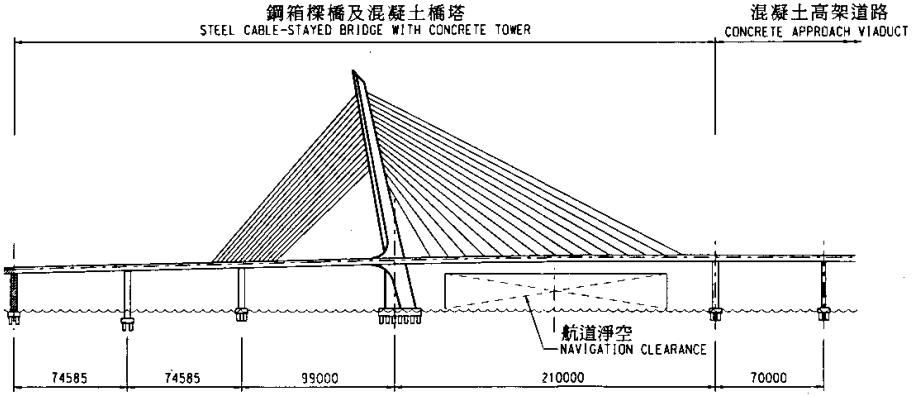
A3 420 x 297




引橋橫切面
APPROACH VIADUCT CROSS SECTION
SECTION A - A
不按比例 NOT TO SCALE




通航孔橋側面立面圖
ELEVATION OF BRIDGE OVER NAVIGATION CHANNEL
不按比例 NOT TO SCALE

圖則名稱 drawing title

工務計劃項目第759TH號
深港西部通道
PWP ITEM NO.759TH
SHENZHEN WESTERN CORRIDOR

| | | | | | |
|---|---|---|---|---|---|
| 設計 designed | C.F.KU 13/12/02 | 繪圖 drawn | M.K.LEUNG 13/12/02 | 圖則編號 drawing no. | HMW6759TH-SK0004 |
| 覆核 checked | C.F.KU 13/12/02 | 批准 approved | | 比例 scale | 不按比例 N. T. S. |

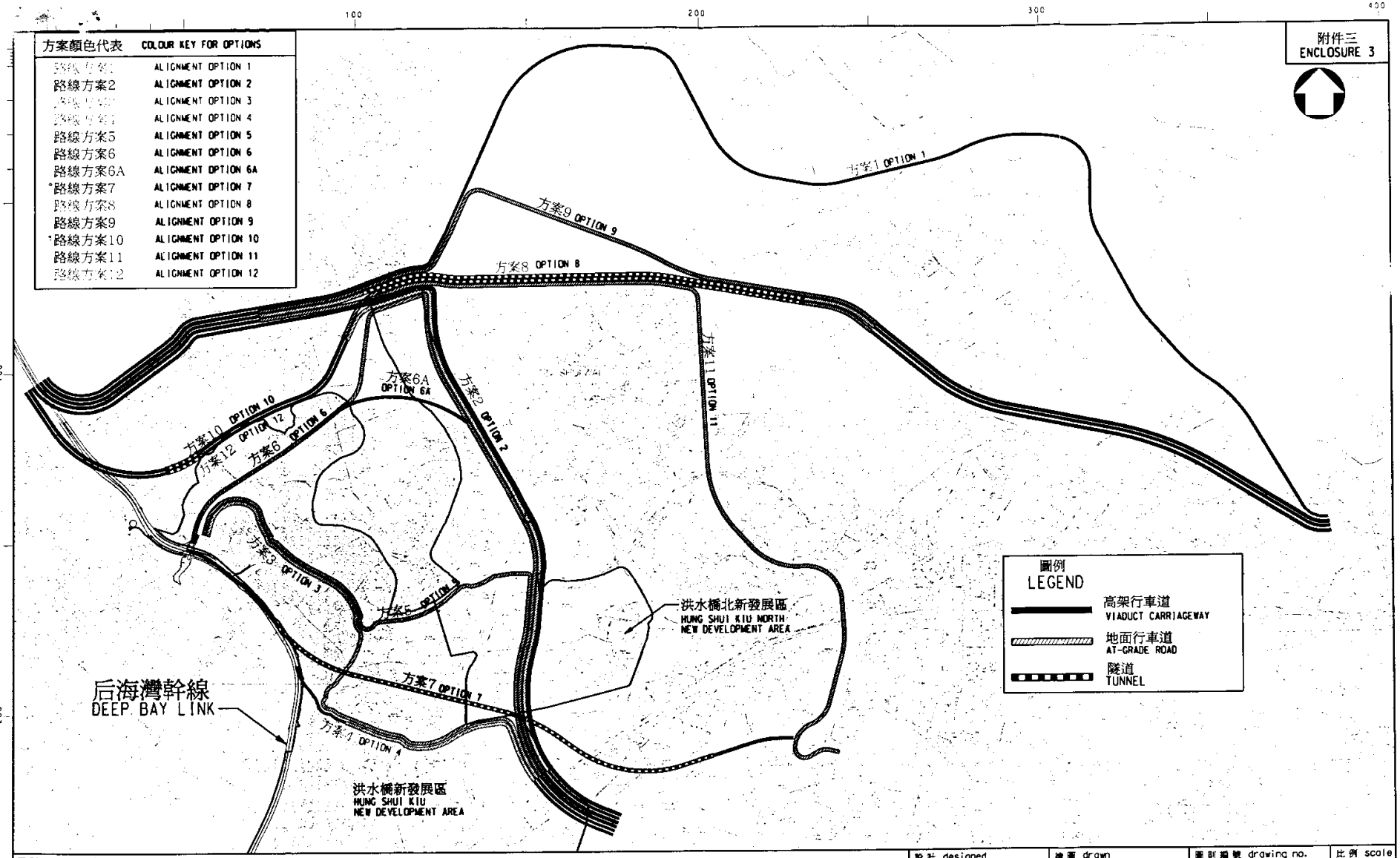
主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE



HIGHWAYS DEPARTMENT HONG KONG 路政署 香港

P:\6759TH\DRAWING\HMW6759TH SK0004.dgn

A3 420 x 297




圖則名稱 drawing title

# 東行連接路
# EASTERLY LINK ROAD

路線方案
ALIGNMENT OPTIONS

| | | | |
|---|---|---|---|
| 設計 designed | | 繪圖 drawn | |
| W.C.LAU | 13/12/02 | H.Y.YIP | 16/12/02 |
| 覆核 checked | | 批准 approved | |
| W.C.LAU | 13/12/02 | | |

主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE

圖則編號 drawing no. HMWP021TH-SK0006

比例 scale 1:20000



HIGHWAYS DEPARTMENT HONG KONG 香港政府路政署

p:\P021\DRAWING\HMWP021TH SK0006.dgn

A3 420 x 297

**Enclosure 4**

**Proposed Easterly Link Road (ELR)**

## An Analysis of the Six Shortlisted Options

### Option 1

The proposed ELR branches off from the southern end of the Shenzhen Western Corridor (SWC) and goes eastward to the junction of Tin Wah Road and Tin Ying Road. After it routes along the northern periphery of the new development at Tin Shui Wai (TSW), it goes through some fishponds at the northern part of Wang Chau and Nam Sang Wai before joining the Yuen Long Highway (YLH) at Au Tau.

2. This route is long (about 10km) and tortuous, the construction cost and programme are expected to be high and long. Technical difficulty aside, the proposed route will affect many fishponds at the TSW north and Nam Sang Wai area and will encroach on the wetland conservation area, thus posing a very serious environmental problem. In addition, it is estimated that over 95% of the affected lands are private lots (around the area at Deep Bay Road, Sha Kong Tsuen, Fung Kong Tsuen and Wang Chau). Resumption will be extremely difficult.

### Option 5

3. The proposed ELR spins off from Ha Tsuen Interchange, then routes through the planned roads of Hung Shui Kiu New Development Area (HSK NDA) as well as Ping Ha Road. After crossing the at-grade junction at Hung Tin Road/Ping Ha Road, it goes up the Hung Tin Road Flyover to cross Castle Peak Road, then uses the TSW West Interchange (TSWWI) to YLH.

4. This proposal is mainly at-grade, relatively less expensive and construction is relatively more straight forward. It is however a tortuous route with many junctions, hence the design speed can only be 50km/hour which may not be attractive to motorists (the traveling time of using this route is expected to be four minutes more than using the main DBL route). Moreover, many private lots and container yards will be affected. The peripheral areas of both the HSK NDA and HSK North NDA will be affected.

**Option 6**

5. After spinning off from Ha Tsuen Interchange, this proposed route follows the alignment of the planned internal road of HSK NDA and it extends northwards to the junction of Tin Wah Road and Tin Ying Road. It then goes along Ting Ying Road and Hung Tin Road to reach YLH via the TSWWI.

6. This proposed route is mainly in the form of at-grade roads and there are no significant difficulties with construction. However, this route is tortuous with many junctions and hence may not be attractive to users (the traveling time of using this route is expected to be about six minutes more than using the main DBL route). Furthermore, some private lots and container yards are to be affected. This alignment will also impact extensively on the HSK North NDA along the northern periphery and Tin Ying Road, hence developments have to be set back.

**Option 6A**

7. This alignment is a modification of Option 6. After spinning off from Ha Tsuen Interchange, similar to Option 6, the proposed ELR follows the alignment of the planned internal road of HSK NDA; it then goes straight east and passes over Ping Ha Road and Tin Ying Road by a viaduct. It then goes along Tin Ying Road and Hung Tin Road to reach YLH via the TSWWI. This route is shorter than Option 6 by about one kilometre.

8. This is the preferred option having regard to engineering, environmental, lands, traffic and planning considerations. That said, the cost of construction is estimated to be about $900 million while the saving in travelling time is about two minutes. Some private lots, container yards and fish ponds will be affected. There is also extensive impact on the HSK North NDA.

**Option 7**

9. This proposed route is in the form of a tunnel joining the DBL mainline at San Sang San Tsuen and YLH near Tong Yan San Tsuen. The tunnel is aligned to avoid the impact on the foundations of the existing structures and planned developments by going through the various “Village”, “Green Belt” and low density development zones of HSK NDA.

10. While this option has relatively less impact on both the HSK and HSK North NDAs, it is very difficult to construct since the tunnel will have to be deep to pass the Light Right Transit track and has to be bored. The

construction period is expected to take 60 months. Both the capital and recurrent costs, estimated to be about $3,800 million and $900 million respectively, are high. In addition, there are significant land implications as a lot of private lots, industrial buildings, villages and graves will be affected. On the environment side, some fishponds will also be affected. The associated ventilation buildings will also be very close to the residential areas.

**Option 8**

11. This proposed route follows the alignment of Option 1 for the Deep Bay Road section, it then takes the form of a 2.6 kilometre dual 2-lane cut and cover tunnel under Tin Wah Road and joins the YLH at Au Tau. This is a most direct connection heading towards Route 3.

12. Construction of the cut and cover tunnel underneath the existing large drainage channel in crossing Tin Ying Road will be extremely difficult and require a long construction period. Also, during the construction period, Tin Wah Road has to be closed to traffic completely which is unacceptable. Some mudflats, fishponds and private lots along Deep Bay Road as well as the northern periphery of the HSK North NDA will also be affected.

**附件 4**

# 擬建東行連接路
# 分析六個初選方案

## 方案 1

擬建的東行連接路從深港西部通道的南端分叉出來，東行連接天華路與天影路的交界，再沿着天水圍新發展區北面邊界伸展，途經橫洲和南生圍北面一些魚塘，然後在凹頭與元朗公路匯合。

2. 這條路線甚長(約 10 公里)，迂迴曲折，預計建築費用高昂，施工期也很長。姑且不論技術上的困難，這條建議路線會影響天水圍北部和南生圍一帶大量的魚塘，兼且佔據濕地自然保育區，引致嚴重的環境問題。此外，預計受影響的土地逾 95%屬私人地段(深灣路、沙江村、鳳降村和橫洲一帶的地方)，收地工作會極為困難。

## 方案 5

3. 擬建的東行連接路從廈村交匯處轉出，然後經過洪水橋新發展區的已規劃道路和屏廈路。路線經過洪天路與屏廈路的地面交界後，轉上洪天路行車天橋，經過青山公路，再經天水圍西交匯處往元朗公路。

4. 建議路線主要在地面建造，造價相對不高，施工相對簡單。不過，由於路線迂迴，需要經過很多路口，設計車速限制要定為每小時 50 公里，這個行車速度恐怕不能吸引駕車人士(使用這條路線，行車時間預計會比使用后海灣幹線主線增加四分鐘)。再者，實行這個方案很可能影響許多私人地段和貨櫃場，而洪水橋新發展區和洪水橋北部新發展區的周邊地方也會受到影響。

## 方案 6

5. 建議路線從廈村交匯處轉出，沿洪水橋新發展區已規劃區內道路的定線，一直向北伸延至天華路與天影路的交界，再沿着天影路和洪天路，經天水圍西交匯處到達元朗公路。

6. 建議路線主要屬地面道路，施工方面困難不大。不過，由於路線迂迴，需要經過很多路口，恐怕不能吸引駕車人士(使用這條路線，行車時間預計會比使用后海灣幹線主線增加六分鐘)。此外，部分私人地段和貨櫃場也會受到影響。定線也會影響洪水橋北部新發展區北面的周邊地方和天影路沿線，一帶的發展會因而受阻。

## 方案 6A

7. 這條路線以方案 6 為藍本，作出修改。這條建議的東行連接路像方案 6 一樣，從廈村交匯處轉出後，取道洪水橋新發展區已規劃區內道路的定線。其後定線直轉向東，經高架道路穿越屏廈路和天影路，再沿天影路和洪天路經天水圍西交匯處往元朗公路。這條路線較方案 6 短一公里左右。

8. 當局考慮各方案對工程、環境、土地、交通及規劃的影響後，認為這個方案是理想的選擇。雖然如此，這條定線的建造成本預計達 9 億元左右，節省的行車時間約為兩分鐘。定線不但會影響部分私人土地、貨櫃場及魚塘，洪水橋北部新發展區亦會受到廣泛的影響。

## 方案 7

9. 這條定線採用隧道的設計，連接位於新生新村的后海灣幹線主線和元朗公路近唐人新村的路段。隧道選取的定線穿過多條鄉村、綠色地帶和洪水橋北部發展區的低密度住宅區，避免影響現有構築物和擬建樓宇的地基。

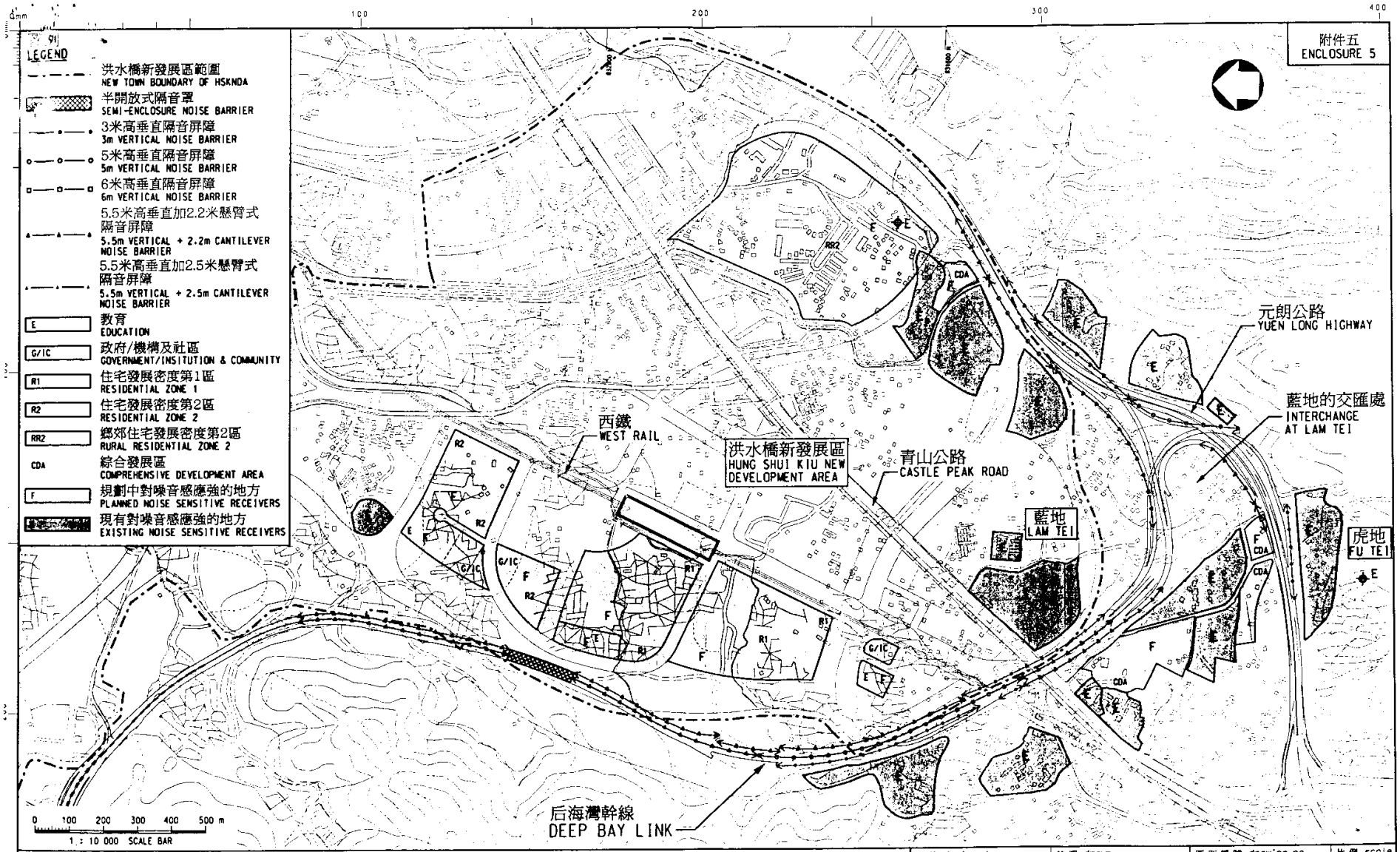
10. 這個方案對洪水橋及洪水橋北部發展區的影響相對輕微，然而建造隧道需要鑽挖，比輕便鐵路路軌更為深入地底，因此施工困難。施工期預計需要 60 個月。建設成本和經常開支估計分別為 38 億元及 9 億元，成本高昂。此外，許多私人地段、工業樓宇、鄉村和墳地都會受到波及，在土地方面影響十分重大。至於環境方面，亦會有部分魚塘受到影響。另外，有關的通風大樓亦會非常接近民居。

方案 8

11. 建議路線與方案 1 深灣路部分的定線相同，其後在天華路下開挖回填一條 2.6 公里長的雙程兩線隧道，連接元朗公路在凹頭的路段。這是一條通向三號幹線最直接的接駁路線。

12. 在現有的大型排水渠下建造開挖回填的隧道橫跨天影路極度困難，施工期亦相當長，期間天影路需要全面封閉，這個安排不能接受。另外，沿深灣路的一些泥灘、魚塘及私人地段以及洪水橋北部新發展區北面周邊地方亦會受到影響。

附件五
ENCLOSURE 5




圖則名稱 drawing title

后海灣幹線
隔音屏障的安裝位置
DEEP BAY LINK
EXTENT OF NOISE BARRIERS

| | | | |
|---|---|---|---|
| 設計 designed | | 繪圖 drawn | |
| C.F.KU | 09/12/02 | M.K.LEUNG | 09/12/02 |
| 覆核 checked | | 批准 approved | |
| C.F.KU | 13/12/02 | | |

主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE

圖則編號 drawing no. HMW6736TH-SK0035

比例 scale 1:10000



HIGHWAYS DEPARTMENT HONG KONG 香港政府路署

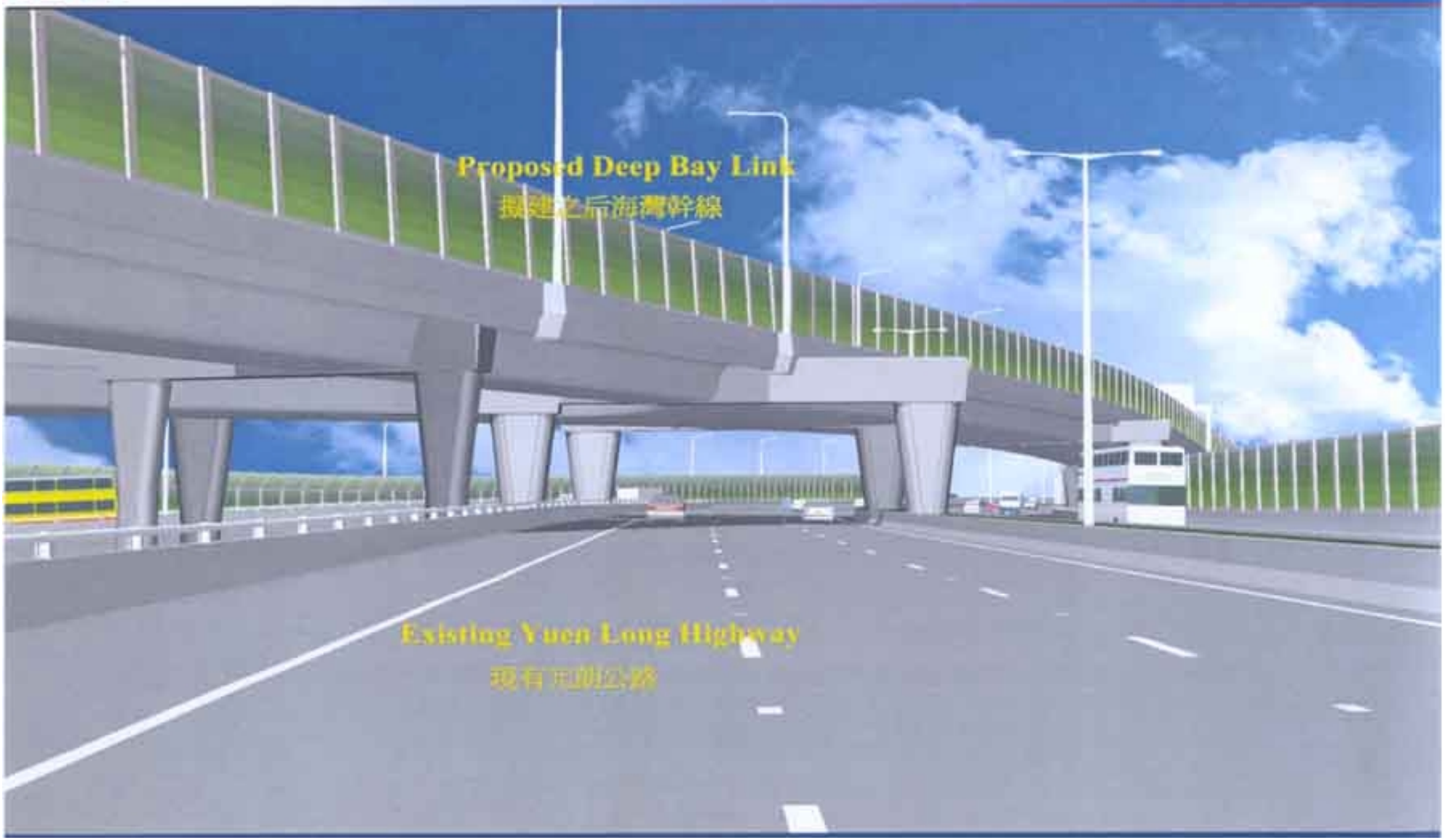
P:\6736TH\DRAWING\HMW6736TH-SK0035.dgn

A3 420 x 297

Highways Department 路政署

Major Works Project Management Office 主要工程管理處

附件六
ENCLOSURE 6



Highways Department 路政署

Major Works Project Management Office 主要工程管理處

附件七
ENCLOSURE 7