For discussion **PWSC(2008-09)35**
on 18 June 2008

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS
Education – Secondary
267ES – Conversion of a primary school premises in Area 104, Tin Shui Wai to support reprovisioning of a secondary school

Members are invited to recommend to Finance Committee the upgrading of **267ES** to Category A at an estimated cost of $92.6 million in money-of-the-day prices for the conversion of a primary school premises in Area 104, Tin Shui Wai.

PROBLEM

Some schools are operating from premises which are under-provided by today's standards and should be reprovisioned when the opportunity arises.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Education, proposes to upgrade **267ES** to Category A at an estimated cost of $92.6 million in money-of-the-day (MOD) prices for the conversion of a primary school premises in Area 104, Tin Shui Wai into a secondary school premises, so as to support the reprovisioning of an existing direct subsidy scheme secondary school (the School) which originally operated in substandard premises in Yuen Long District.

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PROJECT SCOPE AND NATURE

3. The proposed scope of works under **267ES** includes –

(a) construction of a seven-storey new extension block to accommodate the following –

(i) five laboratories including a chemistry laboratory, a biology laboratory, a physics laboratory and two integrated science laboratories;

(ii) five special rooms including a computer room, a visual art room, a design and technology workshop, a needlework room and a home management room;

(iii) a library;

(iv) a basketball court on the roof; and

(v) ancillary accommodation, including a lift and relevant facilities for the handicapped.

(b) conversion works in existing school building to provide three special rooms including a multi-purpose room, a language room and a geography room; a guidance activity room, a career master office, a social worker's office and a staff room; and

(c) re-arrangement of car parking facilities and other associated external works.

The school premises, upon completion of the above proposed works, will have all the facilities provided for a standard 30-classroom secondary school and will meet the planning target of providing two square metres (m^2) of open space per student. A site plan is at Enclosure 1 and views of the school premises (artist's impression) are at Enclosure 2. We plan to start works in November 2008 for completion in June 2010.

JUSTIFICATION

4. The 30-classroom primary school premises in Area 104, Tin Shui Wai was completed in August 2006. It was originally allocated to a bi-sessional

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primary school for whole-day conversion. Due to the decline in student population, the primary school subsequently confirmed that its half-day sessions could turn to whole-day operation without requiring additional classrooms and therefore agreed to give up the newly completed premises for re-allocation by the Government. Noting that there was no apparent demand for additional primary schools in Yuen Long or for reprovisioning existing primary schools in the district, we informed the Finance Committee of the Legislative Council in September 2006, via an information note FCRI(2006-07)10, our proposal to use the premises, after necessary supplementary works, for reprovisioning an existing secondary school housed in substandard premises. It is Government's plan to improve the physical conditions of existing school premises to current standards through reprovisioning and redevelopment where warranted.

5. The School was previously operating from rented premises which were not tailor-made for school operation and most of the essential facilities were far below the current standard. As it takes some time to convert the primary school premises into a full secondary school premises, in order to put the new premises into gainful uses in the interim, we agreed that the School should move in and benefit from improved facilities as soon as possible. Accordingly, the School has been reprovisioned to the new premises since December 2006. We have however made it clear to the School that its early occupation of the premises would not pre-empt the funding approval for the supplementary works required.

6. **267ES** will provide 30 classrooms and other facilities for a standard secondary school operating 30 classes. The School is operating 27 classes in the 2007/08 school year. Like all other DSS schools, the School is recruiting students from all over the territory and so its operation will only have a marginal impact on the supply and demand balance of public sector school places in Yuen Long district. In any case, it has been operating in the Yuen Long district for many years.

FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the project to be $92.6 million in MOD prices (see paragraph 8 below), made up as follows –

/(a) .....

		$ million	
(a)	Piling	16.5	
(b)	Building	30.8	
(c)	Building services	9.0	
(d)	Drainage	1.2	
(e)	External works	7.7	
(f)	Conversion works	5.3	
(g)	Additional energy conservation measures	0.7	
(h)	Consultants' fees for –	5.7	
	(i) Contract administration		
	(ii) Site supervision		
(i)	Contingencies	7.1	
	Sub-total	84.0	(in September 2007 prices)
(j)	Provision for price adjustment	8.6	
	Total	92.6	(in MOD prices)

We propose to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees by man-months is at Enclosure 3. The construction floor area (CFA) of the new extension block of **267ES** is 3 630 m^2. The estimated construction unit cost, represented by the building and the building services costs, is $10,964 per m^2 of CFA in September 2007 prices. We consider this comparable to similar school projects built by the Government.

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

Year	$ million (Sept 2007)	Price adjustment factor	$ million (MOD)
2008 – 09	8.0	1.02575	8.2
2009 – 10	24.0	1.06293	25.5
2010 – 11	30.0	1.10545	33.2
2011 – 12	14.0	1.14967	16.1
2012 – 13	8.0	1.19566	9.6
	84.0		92.6

9. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2008 to 2013. We will deliver the construction works through lump sum contract because we can clearly define the scope of the works in advance. The contract will not provide for price adjustment because the contract period will not exceed 21 months.

10. In line with the existing policy, the cost for furniture and equipment of the school will be borne by the school sponsoring body.

11. Assuming that the School will operate 30 classes upon completion of **267ES** in 2010, the additional annual recurrent expenditure is estimated to be $6.1 million.

PUBLIC CONSULTATION

12. We consulted the Yuen Long District Council on the use of the primary school premises in Area 104, Tin Shui Wai, on 19 July 2006. Members of the Council supported the proposal to convert the premises for supporting the reprovisioning of an existing secondary school housed in substandard facilities.

13. We consulted the Legislative Council Panel on Education on 24 October 2005 on our review of the School Building Programme. Members noted our plan to proceed with reprovisioning and redevelopment projects to upgrade substandard facilities in existing schools. **267ES** is a conversion project to provide a secondary school premises for reprovisioning purposes.

ENVIRONMENTAL IMPLICATIONS

14. We engaged a consultant to conduct a Preliminary Environmental Review (PER) for **267ES** in February 2008. The PER stated that the new extension block of the school will not be subject to adverse environmental impacts because road traffic noise impact on the proposed extension block is within the limits stipulated in the Hong Kong Planning Standards and Guidelines. Noise mitigation measures would not be required for the new extension block.

15. 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 contract. These include the use of silencers, mufflers, acoustic lining or shields and the building of barrier wall for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.

16. We have considered measures in the planning and design stages to reduce the generation of construction waste where possible (e.g. using metal site hoardings and signboards so that these materials can be recycled or reused in other projects). In addition, we will require the contractor to reuse inert

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construction waste (e.g. use of excavated materials for filling within the site) on site or in other suitable construction sites as far as possible, in order to minimize the disposal of inert construction waste to public fill reception facilities[1]. We will encourage the contractor to maximize the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimize the generation of construction waste.

17. We will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively through a trip-ticket system.

18. We estimate that the project will generate in total about 4 100 tonnes of construction waste. Of these, we will reuse about 1 100 tonnes (26.8%) of inert construction waste on site and deliver 2 500 tonnes (61.0%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 500 tonnes (12.2%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be $130,000 for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[2] at landfills).

ENERGY CONSERVATION MEASURES

19. This project has adopted various forms of energy efficient features including –

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[1] Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

[2] This estimate has taken into account the cost for developing, operating and restoring the landfills 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.

(a) T5 energy efficient fluorescent tubes with electronic ballast and lighting control by daylight sensor and occupancy sensor;

(b) heat recovery fresh air pre-conditioners in the air-conditioned rooms;

(c) automatic on/off switching of lighting and ventilation fan inside the lift; and

(d) light-emitting diode (LED) type exit signs.

20. For renewable energy technologies, we will install photovoltaic panels to provide renewable energy for environmental benefits.

21. The total estimated additional cost for adoption of the above features is around $700,000, which has been included in the cost estimate for this project. There will be about 9% energy savings in the annual energy consumption.

HERITAGE IMPLICATIONS

22. This project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

23. The project does not require any land acquisition.

BACKGROUND INFORMATION

24. We upgraded **267ES** to Category B in February 2007. We engaged an architectural consultant in September 2007 to undertake the detailed design, site investigation and PER. We engaged a quantity surveying consultant in October 2007 to prepare tender documents. The total cost of the above consultancy services and works is about $2.3 million. We have charged this

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amount to block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The architectural consultant has completed detailed design, site investigation and PER. The quantity surveying consultant is finalising the tender documents.

25. The proposed work will involve replanting of 11 trees within the project site. All trees to be replanted are not important trees[3]. We will incorporate planting proposals as part of the project, including estimated quantities of seven trees and 2 000 shrubs.

26. We estimate that the proposed works will create about 109 jobs (94 for labourers and another 15 for professional/technical staff) providing a total employment of 1 750 man-months.

Education Bureau
June 2008

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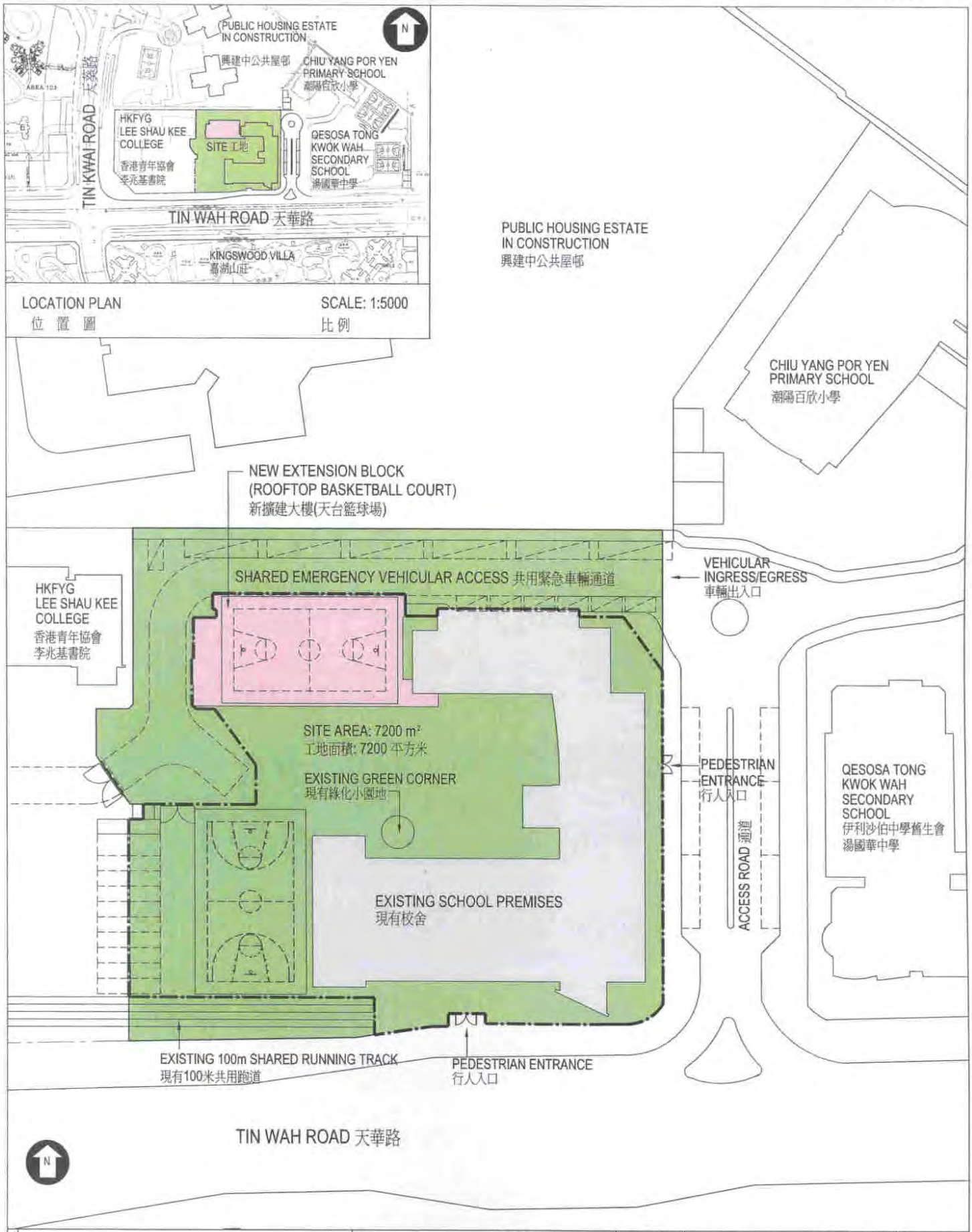
[3] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;
(c) trees of precious or rare species;
(d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.



title 267 ES 改建天水圍第104區1所小學校舍以重置1所中學 CONVERSION OF A PRIMARY SCHOOL PREMISES IN AREA 104, TIN SHUI WAI TO SUPPORT REPROVISIONING OF A SECONDARY SCHOOL	drawn by 繪圖 CHRISTINE H.K. YUEH	date日期 03.06.2008	drawing no. 圖號 AB/7190/XA 001	scale比例 1:800
	approved 批核 TAIN KIRKWOOD	date日期 03.06.2008		
	office 辦事處 ARCHITECTURAL BRANCH 建築設計處		ARCHITECTURAL SERVICES DEPARTMENT 建築署	

從西南面望向校舍的構思圖
VIEW OF THE SCHOOL PREMISES FROM SOUTH-WESTERN DIRECTION (ARTIST'S IMPRESSION)

從西北面望向校舍的構思圖
VIEW OF THE SCHOOL PREMISES FROM NORTH-WESTERN DIRECTION (ARTIST'S IMPRESSION)

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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	–	–	–	1.1
		Technical	–	–	–	0.4
(b)	Site supervision (Note 3)	Professional	15.4	38	1.6	1.4
		Technical	92.9	14	1.6	2.8
					Total	5.7

* 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. (As at 1 April 2007, MPS point 38 = $56,945 per month and MPS point 14 = $18,840 per month.)

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **267ES**. The assignment will only be executed subject to Finance Committee's approval to upgrade **267ES** 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.