

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT
New Territories East Development
Civil Engineering - Land development
177CL - Sha Tin New Town - remaining engineering works

Members are invited to recommend to Finance
Committee -

- (a) the upgrading of part of **177CL**, entitled "Site formation at Areas 34 and 52 in Shui Chuen O and Area 56A in Kau To, Sha Tin", to Category A at an estimated cost of \$452.3 million in money-of-the-day prices; and
- (b) the retention of the remainder of **177CL** in Category B.

PROBLEM

The supply of formed land and infrastructural facilities in Areas 34 and 52 in Shui Chuen O and Area 56A in Kau To are not adequate to support the planned housing developments in the areas.

/PROPOSAL

PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Planning and Lands and Secretary for Housing, proposes to upgrade part of **177CL** to Category A at an estimated cost of \$452.3 million in money-of-the-day (MOD) prices to carry out site formation works at Areas 34 and 52 in Shui Chuen O and Area 56A in Kau To, Sha Tin to provide land for housing development, associated government, institution and community (G/IC) facilities and necessary engineering infrastructure.

PROJECT SCOPE AND NATURE

3. The scope of **177CL** comprises site formation and engineering infrastructure in Areas 34, 52 and 56A of Sha Tin and associated road widening, junction improvement and sewerage works.

4. The part of the project we now propose to upgrade to Category A comprises the following works in Areas 34, 52 and 56A of Sha Tin –

- (a) formation of about 21 hectares of land for housing, schools and community facilities;
- (b) associated slope works and drainage works;
- (c) construction of earth retaining structures;
- (d) construction of about 355 metres of twin-cell box culvert;
- (e) landscaping works; and
- (f) implementation of an environmental monitoring and audit (EM&A) programme for the works mentioned in paragraphs (a) to (e) above.

— Details of the proposed works are shown at Enclosures 1 and 2. We plan to start works in August 2001 for completion in January 2004.

5. The remainder of **177CL**, to be retained in Category B, comprises -

- (a) construction of road, drainage and sewerage works on the formed platforms;
- (b) road widening at To Shek Street and part of Shui Chuen Au Street;

/(c)

- (c) road junction improvement works; and
- (d) construction of noise barriers.

JUSTIFICATION

6. We need to maintain a steady and sufficient supply of land for both public and private housing developments to meet housing demand in the long term. In September 1998, we completed the “Feasibility Study for Housing Sites in Sha Tin District” which confirmed the feasibility of the proposed housing development at Areas 52 and 56A, and the associated G/IC facilities at Areas 34, 52 and 56A.

7. The proposed works at Shui Chuen O are essential for public and private housing developments to accommodate 5 300 flats with a population of 17 000, the development of an Indoor Recreation Centre to serve residents in the district and the construction of one primary school and one secondary school in the area. The proposed works at Kau To are to support the planned residential development comprising mainly private housing to accommodate 1 600 flats with a population of 4 750. Population intake will commence at Shui Chuen O in 2005 and at Kau To in 2008. Construction of two schools in Shui Chuen O will commence in late 2003 for completion in 2005. To ensure timely supply of formed land for the planned developments, we plan to start the site formation works in August 2001 for completion in January 2004 (see paragraph 25 below).

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the project to be \$452.3 million in MOD prices (see paragraph 9 below), made up as follows –

	\$ million
(a) Site formation	291.7
(i) earthworks	120.2
(ii) slope works	109.7
(iii) retaining structures	61.8
(b) Box culverts	31.8
(c) Drainage works	17.2

/(d)

(d) Landscaping works	2.5	
(e) EM&A programme	5.0	
(f) Consultants' fees for	39.1	
(i) construction stage	4.6	
(ii) resident site staff costs	34.5	
(g) Contingencies	38.7	
	426.0	(in September 2000 prices)
(h) Provision for price adjustment	26.3	
	452.3	(in MOD prices)
	452.3	(in MOD prices)

Owing to insufficient in-house resources, DTD proposes to engage consultants to carry out the construction supervision. A breakdown by man-months of the estimate for the consultants' fees is at Enclosure 3.

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

Year	\$ million (Sept. 2000)	Price adjustment factor	\$ million (MOD)
2001 - 2002	98.0	1.02550	100.5
2002 - 2003	220.0	1.05627	232.4
2003 - 2004	70.0	1.08795	76.2
2004 - 2005	20.0	1.12059	22.4
2005 - 2006	18.0	1.15421	20.8
	426.0		452.3
	426.0		452.3

10. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices for the period from 2001 to 2006. We will tender the proposed works under a standard remeasurement contract because the works involve extensive earthworks, the quantity of which may vary depending on the actual ground conditions. The contract will provide for price adjustments as the contract period will exceed 21 months.

11. We estimate the annually recurrent expenditure arising from this project to be \$81,800.

PUBLIC CONSULTATION

12. We consulted the Development and Housing Committee of the then Sha Tin Provisional District Board on the proposed housing development at Areas 52 and 56A on 23 February 1999. The Committee did not raise any objection to the proposed development but expressed concern about whether the existing traffic capacity in the vicinity could cater for the population to be generated. We explained to the Committee that, according to the results of the traffic impact assessment (TIA) carried out in September 1998, the proposed development would have no adverse traffic impact on the existing road network in general, subject to the improvement of five road junctions as shown in Enclosures 1 and 2. In addition, the planned engineering infrastructure will be adequate to support the development.

13. We further consulted the Development and Housing Committee of the Sha Tin District Council on the infrastructural works at Areas 34, 52 and 56A on 27 June 2000. The Committee supported the proposed works but expressed concern about the potential adverse traffic impact generated by the proposed housing development. The Committee requested Government to widen a section of Shui Chuen Au Street near the Pok Hong Estate to meet the increased traffic generated by the development. Having reviewed the results of the TIA, we concluded that this section of Shui Chuen Au Street would have adequate capacity to cater for the proposed housing development at Area 52¹. On the other hand, we have already included in our project widening of the section of Shui Chuen Au Street to the south of Sha Tin Road, which is at present a sub-standard

/road

¹ Shui Chuen Au Street and To Shek Street are single 2-lane carriageways which will be improved in 2002 to achieve the design capacities of 800 and 1 200 vehicles per hour respectively. The TIA indicated that the projected traffic flow in 2011 on Shui Chuen Au Street and To Shek Street, including that generated from Area 52, will be 580 and 1 100 vehicles per hour respectively, not exceeding their design capacities. However, the additional traffic generated will necessitate junction improvement works along Sha Tin Wai Road at its junctions with three roads, namely Ngan Shing Street, Sha Tin Road and Tai Chung Kiu Road. We plan to carry out these junction improvement works in early 2003 for completion in mid 2004.

road. The Committee also requested Government to provide a lay-by at Shui Chuen Au Street near Pok Hong Estate. The Transport Department will study how best to meet this request in the traffic scheme of the Sha Tin Wai Station of the Ma On Shan Rail.

14. At the LegCo Education Panel meeting held on 15 January 2001, we undertook to explore the possibility of advancing the availability of reserved school sites as far as practicable, in order to help alleviate the shortage of school sites in the territory. The two school sites to be formed in Shui Chuen O under this project are two of these reserved school sites.

15. On 5 March 2001, the LegCo Panel on Planning, Lands and Works discussed the proposed works at Shui Chuen O and Kau To. Members raised no objection to the proposed works.

ENVIRONMENTAL IMPLICATIONS

16. The project is not a designated project under the Environmental Impact Assessment (EIA) Ordinance. Nevertheless, we completed an Environmental Assessment (EA) Study in September 1998. The Director of Environmental Protection (DEP) has vetted the study report and agreed that the works would not have adverse long-term environmental impacts.

17. The key environmental mitigation measures set out in the EA for the site formation works at Areas 34, 52 and 56A include the use of silenced plant and noise screening, dust suppression by water spraying on unpaved roads, the use of detention basins for collecting site run-off, avoidance of disturbance to ravine habitats as far as practicable, and restoration of woodland and shrubland by replanting, where necessary. We will incorporate all the mitigation measures recommended in the EA into the works contract. We have included the costs of landscaping works including hydroseeding and the planting of about 70 000 seedling trees on nine hectares of new and reconstructed slopes (\$2.5 million), and an EM&A programme (\$5 million) in the overall project estimate.

18. At the planning and design stages we have considered ways of minimizing the generation of construction and demolition (C&D) materials by giving due consideration to designing the level and layout of the platforms for housing sites and access roads. We will carry out soil nailing to maintain steeper cut slopes, construction of high earth retaining structures, and maximization of the gradient of access roads to minimize the extent of excavation.

19. We estimate that the project will generate about 370 000 cubic metres (m³) of C&D materials. Of these, about 360 000 m³ (97%) will be reused on site and 10 000 m³ (3%) will be disposed of at landfills.

20. We shall require the contractor to submit a waste management plan for approval with appropriate mitigation measures including the allocation of an area for waste segregation. We shall require the contractor to ensure that the day-to-day operations on site comply with the approved waste management plan. We shall require the contractor to reuse the excavated material on site to minimize the disposal of public fill to public filling facilities. To further minimize the generation of C&D materials, we shall require the contractor not to use hardwood for site hoardings, falsework or shoring of excavation, but to use metal in all components of site hoardings and signboards. We shall control the disposal of C&D wastes at designated landfills through a trip-ticket system. We will record the disposal, reuse and recycling of C&D materials for monitoring purpose.

LAND ACQUISITION

21. The proposed works do not require any land acquisition. The clearance of government land for the project will require the termination of six Short Term Tenancies, including three open storage sites, two garage maintenance depots and a shooting range. We will charge the clearance cost, estimated at \$0.15 million, to Head 701 – Land Acquisition.

BACKGROUND INFORMATION

22. We included **177CL** in Category B in March 1994 for the remaining engineering works for the development of Areas 4C, 34, 38A, 52 and 56A of Sha Tin New Town.

Areas 4C and 38A, Shatin

23. In January 2000, we upgraded part of **177CL** to Category A as **664CL** “Site formation, roads and drains at Mui Lee in Areas 4C and 38A, Sha Tin” at an estimated cost of \$408.1 million in MOD prices. We started the works in February 2000 for completion in February 2003.

/Areas

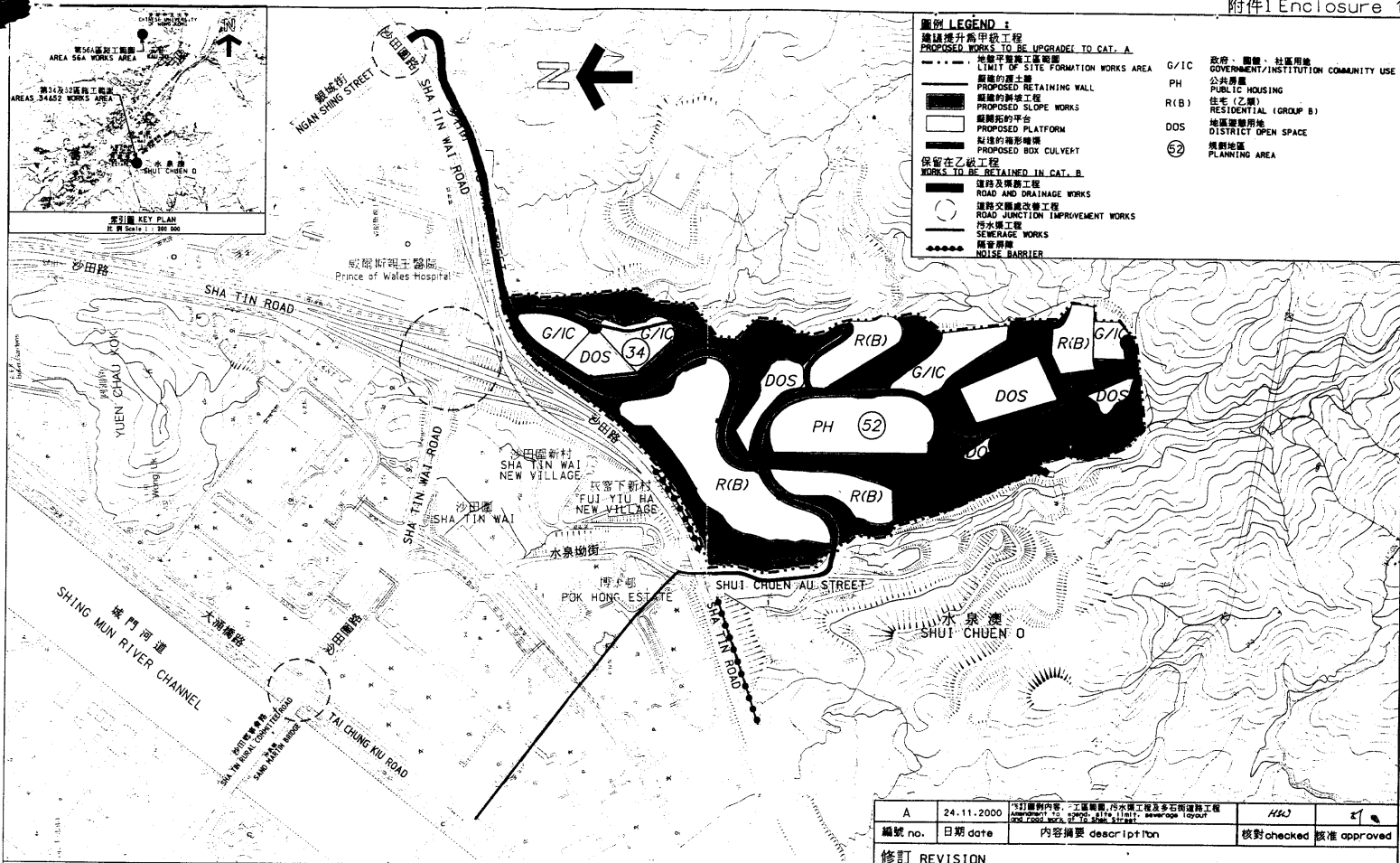
Areas 34, 52 and 56A, Shatin

24. In January 2000, we also upgraded part of **177CL** to Category A as **665CL** “Design fees and site investigations for formation and servicing at Areas 34 and 52 in Shui Chuen O and Area 56A in Kau To, Sha Tin” at an estimated cost of \$45.3 million in MOD prices. The consultants have completed the site investigation, detailed design and drawings for the proposed site formation works in January 2001 and will complete the detailed design for the road works and associated works by March 2002.

25. We plan to start the proposed site formation works at Shui Chuen O and Kau To in August 2001. We will hand over part of the formed sites at Shui Chuen O to Housing Department in mid-2002 for public housing development to tie in with the Public Housing Development Programme. The formed school sites at Shui Chuen O will be handed over to the Education Department for the construction of the two schools in mid-2003. We will hand over the remaining sites, including those in Kau To, for private housing development to Lands Department in phases starting from mid-2003 for land disposal. All the proposed site formation works of the project will be completed in January 2004. We will start the construction of the remaining works under **177CL** in September 2002 for completion in stages by early 2005.

26. We estimate that the project will create some 440 jobs comprising 75 professional/technical staff and 365 labourers, totalling 9 570 man-months.

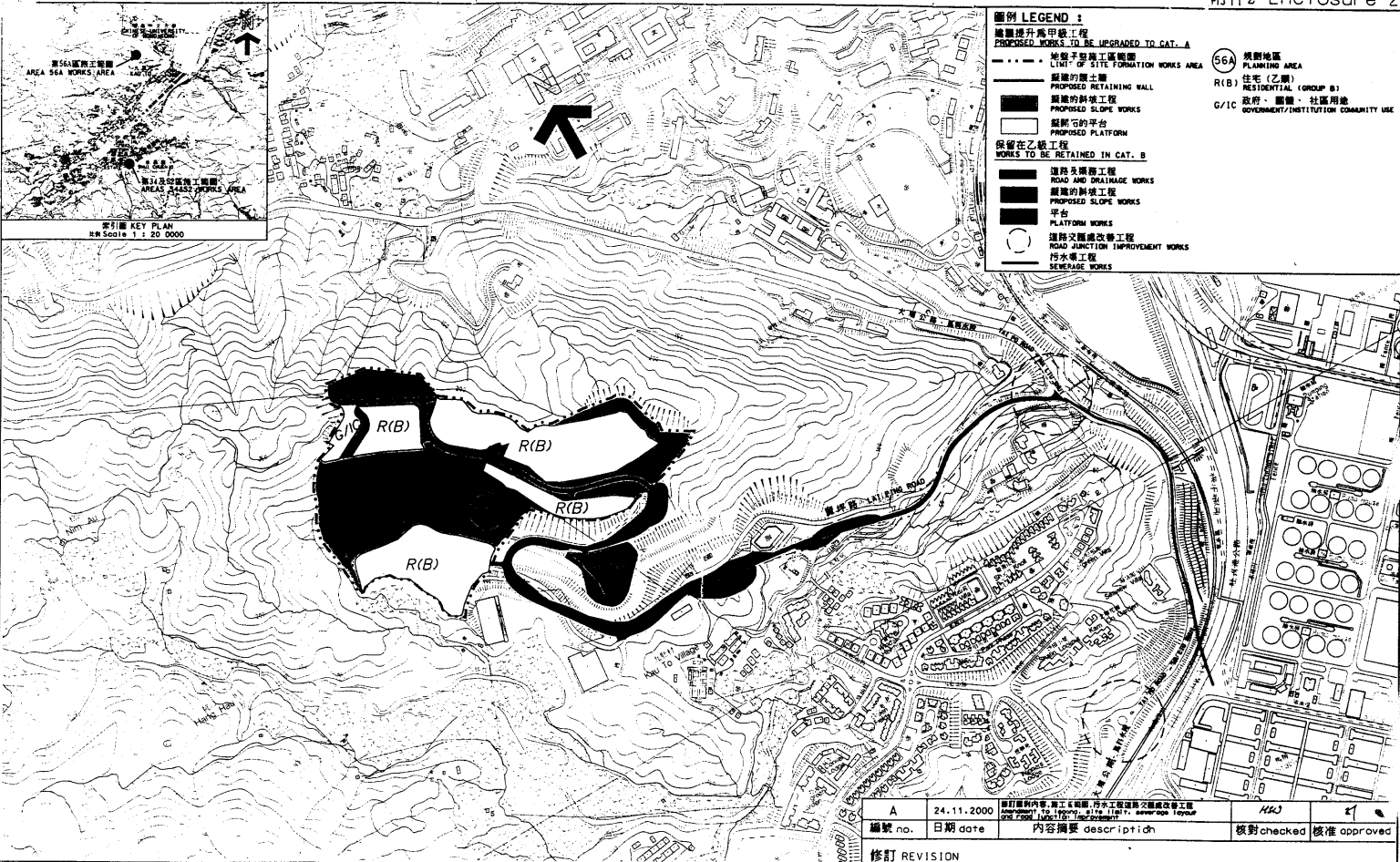
Planning and Lands Bureau
April 2001



A	24.11.2000	訂定圖則內容，工程範圍，污水渠工程及多石橋連動工程 Agreement to prepare site limit, sewerage layout and noise barrier	HWS	✓
編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved

二〇〇〇年至二〇〇一年年度工務小組委員會文件 P.W.S.C. SUBMISSION 2000-2001

圖則名稱 title 沙田新市鎮 - 餘下工程 (水泉澳第34及第52區土地平整工程) SHA TIN NEW TOWN - REMAINING ENGINEERING WORKS (SITE FORMATION AT AREAS 34 AND 52 IN SHUI CHUEN O)				項目編號 ITEM No. 177CL	
繪圖 drawn C. S. LAU	簽署 initial <i>CSL</i>	日期 date 30.8.2000	比例 scale 1 : 6 000	辦事處 office 新界東拓展處 NT EAST DEVELOPMENT OFFICE	
核對 checked H. S. WONG	簽署 initial HWS	日期 date 20.11.2000			
核准 approved TSUI WAI	簽署 initial <i>TW</i>	日期 date 21.11.2000	圖則編號 drawing no. ST1996A	拓展署 TERRITORY DEVELOPMENT DEPARTMENT	



A	24.11.2000	修訂圖則內容, 將工程範圍, 污水工程及道路工程改善工程 Amendment to 1997/98 site formation works layout and sewer layout	HRJ	✓
編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved

二〇〇〇年至二〇〇一年度工務小組委員會文件 P.W.S.C. SUBMISSION 2000-2001			項目編號 ITEM No.177CL
圖則名稱 title 沙田新市鎮 - 餘下工程 (九肚第56A區土地平整工程) SHA TIN NEW TOWN - REMAINING ENGINEERING WORKS (SITE FORMATION AT AREA 56A IN KAU TO)	繪圖 drawn	簽署 initial	日期 date
	M. K. LEE	UCL	30.8.2000
	核對 checked	簽署 initial	日期 date
	H. S. WONG	HRJ	20.11.2000
核准 approved	簽署 initial	日期 date	比例 scale
TSUI WAI	✓	21.11.2000	1 : 6 000
			圖則編號 drawing no.
			ST1997A
			辦事處 office 新界東拓展處 NT EAST DEVELOPMENT OFFICE
			拓展署 TERRITORY DEVELOPMENT DEPARTMENT

177CL – Sha Tin New Town – remaining engineering works

Breakdown of estimate for consultants' fees

Consultants' staff costs			Estimated man-months	Average MPS* salary point	Multiplier factor	Estimated fees (\$ million)
(a)	Consultants' fees for construction stage					
(i)	contract administration	Professional	27.0	38	2.4	3.7
		Technical	12.0	14	2.4	0.5
(ii)	preparation of as-built drawings	Professional	1.3	38	2.4	0.2
		Technical	4.0	14	2.4	0.2
(b)	Resident site staff costs	Professional	150.0	38	1.7	14.7
		Technical	610.0	14	1.7	19.8
Total consultants' staff costs						39.1

* 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 to the average MPS point in the case of resident site staff supplied by the consultants. (At 1.4.2000, MPS pt. 38 = \$57,525 p.m. and MPS pt. 14 = \$19,055 p.m.)
2. The figures given above are based on estimates prepared by the Director of Territory Development. The consultancy works for this project have been included as part of an existing consultancy agreement for the design and construction of Sha Tin New Town, Stage 2 development. We will only know the actual man-months and fees when we have appointed the resident site staff.