

For information

**Legislative Council Panel on Transport
Supplementary Information Paper on**

- (a) Widening of Yuen Long Highway
between Lam Tei and Shap Pat Heung Interchange;
and
(b) Shenzhen Western Corridor and Deep Bay Link**

INTRODUCTION

At the meeting of the Legislative Council Panel on Transport held on 20 December 2002, Members considered LC Papers No. CB(1)527/02-03(04) and (05) on PWP Item **721TH** “Widening of Yuen Long Highway between Lam Tei and Shap Pat Heung Interchange (YLH)” and PWP Items **759TH** and **736TH** “Shenzhen Western Corridor (SWC) and Deep Bay Link (DBL)” respectively and requested the Administration to provide supplementary information on the:

- (a) proposed noise barriers; and
- (b) general traffic conditions in the Northwest New Territories (NWNT) and our assessment on the traffic impact on local roads upon commissioning of the new roads.

THE ADMINISTRATION’S RESPONSE

The proposed noise barriers

2. Both the “Widening of YLH” and the “DBL” are Designated Projects under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO)¹. Under the EIAO, we have completed environmental impact assessments (EIAs) for the two projects. The EIAs identified that most of the existing and planned developments alongside the widened YLH and the DBL will be exposed to traffic noise levels exceeding the statutory limits as prescribed in the Technical Memorandum issued under the EIAO. We are required to implement noise attenuation measures in order to comply with the

¹ The SWC is also a Designated Project under Schedule 2 of the EIAO. No noise barriers are however needed in accordance with the EIA Study.

law. **Enclosure A** shows the design concept and function of noise barriers.

3. We have considered other noise mitigation measures such as alternative alignments and the feasibility of using earth bunds or trees. However, the findings show that these measures are either not feasible technically or not effective enough in reducing the projected traffic noise levels. Typically, noise attenuation from trees in lieu of noise barriers is only about 1dB(A) for every 10 metre-thickness of tree planting.

4. The EIA Studies recommended the adoption of both low noise road surfacing and noise barriers as effective mitigation measures. Detailed information on individual locations of the proposed noise barriers for the YLH and DBL are at **Enclosures B and C** respectively. In coming to the recommended arrangements, we have compared alternative layouts and different combinations of height, length and location of the noise barrier arrangements to identify the most cost effective scheme. **Enclosures D and E** show the recommended noise barrier layouts for the YLH and DBL respectively. With these measures, the EIA reports for the two projects were approved under the EIAO respectively on 22 May 2002 and 13 September 2002, and the Environmental Permit for YLH widening was issued on 24 June 2002.

5. We have considered carefully the aesthetic design of the noise barriers. To soften the visual impact, dense trees and shrubs would be planted where practical in front of the transparent noise barriers with thematically patterned panels.

6. We have also reviewed critically the need and timing for the noise barriers for planned developments, which can be deferred to later dates. At restricted locations, we will make allowance to put in the foundations first and defer installation of the noise barrier panels to align with the programmes of the planned developments. For areas where noise barriers will protect both existing and planned developments, we will exercise flexibility to provide the necessary amount of noise barriers to protect the existing dwellings from the traffic noise.

7. The latest estimated cost for the noise barriers for the YLH project is \$301 million of which about \$21 million can be deferred until the planned developments are to be built (details at **Enclosure F**). The latest estimated cost for the noise barriers for the DBL project is \$426 million of which about \$287 million can be deferred until the planned developments are to be built (details at **Enclosure G**).

The NWNT Traffic Condition

Overall situation

8. The strategic roads in the NWNT were operating within capacities in 2001 as illustrated below :

Road	Traffic Flow (vehicles/hour)
Tuen Mun Road (TMR) <ul style="list-style-type: none">● Town Centre section● Sham Tseng section	2900 (v/c ² = 1.0) 4740 (v/c = 1.0)
Castle Peak Road (CPR) (between Siu Lam and Sham Tseng)	1000 (v/c = 0.6)
Route 3	3200 (v/c = 0.7)

9. Our traffic forecast last year showed that the total capacity provided by these three strategic roads would be capable of catering for the peak period traffic demand generated in the NWNT as well as those from the SWC until 2011. The latest population projection released by the Planning Department shows that there is a slow down in the population growth in the NWNT. While we are still updating the traffic forecast, we anticipate that there will be a slower traffic build-up in the key road corridors linking the NWNT and the urban area. We expect that additional strategic roads in the NWNT will be required only after 2011.

10. Notwithstanding the forecast that there will be adequate total capacity in the TMR, CPR and Route 3 by 2011, we have in hand both short and medium term measures to improve the traffic condition in the NWNT as set out below.

(a) Widening of YLH

To cater for and attract traffic coming from the SWC/DBL going east, hence diverting traffic away from TMR, we are proposing to widen YLH from dual 2-lane to dual 3-lane.

² Volume to capacity (v/c) ratio is an indicator which reflects the performance of a road. A v/c ratio equals to or less than 1.0 means that a road has sufficient capacity to cope with the volume of vehicular traffic under consideration and the resultant traffic will flow smoothly. A v/c ratio above 1.0 indicates the onset of congestion. A v/c ratio above 1.2 indicates more serious congestion with traffic speed deteriorating progressively with further increase in traffic.

(b) Diversion of Traffic to Route 3

We have initiated discussions with the Route 3 (CPS) Company on ways to attract traffic to use Route 3. One option that we have broached with the company is to introduce further concessionary fares for goods vehicles in return for a possible extension of the company's franchise.

In addition, we will install variable message signs under the SWC/DBL projects to inform drivers the prevailing traffic conditions of the various strategic routes in the area to encourage more effective use of the traffic capacities of the roads.

(c) Tuen Mun Road Reconstruction

TMR is not up to expressway standard. We have initiated a programme to reconstruct and upgrade the road to expressway standard with the provision of 3.3m hard shoulders at an estimated cost of \$2.5 billion. Investigation and preliminary design works commenced in April 2002 and are expected to be complete in July 2003. To ensure that traffic to and from Tuen Mun will not be too adversely affected during the period of reconstruction works, our plan is to maintain at least three traffic lanes per direction at TMR during peak hours. In addition, we anticipate that the CPR will help shoulder a portion of the diverted traffic during the period of TMR reconstruction. As the CPR widening projects, currently underway, are expected to complete by early 2006, we plan to commence the TMR reconstruction works in February 2006 to tie in with the completion of the CPR widening works. The TMR reconstruction works will be completed in phases for final completion in 2010.

11. We anticipate that in the longer term, the critical area of the road corridors in the NWNT will be in the Tuen Mun Town Centre (TMT) section and the Sham Tseng section of TMR. Our preliminary analysis indicates that either the Tuen Mun Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) or Route 10 will be capable of reducing the traffic volume at the critical sections of the TMR-Route 3 corridor to manageable levels by diverting away about 1200 to 1500 vehicles per hour per direction.

12. We are now conducting an overall review of the transport network in the NWNT. We will examine, inter alia, the need and timing for the TM-CLKL and TMWB as well as Route 10. The proposed Hong Kong – Pearl

River West Link will have an impact on the relative performance of the alternative road networks, in particular the TM-CLKL and TMWB, and we will take account of this new project before coming to a decision on the need and priorities of the new road links. Our aim is to complete the review in mid 2003.

Local Traffic Improvement Measures

13. Some Members were concerned about possible impact of the new roads on the traffic conditions in Yuen Long, specifically the section of YLH between Shap Pat Heung Interchange and Pok Oi Interchange; Tin Shui Wai; Yuen Long Town South areas and TMR. We have examined each and every one of these local road sections and our findings are set out below.

(a) YLH between Shap Pat Heung Interchange and Pok Oi Interchange

14. This section of YLH presently comprises eight lanes, four lanes along the Shap Pat Heung vehicular underpass and the Pok Oi Flyover at the two interchanges respectively, and another four lanes with two on each side of the underpass/flyover. **Enclosure H** shows the current road network in this area. The v/c ratios for the morning and evening peaks for 2001 and those forecast for 2011 are set out in the table below :

	2001		2011	
	AM	PM	AM	PM
Eastbound	0.6	0.6	1.0	1.0
Westbound	0.6	0.6	1.0	0.9

The table above shows that this section of YLH is capable of catering for the peak period traffic in 2011.

(b) Tin Shui Wai

15. As regards traffic flow in the Tin Shui Wai area, we have already completed a series of improvement works in 2001/2002 that helped to improve traffic flow both in and out of the area as follows :

- (i) widening and improvement of about 33 signalised Light Rail Transit/road and road junctions;
- (ii) widening of Tin Ying Road and Tin Tsz Road;

- (iii) provision of a north-south flyover along Tin Ying Road at its junction with Ping Ha Road;
- (iv) provision of a north-south flyover along Tin Tsz Road at its junction with Tin Fuk Road; and
- (v) provision of a left-in/right-out flyover at the Tin Tsz Road/Tin Cheung Road junction.

16. Apart from the above improvement works, we are now constructing a north-south flyover along Tin Tsz Road at its junction with Tin Wah Road that is scheduled for completion in mid-2003. We are also planning to improve further the operations of all signalised junctions in Tuen Mun and Yuen Long, including Tin Shui Wai, by commissioning an Area Traffic Control system in the next few years.

(c) Yuen Long Town South

17. The following improvements to the road infrastructure in the area are in the pipeline :

- (i) widening of the Tai Kei Ling Road/Tai Tong Road junction which is scheduled to be completed in mid-2003; and
- (ii) construction of new roads in Yuen Long Areas 13 and 14 for completion in mid-2005. To provide earlier relief, the completion of the section of Road L2 between Tai Tong Road and Shap Pat Heung Interchange will be advanced to end 2004.

18. The table below on the forecast morning and evening peaks v/c ratios for 2011 for the section of Road L2 between Tai Tong Road and Shap Pat Heung Interchange shows that the main access road connecting Areas 13 and 14 to Shap Pat Heung will have adequate reserve capacity in 2011 :

	AM	PM
Eastbound	0.4	0.3
Westbound	0.4	0.8

(d) Tuen Mun Road – the Town Centre section and the Sham Tseng section

19. TMT is served by three north-south roads. Apart from the TMR which now operates at a v/c ratio of about 1.0 at the peak periods, to the east of TMR is the CPR while to the west is Ming Kum Road/Tsing Wun Road/Wong

Chu Road. A plan showing these alternative routes is at **Enclosure I**. Both of the two roads are operating well within capacity at present. These two parallel roads are capable of diverting the TMT generated traffic from the Town Centre section of TMR. It is expected that the v/c ratio of this section of the TMR will be maintained at around 1.0 to 1.1 in year 2011.

20. The West Rail, on commissioning in 2003, will offer commuters a quick and direct alternative route to and from NWNT. We therefore expect that traffic on TMR will be reduced, thus providing spare capacity to cope with the anticipated increase in traffic along this route.

21. In summary, we have considered both the short term and long term traffic situation in the NWNT and will implement measures to address the traffic situation in the foreseeable future.

Environment, Transport and Works Bureau
January 2003

Design Concept and Function of Noise Barriers

The primary function of noise barriers is to shield receivers from excessive noise generated by road traffic. The material, location, dimensions, and shapes of noise barriers can affect the acoustical performance. Assuming a noise sensitive receiver is subjected to a noise level higher than the statutory limit, appropriate noise barrier will be designed to lower the noise to an acceptable level. Figure A is a simplified sketch showing what happens to road traffic noise when a noise barrier is placed between the source (vehicle) and receiver. The original straight line path from the source to the receiver is now interrupted by the noise barrier.

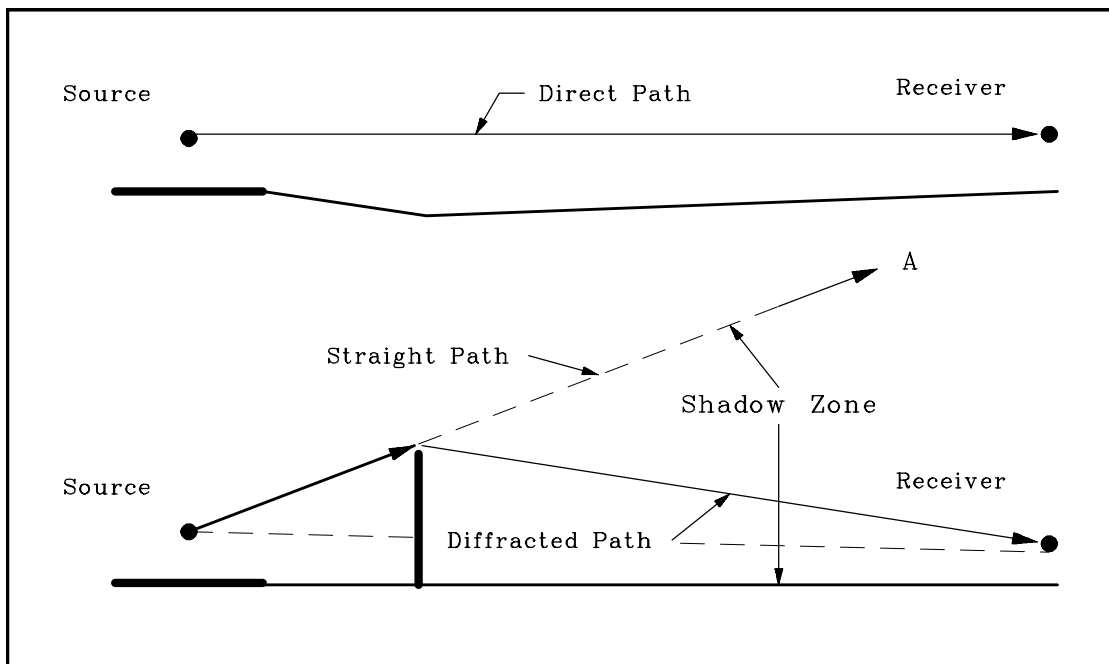


Figure A – Alternation of Noise Paths by a Noise Barrier

Generally, the taller the noise barrier, the longer the diffracted path and therefore the greater the noise level reduction achieved.

Noise Barrier Information

	Location	Noise Levels in Year 2021		Noise Barriers			Total Noise Barrier Cost	No. of Dwellings Benefitted Directly (Note 1)	No. of Dwellings Benefitted Indirectly (Note 2)	Total No. of Benefitted Dwellings
		Unmitigated Scenario (dB)	Mitigated Scenario (dB)	Height (m)	Length (m)	Cost (HK\$)				
I	Shung Ching San Tsuen, YLTL 500	64 - 75	62 - 70	4	478	9,655,600	14,415,600	277	1,590	1867
				5	200	4,760,000				
II	Lung Tin Tsuen, Fraser Village, Area 13*	62 - 76	53 - 70	5	678	16,136,400	27,213,600	244	1,500	1744
				6	314	9,357,200				
				5.5 + 1.5	50	1,720,000				
III	Lam Hau Yuen, Development at Long Tin Road*	70 - 79	61 - 70	5.5 + 1.5	347	11,936,800	22,464,800	230	2,495	2725
				5.5 + 2.5	280	10,528,000				
IV	Ma Fung Ling, Fui Sha Wai	67 - 83	61 - 70	4	320	6,464,000	33,276,200	441	1,017	1458
				5	636	15,136,800				
				6	253	7,539,400				
				5.5 + 2.5	110	4,136,000				
V	Tai Tao Tsuen, CDA near Tin Shui Wai Interchange*	61 - 75	57 - 70	3	160	2,752,000	22,067,600	200	660	860
				4	90	1,818,000				
				5	51	1,213,800				
				6	75	2,235,000				
				5.5 + 1.5	345	11,868,000				
				5.5 + 2.5	58	2,180,800				
VI	Hung Shui Kiu, Tan Kwai Tsuen HSK NDA*	65 - 83	60 - 70	5	589	14,018,200	20,786,200	1873	3,277	5150
				5.5 + 2.5	180	6,768,000				
VII	To Yuen Wai CDA near To Yuen Wai*	68 - 82	64 - 70	3	170	2,924,000	21,536,200	573	2,550	3123
				5	267	6,354,600				
				5.5 + 2.5	326	12,257,600				
VIII	Kong Tau Sun Tsuen, Tai Kei Leng	63 - 72	63 - 70	2	540	7,668,000	7,668,000	75	725	800
IX	Shung Ching Sun Tsuen, Sham Chung Tsuen	72 - 74	69 - 70	2	450	6,390,000	12,238,000	192	873	1065
				3	340	5,848,000				
X	Lam Hau Tsuen	68 - 77	65 - 70	4	550	11,110,000	11,110,000	94	380	474
XI	Tong Yan San Tsuen Q,R near Tong Yan San Tsuen*	70 - 82	65 - 70	4	80	1,616,000	29,747,400	269	910	1179
				5	168	3,998,400				
				6	453	13,499,400				
				5.5 + 1.5	155	5,332,000				
				5.5 + 2.5	141	5,301,600				
XII	Tai Tao Tsuen South	81 - 82	69 - 70	5	87	2,070,600	8,650,600	17	0	17
				5.5 + 2.5	175	6,580,000				
XIII	Tan Kwai Tsuen	81 - 82	68 - 69	6	127	3,784,600	12,244,600	21	43	64
				5.5 + 2.5	225	8,460,000				

Noise Barrier Information

	Location	Noise Levels in Year 2021		Noise Barriers			Total Noise Barrier Cost	No. of Dwellings Benefitted Directly (Note 1)	No. of Dwellings Benefitted Indirectly (Note 2)	Total No. of Benefitted Dwellings
		Unmitigated Scenario (dB)	Mitigated Scenario (dB)	Height (m)	Length (m)	Cost (HK\$)				
XIV	Tsoi Yuen Tsuen South	75 - 81	65 - 70	3	70	1,204,000	19,644,600	180	74	254
				4	60	1,212,000				
				5	44	1,047,200				
				6	543	16,181,400				
XV	Fu Tai Estate, Lo Fu Hang	69 - 79	60 - 70	4	106	2,141,200	33,558,800	950	620	1570
				5	621	14,779,800				
				6	41	1,221,800				
				5.5 + 2.5	410	15,416,000				
XVI	Sale site at Fu Tei*	78 - 79	76 - 77**	4	220	4,444,000	4,444,000	100	0	100
Total:							301,066,200			22450

Total Length of Noise Barriers : 11.6km

Total Cost of Noise Barriers : \$301 million

Total No. of Benefitted Dwellings: 22,450

Avg. Cost of Noise Barriers per Benefitted Dwelling : \$13,411

* Refer to Enclosure F on possible cost deferral related to these planned developments

** Noise from the road network other than Yuen Long Highway dominates. Further mitigation measures on Yuen Long Highway would not be able to reduce the noise level to 70 dB as the contribution from the operation of the widened Yuen Long Highway is less than 1.0 dB.

Note 1 : These are dwellings with noise levels exceeding the statutory limits under the unmitigated scenario.

Note 2 : These are dwellings with noise levels not exceeding the statutory limits under the unmitigated scenario.

Deep Bay Link
Noise Barrier Information

	Location	Noise Levels in Year 2021(dB(A))		Noise Barriers			Total Noise Barrier Cost (HK\$)	No. of Dwellings Directly Benefitted (Note 1)	No. of Dwellings Indirectly Benefitted (Note 2)	Total No. of Benefitted Dwellings
		Unmitigated Scenario	Mitigated Scenario	Height (m)	Length (m)	Cost (HK\$)				
I	Nam On Fat Tong and Area	66 - 72	62 - 69	3	248	3,219,040	3,219,040	8	28	36
II	Near Lam Tei Gospel School	68 - 79	64 - 70	5	300	7,938,000	13,780,920	25	0	25
				5.5+2.2	116	5,842,920				
III	Rural Houses near Shun Tat St.	71 - 82	63 - 70	5.5+2.2	250	12,592,500	20,908,500	78	0	78
				5.5+2.5	154	8,316,000				
IV	Fuk Hang Tsuen (incl. Botania Villa, Madam Lau Kam Lung Sec Sch and CDA Sites at Fuk Hang Tsuen Road* and CDA Site Near Botania Villa*)	66 - 81	58 - 74**	5.5+2.2	1,039	52,334,430	56,452,830	776	377	1,153
				6	120	4,118,400				
V	Rural/Village houses near Tsoi Yuen Tsuen	64 - 75	58 - 70	5	56	1,481,760	23,846,040	54	180	234
				5.5+2.2	444	22,364,280				
VI	Tsoi Yuen Tsuen/Nai Wai	68 - 74	67 - 74**	5.5+2.2	200	10,074,000	13,747,340	107	337	444
				3	283	3,673,340				
VII	Tsing Chuen Wai	65 - 74	62 - 73**	5.5+2.2	75	3,777,750	13,941,090	118	595	713
				3	783	10,163,340				
VIII	Tan Kwai Tsuen and CDA Site Near Tan Kwai Tsuen*	66 - 82	63 - 69	5	181	4,789,260	16,831,260	63	353	416
				5.5+2.5	223	12,042,000				
IX	San Sang San Tsuen	71 - 72	67 - 68	5.5+2.2	240	12,088,800	12,088,800	48	0	48
X	HSK NDA Proposed School Site (Area 1C-E*) and Residential Site (Area 2A-R1*)	65 - 76	55 - 69	3	229	2,972,420	87,187,700	1,808	832	2,640
				5.5+2.2	1,196	60,242,520				
				5	906	23,972,760				
XI	HSK NDA Proposed Residential Sites (Areas 2B-R1*, 2C-R2*, 2D-R2*) and School Sites (Areas 2B-E* and 2D-E*)	66 - 78	58 - 70	5.5+2.2	1,445	72,784,650	164,484,650	3,300	1,540	4,840
				semi-enclosure	200	91,700,000				
Total:							426,488,170			10,627

Total Length of Noise Barriers: 8,688 m
 Total Cost of Noise Barriers: \$ 426,488,170
 Total No. of Benefitted Dwellings: 10,627
 Average Cost of Noise Barriers per Benefitted Dwelling: \$ 40,133

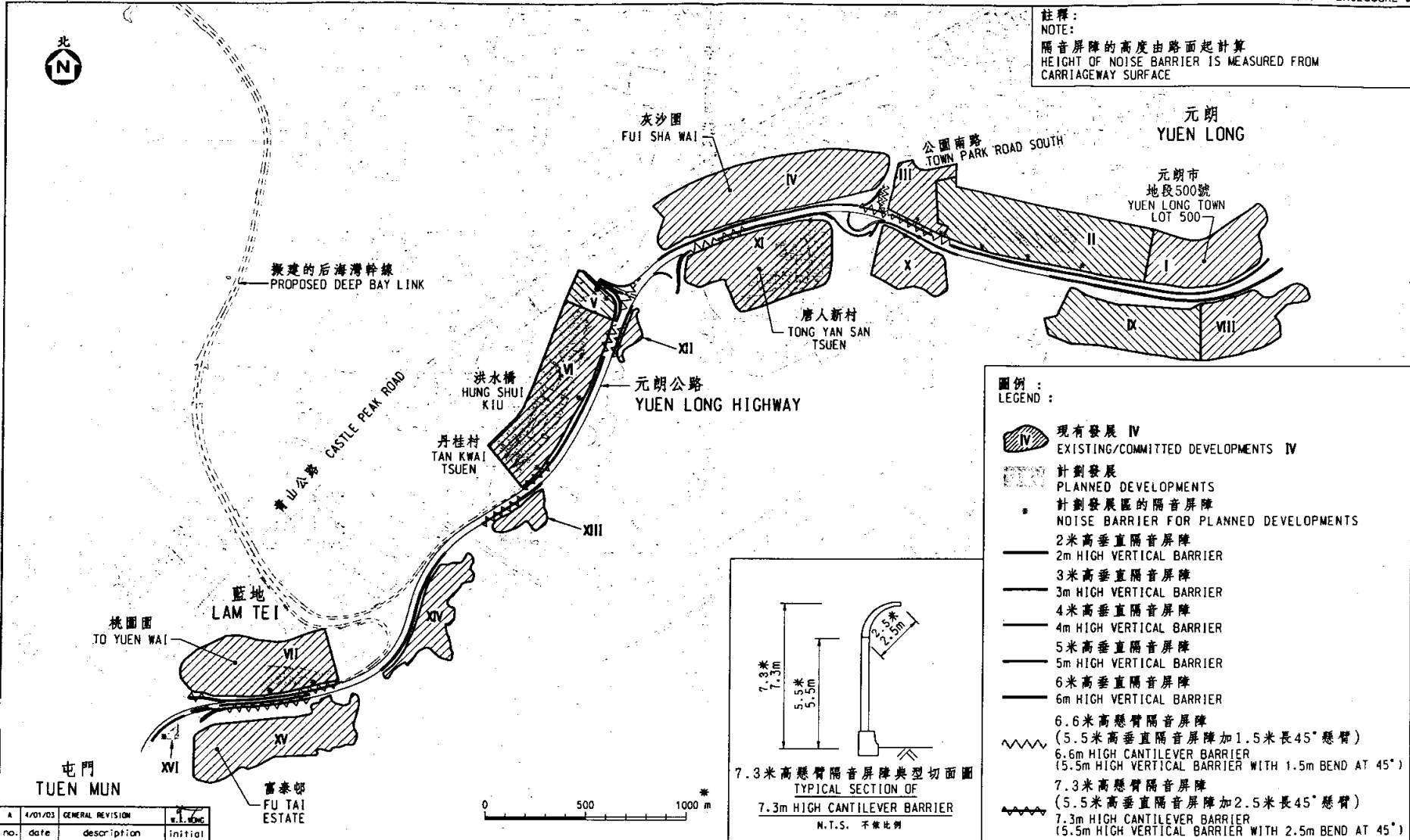
* Refer to Enclosure G on possible cost deferral related to these planned development

** Noise from Castle Peak Road dominates. Further mitigation measures on Deep Bay Link would not be able to reduce the noise level to 70 dB as the contribution from the operation of the widened Yuen Long Highway is less than 1.0 dB.

Note 1: These are dwellings with noise levels exceeding the statutory limits under the unmitigated scenario.

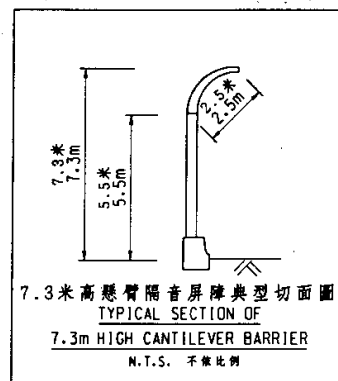
Note 2: These are dwellings with noise levels not exceeding the statutory limits under the unmitigated scenario.

註釋：
NOTE：
隔音屏障的高度由路面起計算
HEIGHT OF NOISE BARRIER IS MEASURED FROM
CARRIAGEWAY SURFACE



圖例：
LEGEND：

- 現有發展 IV
EXISTING/COMMITTED DEVELOPMENTS IV
- 計劃發展
PLANNED DEVELOPMENTS
- 計劃發展區的隔音屏障
NOISE BARRIER FOR PLANNED DEVELOPMENTS
- 2米高垂直隔音屏障
2m HIGH VERTICAL BARRIER
- 3米高垂直隔音屏障
3m HIGH VERTICAL BARRIER
- 4米高垂直隔音屏障
4m HIGH VERTICAL BARRIER
- 5米高垂直隔音屏障
5m HIGH VERTICAL BARRIER
- 6米高垂直隔音屏障
6m HIGH VERTICAL BARRIER
- 6.6米高懸臂隔音屏障
(5.5米高垂直隔音屏障加1.5米長45°懸臂)
6.6m HIGH CANTILEVER BARRIER
(5.5m HIGH VERTICAL BARRIER WITH 1.5m BEND AT 45°)
- 7.3米高懸臂隔音屏障
(5.5米高垂直隔音屏障加2.5米長45°懸臂)
7.3m HIGH CANTILEVER BARRIER
(5.5m HIGH VERTICAL BARRIER WITH 2.5m BEND AT 45°)



no.	date	description	initial
A	4/01/03	GENERAL REVISION	W.K.

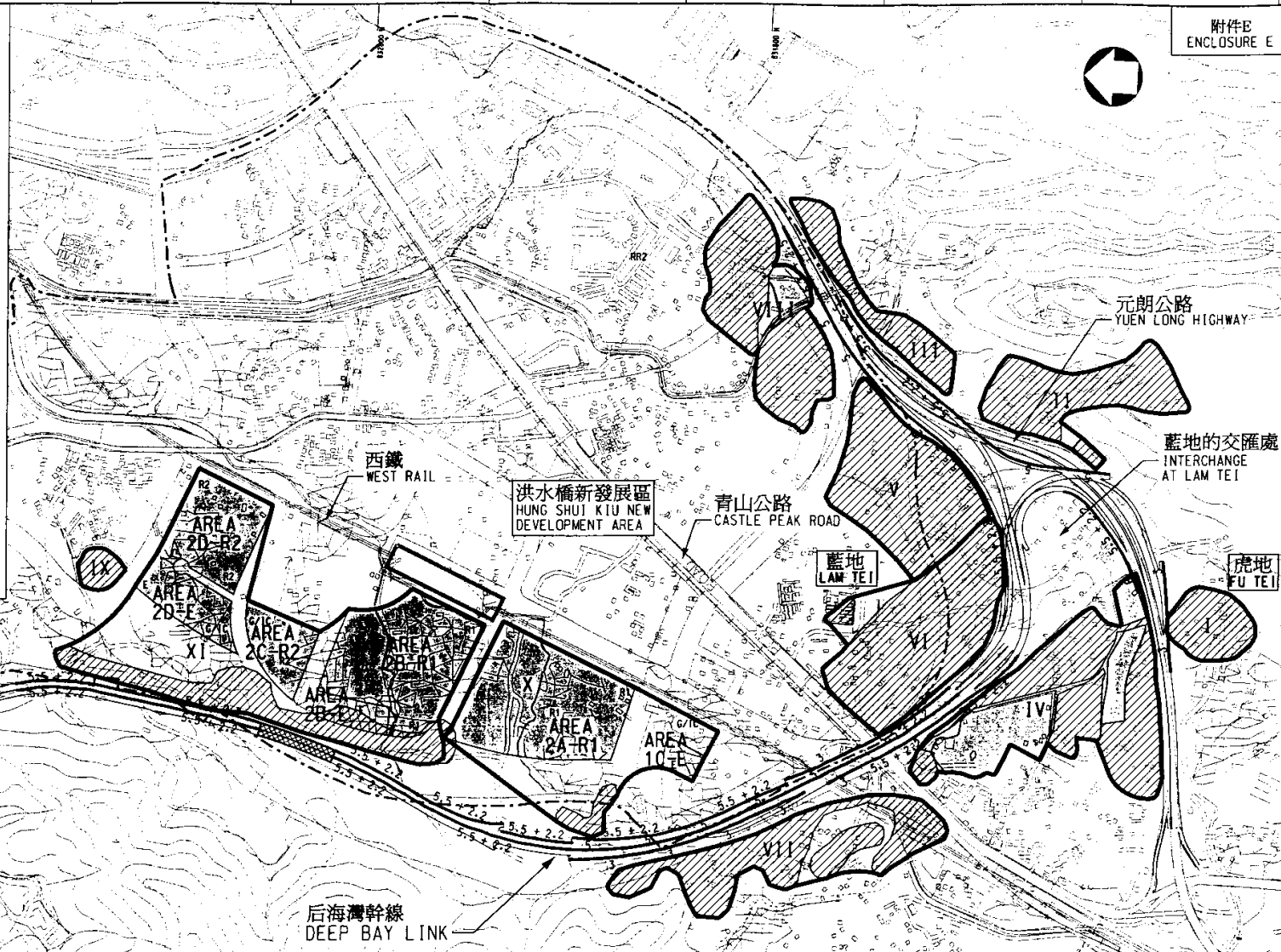
圖則名稱 drawing title
工務計劃項目第721TH號
元朗公路藍地至十八鄉段擴闊工程 - 隔音屏障位置圖
PWP ITEM NO. 721TH
WIDENING OF YUEN LONG HIGHWAY BETWEEN LAM TEI AND SHAP PAT HEUNG INTERCHANGE
- NOISE BARRIER LOCATION PLAN

設計 designed M.C.LAW 03/01/03	繪圖 drawn S.K.TSE 03/01/03	圖則編號 drawing no. MW6721TH-SP0012A	比例 scale 1:17 500 或按指示 OR AS SHOWN
覆核 checked M.C.LAW 03/01/03	批准 approved W.K.WONG 03/01/03	© 版權所有 COPYRIGHT RESERVED	
主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE		HIGHWAYS 路 DEPARTMENT 政 HONG KONG 港	

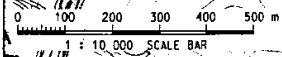
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圖例 LEGEND

- 洪水橋新發展區範圍
NEW TOWN BOUNDARY OF HSKNDA
- ▨ 半開放式隔音罩
SEMI-ENCLOSURE NOISE BARRIER
- 3 3米高垂直隔音屏障
3m VERTICAL NOISE BARRIER
- 5 5米高垂直隔音屏障
5m VERTICAL NOISE BARRIER
- 6 6米高垂直隔音屏障
6m VERTICAL NOISE BARRIER
- 5.5 + 2.2 5.5米高垂直加2.2米懸臂式
隔音屏障
5.5m VERTICAL + 2.2m CANTILEVER
NOISE BARRIER
- 5.5 + 2.5 5.5米高垂直加2.5米懸臂式
隔音屏障
5.5m VERTICAL + 2.5m CANTILEVER
NOISE BARRIER
- E 教育
EDUCATION
- G/IC 政府/機構及社區
GOVERNMENT/INSTITUTION & COMMUNITY
- R1 住宅發展密度第1區
RESIDENTIAL ZONE 1
- R2 住宅發展密度第2區
RESIDENTIAL ZONE 2
- RR2 鄉郊住宅發展密度第2區
RURAL RESIDENTIAL ZONE 2
- CDA 綜合發展區
COMPREHENSIVE DEVELOPMENT AREA
- ▨ 計劃發展
PLANNED DEVELOPMENTS
- ▨ 現有發展
EXISTING / COMMITTED DEVELOPMENTS



附件E
ENCLOSURE E



圖則名稱 drawing title
工務計劃項目第736TH號
后海灣幹線 - 隔音屏障的安裝位置
PWP ITEM NO. 736TH
DEEP BAY LINK - EXTENT OF NOISE BARRIERS

設計 designed	繪圖 drawn
C.M.CHAN 03/01/03	H.Y.YIP 03/01/03
覆核 checked	批准 approved
C.M.CHAN 03/01/03	C.M.CHAN 03/01/03

圖則編號 drawing no.
HMW6736TH-SP0012 比例 scale
1:10 000

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HIGHWAYS DEPARTMENT 路政署
HONG KONG 香港

主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE

**6721TH-Wideing of Yuen Long Highway between Lam Tei and Shap Pat Heung Interchange
Deferred Expenditure for Noise Barriers to be Installed to Phase in with Planned Developments**

Enclosure F

Location	Noise barrier height		Length	Cost (HK\$ million)		Deferred Expenditure (HK\$ million)
	<i>Planned & Existing</i>	<i>Existing only</i>		<i>Planned & Existing</i>	<i>Existing only</i>	
Yuen Long South Area 13	5m	3m	320	7,616,000	5,696,000	1,920,000
	6m	3m	314	9,357,200	5,589,200	3,768,000
Developments at Long Tin Road	5.5m+ 1.5m	5.5m+ 1.5m	347	11,936,800	11,936,800	0
	5.5m+ 2.5m	5.5m+ 2.5m	229	8,610,400	8,610,400	0
CDA near Tin Shui Wai Interchange	3m	3m	160	2,752,000	2,752,000	0
	5m	3m	51	1,213,800	907,800	306,000
	5.5m+ 2.5m	3m	58	2,180,800	1,107,800	1,073,000
HSK NDA	5m	3m	589	14,018,200	10,484,200	3,534,000
	5.5m + 2.5m	3m	50	1,880,000	955,000	925,000
CDA near To Yuen	5.5m + 2.5m	3m	170	6,392,000	3,247,000	3,145,000
Areas Q and R near Tong Yan San Tsuen Interchange	6m	3m	453	13,499,400	8,063,400	5,436,000
Sale Site at Fu Tei	4m	2m	220	4,444,000	3,124,000	1,320,000
Total				83,900,600	62,473,600	21,427,000

6736TH-Deep Bay Link

Enclosure G

Deferred expenditure for noise barriers to be installed to phase in with Planned Developments

Location	Noise barrier height		Length (m)	Cost (HK\$)		Deferred Expenditure (HK\$)
	Planned + Existing	Existing only		Planned + Existing	Existing only	
CDA Site at Fuk Hang Tsuen Road	5.5m+2.2m	Nil	539	27,149,430	0	27,149,430
CDA Site Near Botania Villa	6m	Nil	120	4,118,400	0	4,118,400
	5.5m + 2.2m	Nil	250	12,592,500	0	12,592,500
CDA Site Near Tan Kwai Tsuen	5.5m+2.5m	5.5m+2.5m	223	12,042,000	12,042,000	0
HSK NDA Proposed School Site Area 1C-E	3m	3m (for 80m length)	229	2,972,420	1,038,400	1,934,020
	5m		575	15,214,500		15,214,500
	5.5m+2.2m		514	25,890,180		25,890,180
HSK NDA Proposed Residential Site Area 2A-R1	5m	Nil	331	8,758,260	0	8,758,260
	5.5m+2.2m		682	34,352,340	0	34,352,340
HSK NDA Proposed Residential Site Area 2B-R1	5.5m+2.2m	Nil	320	16,118,400	0	16,118,400
HSK NDA Proposed School Site Area 2B-E	5.5m+2.2m	Nil	110	5,540,700	0	5,540,700
	semi-enclosure	2m (for 200m length)	200	91,700,000	1,296,000	90,404,000
HSK NDA Proposed Residential Site Area 2C-R2	5.5m+2.2m	4m (for 240m length)	290	14,607,300	4,684,800	9,922,500
HSK NDA Proposed Residential Site Area 2D-R2 and Proposed School Site Area 2D-E	5.5m+2.2m	2m (for 230m length)	725	36,518,250	1,490,400	35,027,850
Total				307,574,680	20,551,600	287,023,080



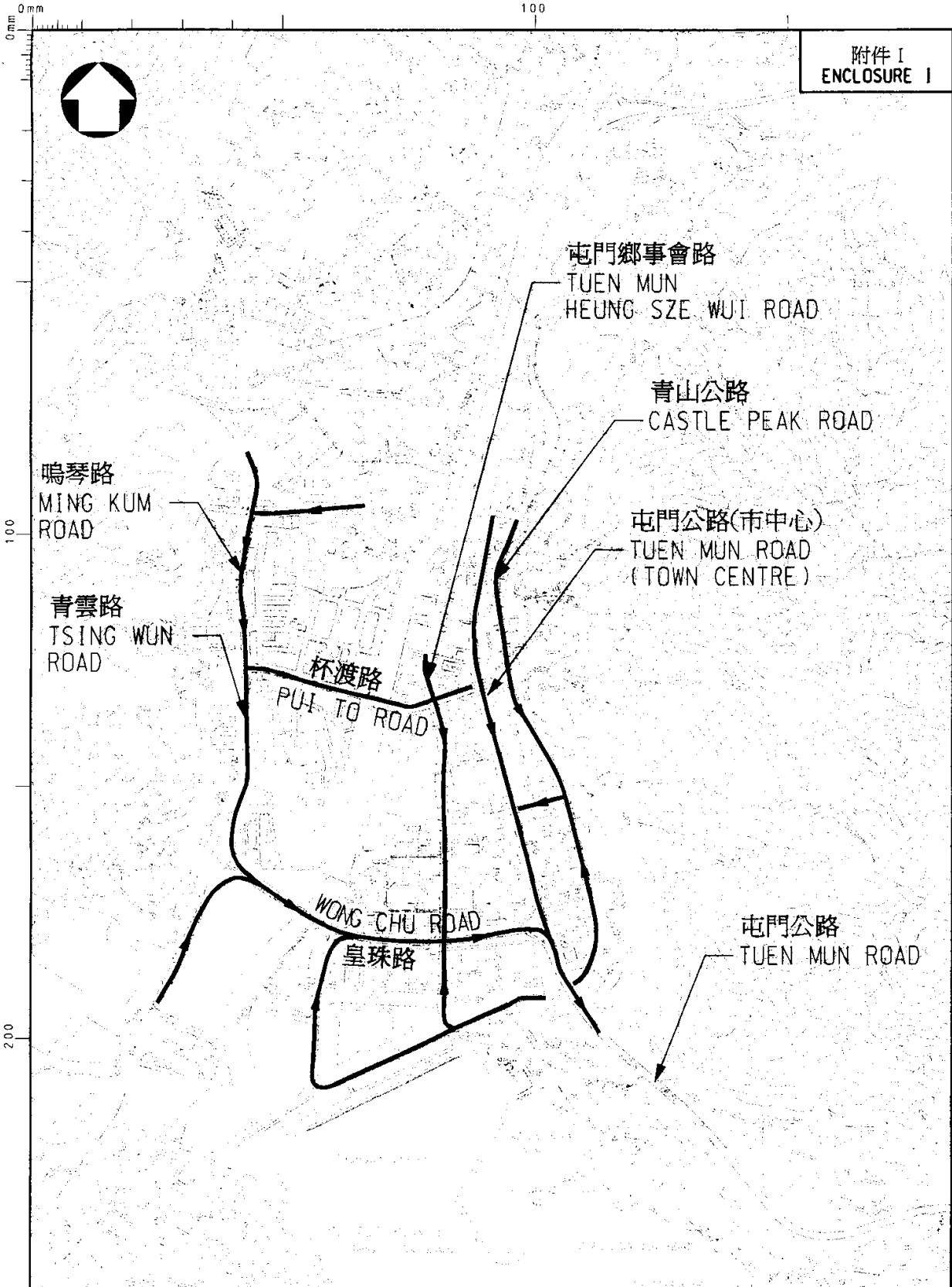
元朗公路十八鄉交匯處至博愛交匯處的行車量/容車量比例
VOLUME/CAPACITY (V/C) RATIO IN THE HIGHWAY SECTION BETWEEN
SHAP PAT HEUNG INTERCHANGE AND POK OI INTERCHANGE


	2001		2011	
	上午 AM	下午 PM	上午 AM	下午 PM
東行線 EASTBOUND	0.6	0.6	1.0	1.0
西行線 WESTBOUND	0.6	0.6	1.0	0.9

圖則名稱 drawing title
工務計劃項目第 721TH 號
元朗公路藍地至十八鄉段擴闊工程
PWP ITEM NO. 721TH
WIDENING OF YUEN LONG HIGHWAY BETWEEN
LAM TEI AND SHAP PAT HEUNG INTERCHANGE

設計 designed
W.C. LAW 03/01/03
覆核 checked
M. CHAN 03/01/03
繪圖 drawn
S.K. TSE 03/01/03
批准 approved
W.K. WONG 03/01/03
主要工程管理處
MAJOR WORKS
PROJECT MANAGEMENT OFFICE

圖則編號 drawing no. 比例 scale
MW6721TH-SP0013 1:12 000
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圖則名稱 drawing title 往屯門公路的其他路線 (市中心段) ALTERNATIVE ROUTES TO TUEN MUN ROAD (TOWN CENTRE SECTION)	設計 designed C. M. CHAN 02/01/03	繪圖 drawn M. K. LEUNG 03/01/03	圖則編號 drawing no. HMW6736TH-SP0013	比例 scale 1:20 000
	覆核 checked C. M. CHAN 03/01/03	批准 approved C. M. CHAN 03/01/03	© 版權所有 COPYRIGHT RESERVED	
	主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE		 HIGHWAYS DEPARTMENT HONG KONG 路政署 香港	