For discussion **PWSC(2003-04)21**
on 21 May 2003

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT
Education Subventions
30EC – Construction works for schools in the final phase of the School Improvement Programme

Members are invited to recommend to Finance Committee –

(a) the upgrading of part of **30EC**, entitled "Construction works for schools in the final phase of the School Improvement Programme (batch 6)", to Category A at an estimated cost of $141.6 million in money-of-the-day prices; and

(b) the retention of the remainder of **30EC** in Category B.

PROBLEM

Many of the existing public sector schools in Hong Kong were built to old planning standards which cannot meet the requirements arising from the changes in curriculum and teaching methods in recent years. These schools require additional space and facilities in order to meet the current standards.

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PROPOSAL

2. The Secretary for Education and Manpower, on the advice of the Director of Architectural Services (D Arch S), proposes to upgrade part of **30EC** to Category A at an estimated cost of $141.6 million in money-of-the-day (MOD) prices for improvement works to be carried out by the Architectural Services Department (Arch SD mode) for five aided schools (three secondary and two primary) in the final phase of the School Improvement Programme (SIP).

PROJECT SCOPE AND NATURE

3. We propose to upgrade facilities of schools in the final phase of the SIP to the year 2000 school design as far as practicable within a budget ceiling. As a general guide, the budget ceiling[1] for each school (inclusive of consultancy fees, furniture and equipment, and other related costs) is set at 42% of the average cost of construction of a new school of the same type and size, based on a consultancy review on the cost effectiveness of the SIP conducted in 2000. The budget ceiling for the schools covered in batch 6 of the SIP is within the 42% yardstick.

4. The full scope of works for schools[2] in the final phase of the SIP includes the following facilities –

(a) Core items

These are items required by statute or are essential to maintaining quality teaching and learning activities and should be fully covered in all the SIP projects as far as practicable. The core items include additional classrooms to meet various policy objectives, a computer-assisted learning (CAL) room, a language room, staff rooms, library (for primary schools) and, if necessary, a transformer room. A school which cannot include all core items will be classified as a special case for individual consideration.

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[1] The budget ceiling for the SIP purposes for a secondary school with 30 classrooms is $41.9 million while that for a primary school of 30 classrooms is $34.9 million.

[2] Facilities provided to special schools will follow the same principle as those for both secondary and primary schools. As the needs for special schools will vary depending on the nature of their respective services, we have consulted the special schools to agree on the facilities to be provided.

(b) Other items

Schools will be allowed to prioritise, within the budget ceiling for each school, their requirements for other items in the schedule of accommodation for the year 2000 school design, on top of the facilities mentioned in (a) above. These items can include additional classrooms, a preparation room for CAL, a multi-purpose room, small group teaching rooms, a student activity centre, a guidance activity room, interview rooms, a conference room, a staff common room, a deputy principal's office, a school social worker's office, a discipline master's office, and a multi-purpose area.

5. The scope of works for each of the five schools under batch 6 is shown at Enclosure 1. We plan to start construction works for batch 6 schools in late 2003. Works will be staggered over time for completion by mid-2006.

JUSTIFICATION

6. The SIP was one of the recommendations in the Education Commission Report No. 5. It involves some 850 existing schools. The proposed improvement works, when completed, will provide additional space and updated facilities to meet current requirements of teaching, out-of-class and supporting activities for both teachers and students.

7. Improvement works for 388 schools have already been completed with works in progress for another 116 schools, under phases 1 to 4 of the SIP. On 9 February 2001, Finance Committee gave approval under **28EC** for the engagement of consultants to carry out pre-construction works for the remaining 342 schools in the final phase of the SIP. Since February 2001, 91 schools have at the feasibility study stage been withdrawn from the programme; six schools were considered non-feasible for improvement works; three schools considered non-feasible in previous phases were reinstated in the final phase; and two schools were added to the final phase, making a total of 250 schools in this phase. Of these, improvement works for 199 schools have been put under the delivery mode of the Architectural Services Department under the Arch SD mode. The other 51 schools have chosen to carry out the pre-contract works and improvement works through their own agents, with government subventions, under the self-delivery mode.

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8. On 27 February, 3 April, 26 June, 13 November 2002 and 9 April 2003, this Subcommittee recommended the upgrading of parts of **30EC** to Category A so as to proceed with the first five batches of 189 schools in the final phase of the SIP under the Arch SD mode and 51 schools under the self-delivery mode. To date, improvement works for four schools have already been completed. The feasibility studies of the five schools under batch 6 have now been completed and improvement works for them are considered technically feasible. Detailed designs are in progress. We are now seeking funding to proceed with the improvement works for these five schools.

9. Feasibility studies for the remaining five schools under the Arch SD mode, among which four are late additions to the SIP final phase, are in progress. We expect to complete the majority of the feasibility studies for these cases by end-2003. We will seek funding for these remaining schools as and when the improvement works are confirmed to be technically feasible. Our target is still to complete the majority of improvement works under the SIP by the end of the school year 2004/05, with the completion date for a small number of technically difficult or late addition cases extending beyond the original target date.

FINANCIAL IMPLICATIONS

10. We estimate the capital cost for batch 6 schools to be $141.6 million in MOD prices (see paragraph 12 below), made up as follows –

		$ million
(a)	Site formation	5.8
(b)	Sub-structure	15.7
(c)	Building	56.5
(d)	Building services	34.6
(e)	Drainage and external works	6.1
(f)	Furniture and equipment[3]	6.1
(g)	Cabling and computer relocation	1.0

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[3] Based on the standard furniture and equipment to be provided for the additional rooms.

			$ million	
(h)	Consultants' fees for –		12.6	
	(i)	Contract administration	2.5	
	(ii)	Project management	1.9	
	(iii)	Site supervision	8.2	
(i)	Contingencies		13.8	
		Sub-total	152.2	(in September 2002 prices)
(j)	Provision for price adjustment		(10.6)	
		Total	141.6	(in MOD prices)

We consider the estimated project cost reasonable as compared with similar projects implemented under the previous phases of the SIP.

11. We propose to engage consultants to carry out contract administration, project management and site supervision for the schools under batch 6. A detailed breakdown of the estimate for consultants' fees by man-months is at Enclosure 2.

12. Subject to approval, we will phase the expenditure as follows –

Year	**$ million (Sept 2002)**	**Price adjustment factor**	**$ million (MOD)**
2003 – 04	4.2	0.94300	4.0
2004 – 05	42.5	0.93003	39.5
2005 – 06	69.5	0.93003	64.6
2006 – 07	27.5	0.93003	25.6
2007 – 08	8.5	0.93003	7.9
	152.2		141.6

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13. We have derived the MOD estimates on the basis of the Government's latest forecast of trend labour and construction prices for the period from 2003 to 2008. We will deliver the works with contract period of 21 months or less through fixed-price lump-sum contracts because we can clearly define the scope of works in advance, leaving little room for uncertainty. For works with a contract period of over 21 months, the contract will be subject to price fluctuation in line with current government practice.

14. We estimate the additional annual recurrent expenditure for batch 6 to be $1.9 million. These include staff costs of additional janitors, and costs of maintenance and electricity of additional lifts and rooms.

PUBLIC CONSULTATION

15. At a motion debate in May 2000, Legislative Council Members urged the Government to complete improvement works for all schools remaining in the SIP as soon as possible. At a workshop held by the then Education Department in August 2000, most of the major school sponsoring organisations welcomed the implementation of the final phase of the SIP and supported the proposal to give schools an option to appoint their own consultants and contractors to carry out the improvement works with government subventions.

ENVIRONMENTAL IMPLICATIONS

16. Improvement works for the schools in batch 6 will not cause any long-term adverse environmental impact. For those additional rooms in schools subject to adverse noise impact, window insulation and air-conditioning will be provided as recommended in the Noise Abatement Measure in school programme at an estimated cost of $1.2 million. We have included this amount as part of the building services cost in the project estimate.

17. During construction, we will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contracts. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.

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18. At the planning and design stages, we have considered measures to reduce the generation of construction and demolition (C&D) materials. We have introduced more prefabricated building elements into the school designs to reduce temporary formwork and construction waste. These include dry-wall partitioning and proprietary fittings and fixtures. Suitable excavated materials will be used for filling within the sites to minimise off-site disposal. In addition, we will require the contractors to use metal site hoardings and signboards so that these materials can be recycled or reused in other projects.

19. D Arch S will require the contractors to submit waste management plans (WMPs) for approval. The WMPs will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. D Arch S will ensure that the day-to-day operations on sites comply with the approved WMPs. D Arch S will control the disposal of public fill and C&D waste to designated public filling facilities and landfills respectively through a trip-ticket system. D Arch S will require the contractors to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes. We estimate that the proposed works will generate 4 508 cubic metres (m^3) of C&D materials. Of these, we will reuse about 902 m^3 (20%) on site, 2 930 m^3 (65%) as fill in public filling areas[4], and dispose of 676 m^3 (15%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be $84,500 (based on a notional cost[5] of $125/m^3$).

LAND ACQUISITION

20. The proposed works do not require land acquisition.

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[4] A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering.

[5] This estimate has taken into account the cost for developing, operating and restoring the landfill after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90/m^3$), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

BACKGROUND INFORMATION

21. A consultancy review on the cost-effectiveness of the SIP was completed in 2000. The review concluded that the SIP could be delivered cost-effectively. It recommended two guidelines for determining whether a school should be included in the SIP. Firstly, the cost of improvement works should not normally be more than 42% of the average construction cost of a new school of the same type and size. Secondly, the average construction cost per square metre for the additional net floor area (NFA) to be provided through the SIP should not be higher than a "trend line" as illustrated below –

Additional NFA provided	Cost per m^2 (at 2000 price level)
1 400 m^2	$30,000
1 000 m^2	$42,000
600 m^2	$52,000

If the SIP project estimate exceeds the 42% threshold or if the average cost per NFA is way above the "trend line", it will be necessary to bring down the project cost by adjusting the scope of works. In exceptional circumstances, we may exceed the threshold to take account of such considerations as land issues, age and condition of buildings, and educational factors.

22. We estimate that the proposed works under batch 6 will create some 160 jobs comprising 15 professional/technical staff and 145 labourers, totalling 3 150 man-months.

Education and Manpower Bureau
May 2003

Enclosure 1 to PWSC(2003-04)21

30EC – Construction works for schools in the final phase of the School Improvement Programme (batch 6)

(a) Improvement works to be provided to three aided secondary schools

	School names	Core items				Other items													Other Y2K facilities (no. of rooms)
		Classroom	Computer-assisted learning (CAL) room	Language room	Staff room	Additional classroom	Preparation room for CAL	Multi-purpose room	Small group teaching room	Student activity centre	Guidance activity room	Interview room	Conference room	Staff common room	Deputy principal's office	School social worker's office	Discipline master's office	Multi-purpose area	
1	Aberdeen Technical School	0	1	1	1	2	1	1	3	0	1	0	0	0	2	0	0	1	0
2	Rosaryhill School (Secondary Section)	0	1	1	1	0	1	1	3	1	0	0	1	1	0	0	0	1	1
3	St. Louis School	0	1	0	1	0	0	0	0	1	0	2	1	0	0	0	0	0	0

(b) Improvement works to be provided to two aided primary schools

	School names	Core items					Other items													Other Y2K facilities (no. of rooms)
		Classroom	Computer-assisted learning (CAL) room	Language room	Staff room	Library	Additional classroom	Preparation room for CAL	Multi-purpose room	Small group teaching room	Student activity centre	Guidance activity room	Interview room	Conference room	Staff common room	Deputy headmaster's office	Student guidance officer's room	Discipline master's office	Multi-purpose area	
1	Gold & Silver Exchange Society School	0	1	0	1	1	0	1	0	0	0	0	1	0	0	0	1	1	0	0
2	Sheng Kung Hui St. James' Primary School	0	1	1	1	0	0	1	1	1	1	1	1	0	1	1	0	1	0	3

30EC – Construction works for schools in the final phase of the School Improvement Programme (batch 6)

Breakdown of the estimate for consultants' fees

Consultants' staff costs		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a) Contract administration (Note 2)	Professional	–	–	–	1.8
	Technical	–	–	–	0.7
(b) Project management (Note 2)	Professional	–	–	–	1.9
(c) Site supervision (Note 3)	Professional	24.9	38	1.6	2.3
	Technical	192.1	14	1.6	5.9
				Total	12.6

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants. (At 1 October 2002, MPS point 38 is $57,730 per month and MPS point 14 is $19,195 per month.)

2. The consultants' staff costs for contract administration and project management are calculated in accordance with the existing consultancy agreements for the school improvement works of **28EC**. The assignment will only be executed subject to Finance Committee's approval to part upgrade **30EC** to Category A.

3. The consultants' staff cost for site supervision is based on the estimate prepared by the Director of Architectural Services. We will only know the actual man-months and actual costs after completion of the construction works.