

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT

#### New Territories North Development Civil Engineering - Land development

#### 496CL - Advance engineering infrastructure works for Pak Shek Kok development

Members are invited to recommend to Finance Committee the upgrading of **496CL** to Category A at an estimated cost of \$357.3 million in money-of-the-day prices for the advance engineering infrastructure works for Pak Shek Kok development.

### PROBLEM

We need to provide engineering infrastructure for the development at Pak Shek Kok to meet the target of opening the first phase of the Science Park in late 2001.

### PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Planning, Environment and Lands, proposes to upgrade **496CL** to Category A at an estimated cost of \$357.3 million in money-of-the-day (MOD) prices for the advance engineering infrastructure works for Pak Shek Kok development (PSKD).

/PROJECT .....

**PROJECT SCOPE AND NATURE**

3. The scope of **496CL** comprises -
- (a) construction of the southern access phase 1 and the northern access which includes -
    - (i) 1.7 kilometres long at-grade carriageway;
    - (ii) road connections and road widening of the existing service road between the Eastern Campus of the Chinese University of Hong Kong (CUHK) and Ma Liu Shui Interchange;
    - (iii) a 330 metres long flyover across Tolo Highway;
    - (iv) realignment of the existing footpath and cycle track along Tolo Highway; and
    - (v) a pedestrian/cyclist bridge and two cyclist subways;
  - (b) construction of drainage pipes, sewers, and a 2.2 kilometres long twin sewer rising main;
  - (c) construction of a sewage pumping station;
  - (d) associated landscaping works;
  - (e) a noise barrier;
  - (f) an environmental monitoring and audit (EM&A) programme for items (a) to (e) above; and
  - (g) reprovisioning of affected facilities within the Eastern Campus of CUHK including a Marine Science Laboratory, a Water Sports Centre, a garage compound and a refuse collection point.

**/JUSTIFICATIONS .....**

## JUSTIFICATIONS

4. Hong Kong needs to become a knowledge and technology-based economy in order to maintain and enhance our global competitiveness in the next millennium. A Science Park will form part of the essential infrastructural provision for Hong Kong industries to move up the technology ladder and develop technology-intensive and higher value-added business activities. In August 1998, we completed an integrated planning and engineering feasibility study for PSKD under **477CL** "Feasibility study for Pak Shek Kok development area". The study confirmed the feasibility of PSKD including a Science Park and residential development at Pak Shek Kok. Upon full development in 2016, PSKD will create some 20 000 jobs and will accommodate a population of about 12 000.

5. The Director-General of Industry plans to open the Science Park phase 1 located in the southern part of PSKD in late 2001. To meet this target, we need to provide the necessary supporting engineering infrastructure before the opening of the park. We plan to start the construction of the southern access phase 1 and drainage and sewerage systems to serve the Science Park phase 1 in October 1999 for completion in June 2001.

6. We completed land formation in the southern portion of PSKD in August 1998 and reclamation is in progress in the northern portion of the area using public fill delivered by barges. As the barging point at area 47B, Sha Tin will cease operation by end 2001 to make way for the construction of Sha Tin Sewage Treatment Works stage 3 extension, we need to provide a northern access for the delivery of public fill to continue the reclamation upon closure of the barging point. We plan to construct the northern access in August 1999 for completion in October 2001. The northern access will also serve the proposed residential development in the northern part of PSKD with the first population intake by 2008.

7. A major part of the proposed northern access falls within the boundary of the Tolo Highway Widening (THW) project managed by the Director of Highways (D of Hy). In order that the construction of the northern access can tie in with that of the THW project, we will incorporate the construction of the northern access into the THW project to avoid interface problems between the two projects and to ensure timely completion of the proposed works.

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8. To convey the sewage generated in PSKD, we need to build a sewage pumping station and a twin 450 millimetres diameter rising main along the proposed southern access phase 1 to the nearby Sha Tin Sewage Treatment Works.

9. The proposed southern access phase 1 traverses through the CUHK Eastern Campus. We need to reproviseion all the CUHK facilities mentioned in paragraph 3(g) above that will be affected by the proposed roadworks.

### FINANCIAL IMPLICATION

10. We estimate the capital cost of the project to be \$357.3 million in MOD prices (see paragraph 11 below), made up as follows -

	<b>\$ million</b>
(a) Reproviseioning works of CUHK facilities	85.0
(b) Roads and drainage works	55.0
(c) Highway structures including bridges and subways	90.0
(d) Sewerage works and sewage pumping station	24.0
(e) Noise barrier	17.0
(f) Environmental monitoring and audit programme	1.0
(g) Consultants' fees for	31.0
(i) Construction stage	4.0
(ii) Site staff costs	27.0

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(h)	Contingencies	30.0	
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	Sub-total	333.0	(at December 1998 prices)
(i)	Provision for price adjustment	24.3	
		<hr/>	
	Total	357.3	(in MOD prices)
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The Director of Architectural Services (DArchS) will undertake the supervision of the building works relating to the reprovisioning of the CUHK facilities using in-house staff resources. The consultants of Highways Department will supervise the construction of the northern access as an integral part of the THW project. Owing to insufficient in-house resources, DTD proposes to employ consultants to carry out the supervision of the construction of the remaining part of the project. A breakdown by man months of the estimate for the consultants' fees is at Enclosure 1.

11. Subject to approval, we will phase the expenditure as follows -

Year	\$ million (Dec 1998)	Price adjustment factor	\$ million (MOD)
1999-2000	40.0	1.02625	41.1
2000-2001	190.0	1.06217	201.8
2001-2002	73.0	1.09934	80.3
2002-2003	30.0	1.13782	34.1
	<hr/>		<hr/>
	333.0		357.3
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12. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices for the period 1999 to 2003. We will incorporate the roadworks for the northern access into the THW project under a standard remeasurement contract as the quantity of foundation works may vary depending on the actual ground conditions. The

/contract .....

contract will provide for price adjustment because the contract period will exceed 21 months. DArchS will tender the building works of the proposed reprovisioning of CUHK facilities on a fixed-price lump sum basis since the scope of works can be clearly defined in advance. We will also tender the remaining proposed works under a lump sum contract. The contract will provide for price adjustment because the contract period will exceed 21 months.

13. We estimate the annually recurrent expenditure of the project to be \$3.76 million.

## **PUBLIC CONSULTATION**

14. We consulted Sha Tin Provisional District Board and Tai Po Provisional District Board on 30 June 1998 and 7 July 1998 respectively on the proposed advance engineering works for PSKD. Members had no objections to the proposed works.

15. We gazetted the proposed road scheme and sewerage scheme under the Roads (Works, Use and Compensation) Ordinance and the Water Pollution Control (Sewerage) Regulation respectively on 18 September 1998, and received one objection on each scheme from China Light & Power Company Ltd on engineering grounds. We examined the grounds of the objection and made minor adjustments to the design. The objector subsequently withdrew his objection. On 31 December 1998, the Secretary for Transport and the Director of Environmental Protection authorised the roadworks and sewerage works respectively.

16. We gazetted the proposed landing steps and slipway of the reprovisioned Marine Science Laboratory under the Foreshore and Sea-bed (Reclamations) Ordinance on 19 February 1999 and received no objections.

## **ENVIRONMENTAL IMPLICATIONS**

17. PSKD is a designated project under Schedule 3 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). The advance engineering works that forms part of the PSKD is also a designated project under

Schedule 2 of the EIA Ordinance and an environmental permit is required for the construction and operation of the works.

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18. In May 1998, we completed the EIA report as an integral part of the PSKD Feasibility Study. On 6 July 1998, the Advisory Council on the Environment endorsed the findings and recommendations of the EIA report. The report recommended some mitigation measures which could reduce the environmental impacts of the project to within the established standards and guidelines. The key measures include the provision of 5-metre high barriers to mitigate traffic noise along the southern access in front of the Hong Kong Institute of Biotechnology. We will fully incorporate into the detailed design and works contracts the mitigation measures and the EM&A programme recommended in the EIA study and ensure their timely implementation.

## LAND ACQUISITION

19. We will resume about 1.9 hectares of land in Sha Tin Town Lot No. 437 presently owned and occupied by the CUHK. To compensate this land-take from the CUHK, we will grant compensatory land in the nearby Area 39, Tai Po to the CUHK as a land exchange.

## BACKGROUND INFORMATION

20. We upgraded **496CL** to Category B in September 1998.

21. We engaged consultants to undertake the site investigation and detailed design of the project and charged the cost of \$9.8 million to the block allocation **Subhead 7100CX** "New towns and urban area works, studies and investigations for items in Category D of the Public Works Programme". The consultants have completed the detailed design and working drawings. DArchS has completed the detailed design and working drawings for the building works of the proposed reprovisioning of CUHK facilities using in-house resources. We plan to start works in August 1999 for completion in October 2001. Details of the proposed works are at Enclosures 2 and 3.

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Planning, Environment and Lands Bureau  
May 1999

**496CL - Advance engineering infrastructure works  
for Pak Shek Kok development**

**Breakdown of the estimate for consultants' fees**

Consultants' staff costs			Estimated man months	Average MPS* salary point	Multiplier factor	Estimated fee (\$ million)
(a)	Consultants' fees for construction stage					
(i)	contract administration	Professional	21	40	2.4	3.2
		Technical	8	16	2.4	0.4
(ii)	preparation of as-built drawings	Professional	0.5	40	2.4	0.1
		Technical	6	16	2.4	0.3
(b)	Resident site staff costs	Professional	123	40	1.7	13.1
		Technical	390	16	1.7	13.9
<b>Total consultants' staff costs</b>						31.0

\* MPS = Master Pay Scale

**Notes :**

1. A multiplier factor of 2.4 is applied to the average MPS point to arrive at the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. A multiplier factor of 1.7 is applied in the case of resident site staff supplied by the consultants. (At 1.4.98, MPS pt. 40 = \$62,780 p.m. and MPS pt. 16 = \$21,010 p.m.)
2. The figures given above are based on estimates prepared by the Director of Territory Development (DTD). The consultancy works for this project have been included as part of the overall consultancy agreement for the design and construction of advance engineering infrastructure works for Pak Shek Kok development. DTD will negotiate the consultants' fees and resident site staff costs with the consultants after the approval of funding.

## Checklist for PWSC Submission

### **496CL – Advance engineering infrastructure works for Pak Shek Kok development**

(a) **Necessity to go to the PWSC**

We need PWSC/FC's funding approval for upgrading **496CL** to Category A before inviting tenders.

(b) **Authority**

The project has been included in the 1998 RAE.

(c) **Funding**

The estimated cost for the works now proposed for upgrading to Category A is \$333.0 million at December 1998 prices. The 1999 RAE Preamble has earmarked \$333.3 million at the same price level. There is sufficient fund to cover the cost of the proposed works.

(d) **Political assessment**

We do not consider the construction of transport infrastructure to the Science Park politically contentious.

(e) **Clearance with District Officer**

We have cleared the "Public Consultation" section with DO/ST and DO/TP.

(f) **Consultation with LegCo Panel**

We successfully sought funding for the reclamation part of this project three times (separately in February and June 1997, September 1998) in the past. We believe that the transport infrastructure works are less controversial and consultation with LegCo Panel is not necessary.

(g) **Lobbying requirement**

We consider that lobbying would be useful but not necessary.

(h) **Fallback option**

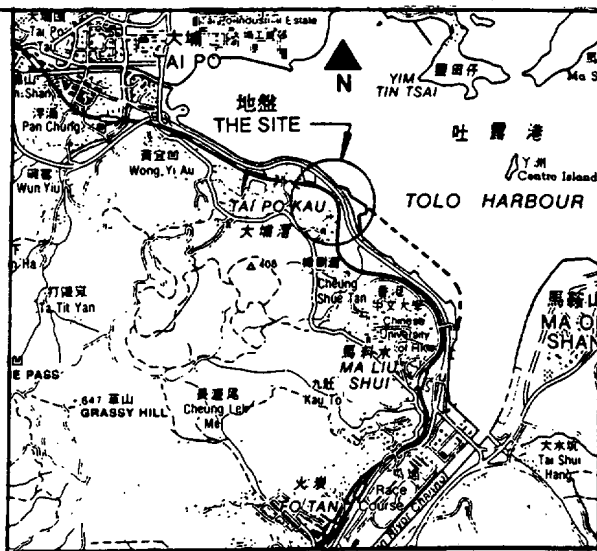
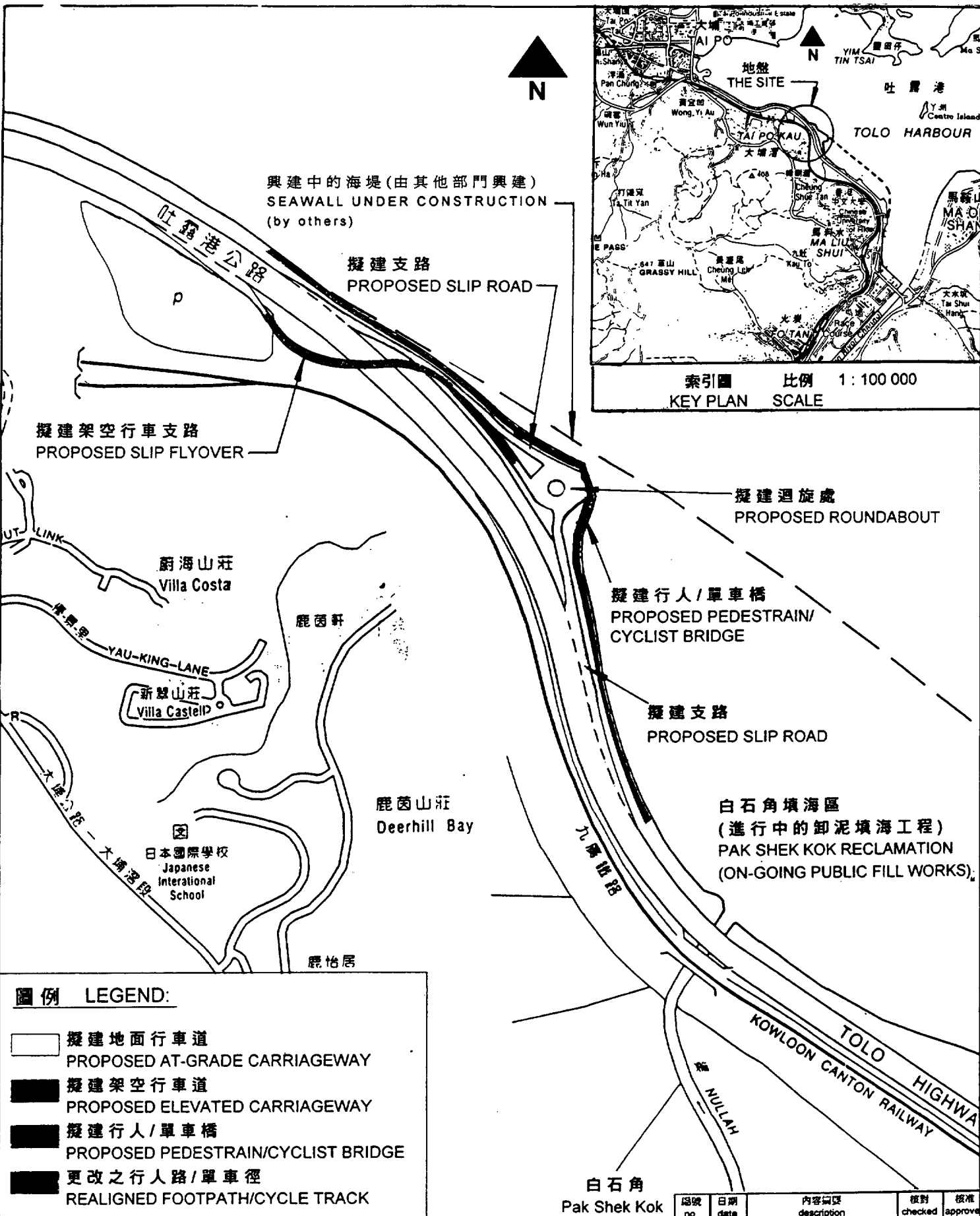
If we encounter difficulties at the meeting, we prefer to withdraw the paper for a re-submission with additional justifications.

(i) **Attendance at the PWSC Meeting**

Director of Territory Development (Mr S S Lee) will attend the meeting.

(j) **Special consideration**

Nil



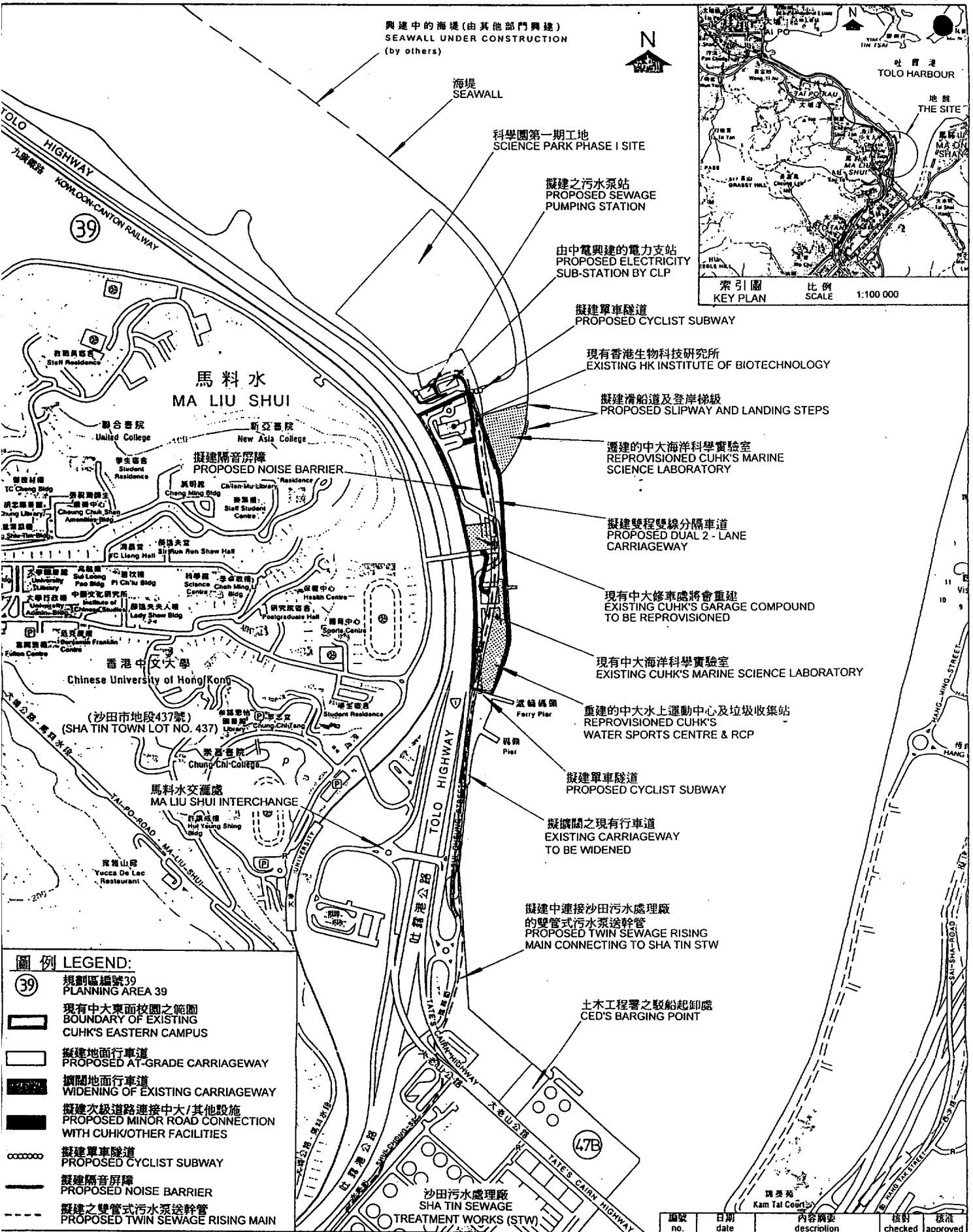
索引圖 比例 1 : 100 000  
KEY PLAN SCALE

**圖例 LEGEND:**

	擬建地面行車道 PROPOSED AT-GRADE CARRIAGEWAY
	擬建架空行車道 PROPOSED ELEVATED CARRIAGEWAY
	擬建行人/單車橋 PROPOSED PEDESTRAIN/CYCLIST BRIDGE
	更改之行人路/單車徑 REALIGNED FOOTPATH/CYCLE TRACK

一九九九至二000年度工務小組委員會文件 P.W.S.C. SUBMISSION 1999/2000 修訂 REVISION

圖則名稱 drawing title 白石角發展計劃的前期基礎 設施工程-北面通道 ADVANCE ENGINEERING INFRASTRUCTURE WORKS FOR PAK SHEK KOK DEVELOPMENT - NORTHERN ACCESS	繪圖 drawn K.H. CHAN	簽署 initial 	日期 date 8.3.99	項目編號 item no. 496CL	辦事處 office 新界北拓展處 NEW TERRITORIES NORTH DEVELOPMENT OFFICE
	核對 checked Y.F. TANG	簽署 initial 	日期 date 22.3.99	比例 scale 1 : 7 500	
	核准 approved J.C. COORAY	簽署 initial 	日期 date 22.3.99	圖則編號 drawing no. <b>NTN 2036</b>	拓展署  TERRITORY DEVELOPMENT DEPARTMENT



一九九九至二〇〇〇年度工務小組委員會文件  
圖則名稱 drawing title

P.W.S.C. SUBMISSION 1999/2000

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
修訂 REVISION				
項目編號 item no.	496CL			
比例 scale	1 : 7 500			
圖則編號 drawing no.	NTN 2035			
辦事處 office 新界北拓展處 NEW TERRITORIES NORTH DEVELOPMENT OFFICE			拓展署 TERRITORY DEVELOPMENT DEPARTMENT	

白石角發展計劃的前期基礎設施工程-南面通道第一期  
ADVANCE ENGINEERING INFRASTRUCTURE WORKS FOR  
PAK SHEK KOK DEVELOPMENT - SOUTHERN ACCESS PHASE 1

繪圖 drawn	簽署 initial	日期 date	項目編號 item no.	辦事處 office
K. S. LO	<i>[Signature]</i>	08.03.99	496CL	新界北拓展處
核對 checked	簽署 initial	日期 date	比例 scale	辦事處 office
Y. F. TANG	<i>[Signature]</i>	22.03.99	1 : 7 500	新界北拓展處
核准 approved	簽署 initial	日期 date	圖則編號 drawing no.	辦事處 office
J. C. COORAY	<i>[Signature]</i>	22.03.99	NTN 2035	新界北拓展處

Enclosure 3 to PWSC(1999-2000)23  
PWSC(1999-2000)23 附件 3