**For discussion** **PWSC(2006-07)41**
**on 25 October 2006**

# ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

**HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT**
**Education Subventions**
**85EB – Extension to Fanling Lutheran Secondary School at Jockey Club Road, Fanling**

Members are invited to recommend to Finance Committee the upgrading of **85EB** to Category A at an estimated cost of $81.2 million in money-of-the-day prices for construction of an extension to Fanling Lutheran Secondary School at Jockey Club Road, Fanling.

## PROBLEM

The facilities at the existing premises of Fanling Lutheran Secondary School (the School) are far below the standard of a secondary school of current design.

## PROPOSAL

2. The Secretary for Education and Manpower (SEM), on the advice of the Director of Architectural Services (D Arch S), proposes to upgrade **85EB** to Category A at an estimated cost of $81.2 million in money-of-the-day (MOD) prices for the construction of a new school block and an assembly hall as an extension to the existing Fanling Lutheran Secondary School.

## PROJECT SCOPE AND NATURE

3. The scope of works for **85EB** comprises –

/(a).....

(a) slope stabilisation[1] and demolition of two single storey buildings, steel covered walkway and steel shelter at the existing school premises; and

(b) construction of a six-storey new classroom block and an assembly hall block of 7 960 square metres ($m^2$) in construction floor area (CFA) on the cleared site as extension to the existing school premises to accommodate the following –

(I) new facilities

(i) seven classrooms;

(ii) five special rooms including a computer-assisted learning room;

(iii) a conference room;

(iv) a staff common room;

(v) a guidance activity room;

(vi) a student activity centre;

(vii) ancillary accommodation including a firemen's lift and relevant facilities for the handicapped; and

(II) facilities relocated from existing buildings

(i) six special rooms including a language room;

(ii) a staff room;

(iii) an assembly hall; and

(iv) a library.

The project will meet the planning target of providing two square metres of open space per student. A site plan is at Enclosure 1 and views of the school model are at Enclosure 2. The school sponsor plans to start the demolition works in January 2007 and the construction works in April 2007 for completion of the project in December 2008.

**/JUSTIFICATION .....**

[1] Slope stabilisation is required as construction works would affect the safety of the adjacent church.

## JUSTIFICATION

4. The two buildings at the existing school premises, which were constructed in 1964 and 1975 respectively, comprise the following facilities –

(a) 23 classrooms;

(b) two remedial teaching rooms;

(c) nine special rooms including a music room, an art & design room, a geography room, a computer room, a biology laboratory, a physics laboratory, a chemistry laboratory, an integrated sciences laboratory and a language room;

(d) five staff rooms;

(e) a multi-purpose area;

(f) a library;

(g) an assembly hall; and

(h) two basketball courts.

5. The existing school accommodation and facilities do not meet the prevailing standard design for a public sector secondary school. For example, the areas of the existing library and assembly hall are 35% and 69% below the standard provisions respectively and there is not enough space for the operation of special rooms (like design & technology room, home management room, needlework room, etc.). Facilities like student activity centre and covered playground are lacking. To provide relief, the School has now housed some of its facilities[2] in an adjacent building block which belongs to the Evangelical Lutheran Church of Hong Kong. Since this building block has to be returned to the Church, it cannot be taken as a solution to the problem of under-provision.

/6. .....

[2] A staff room, two remedial teaching rooms, an art and design room, a geography room, a computer room, a language room and a library are now located at Gloria House, a building which belongs to Evangelical Lutheran Church of Hong Kong. The building would be returned upon the completion of the project.

6. In line with our established policy for Direct Subsidy Scheme schools[3], we propose to improve the environment and facilities of the school to the latest standard design and schedule of accommodation for a secondary school as far as practicable. In determining the scope of the project, we have also taken into account the additional space requirements if the School is to offer a symmetrical class structure enabling students to complete six years of secondary education in the same school under the New Secondary Structure. Specifically, the School's nominal class structure is expected to change from the current total of 29 classes (an asymmetrcal class structure of 55555 22 from secondary 1 to secondary 7) to a total of 30 classes (a symmetrical class structure of 555 555 from secondary 1 to secondary 6) in future. Upon completion, the facilities of the School will be comparable to the prevailing standards of a 30-class secondary school.

7. The school sponsoring body plans to spend $19.8 million on providing above-standard facilities including a larger school hall and installation of air-conditioning facilities. We consider that these improvement measures will contribute to the effectiveness of teaching and learning.

8. During construction, metal temporary hoardings will be erected around the construction site for the new blocks so as not to affect the teaching and learning activities within the existing school premises.

## FINANCIAL IMPLICATIONS

9. The school sponsor estimates the capital cost of the project to be $81.2 million in MOD prices (see paragraph 10 below). We have examined and endorsed the cost estimate, made up as follows –

| | | **$ million** |
|---|---|---|
| (a) | Demolition | 1.5 |
| (b) | Site formation | 7.7 |
| (c) | Foundations | 6.2 |
| (d) | Building | 35.4 |

**/$ million .....**

[3] Under the existing policy, the Government may offer, upon application, a one-off cash grant to schools under the Direct Subsidy Scheme to upgrade their facilities up to the prevailing standards for aided schools.

| | | | **$ million** | |
|---|---|---|---|---|
| (e) | Building services | | 10.7 | |
| (f) | Drainage | | 2.5 | |
| (g) | External works | | 6.1 | |
| (h) | Consultant's fees for – | | 2.5 | |
| | (i) Contract administration | 1.0 | | |
| | (ii) Site supervision | 1.2 | | |
| | (iii) Out-of-pocket expenses | 0.3 | | |
| (i) | Contingencies | | 7.0 | |
| | Sub-total | | 79.6 | (in September 2006 prices) |
| (j) | Provisions for price adjustment | | 1.6 | |
| | Total | | 81.2 | (in MOD prices) |

The school sponsor proposes 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 CFA in the new blocks is about 7 960 $m^2$. The estimated construction unit cost, represented by the building and building services costs of the new blocks, is $5,791 per $m^2$ of CFA in September 2006 prices. We consider this comparable to those of similar school projects built by the Government.

10. Subject to approval, the school sponsor will phase the expenditure as follows –

| **Year** | **$million (Sept 2006)** | **Price adjustment factor** | **$ million (MOD)** |
|---|---|---|---|
| 2007 – 08 | 35.3 | 1.01250 | 35.7 |
| 2008 – 09 | 44.3 | 1.02769 | 45.5 |
| | 79.6 | | 81.2 |

/11. .....

11. We have derived the MOD estimate 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 2006 to 2010. The school sponsor will deliver the demolition works and construction works through two separate fixed-price lump-sum contracts for the demolition and construction works respectively because the school sponsor can clearly define the scope of works in advance. The contract periods for the demolition and construction works will be not exceed three months and 21 months respectively.

12. At present, the annual recurrent expenditure of the school operating 29 classes is about $38.6 million. The estimated recurrent cost of the school when operating 30 classes will be about $40.2 million. The cost of furniture and equipment will be borne by the school sponsor. This arrangement is in line with the existing policy.

## PUBLIC CONSULTATION

13. We have worked out the proposed additional facilities in consultation with the school sponsor. Parents of the students also support the proposed extension of the School. Since the extension works will be carried out within the existing school boundary, we consider further public consultation not necessary.

14. We circulated an information note on this project to the LegCo Panel on Education on 12 October 2006. Members did not raise objection to the proposal.

## ENVIRONMENTAL IMPLICATIONS

15. The school sponsor completed the Preliminary Environmental Review (PER) for **85EB** in April 2006. The PER recommended the installation of insulated windows and air-conditioning for rooms exposed to traffic noise exceeding the limits recommended in the Hong Kong Planning Standards and Guidelines. We will provide insulated windows and air-conditioning for a special room on 3/F at the north-eastern façade of the classroom block at an estimated cost of $250,000 (in September 2006 prices). The school sponsor has included the cost of this mitigation measure as part of the building services works in the project estimate.

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16. During construction, the school sponsor will control noise, dust and site run-off nuisances to within established standard 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 sites, and the provision of wheel-washing facilities.

17. At the planning and design stages, the school sponsor has considered measures to reduce the generation of construction and demolition (C&D) materials where possible. The school sponsor will require its contractors to reuse inert C&D materials (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimize the disposal of C&D materials to public fill reception facilities[4]. The school sponsor will encourage its contractors to maximize the use of recycled or recyclable C&D materials, such as metal site hoardings and signboards, as well as the use of non-timber formwork to further minimize the generation of construction waste. Besides, the school sponsor has introduced more prefabricated building elements into the school design to reduce temporary formwork and construction waste. These include dry-wall partitioning and proprietary fittings and fixtures.

18. The school sponsor 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. It will ensure that the day-to-day operations on site comply with the approved WMPs. It will control the disposal of public fill, C&D materials and C&D waste to public fill reception facilities, sorting facilities[4] and landfills respectively through a trip-ticket system. It will require the contractors to separate public fill from C&D waste for disposal at appropriate facilities. It will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

19. The school sponsor estimates that the project will generate about 25 833 tonnes of C&D materials. Of these, it will reuse about 9 480 tonnes (36.7%) on site, deliver 12 324 tonnes (47.7%) to public fill reception facilities for subsequent reuse, and 2 370 tonnes (9.2%) to sorting facilities in order to retrieve the inert portion for reuse as public fill. In addition, it will dispose of 1,659 tonnes (6.4%) at landfills. The total cost for accommodating C&D

/materials .....

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[4] Sorting facilities and public fill reception facilities are specified in Schedule 3 and Schedule 4 respectively of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of public fill in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

materials at public fill reception facilities and landfill sites, together with the cost for handling the materials at sorting facilities is estimated to be $777,123 for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities, $100/tonne at sorting facilities and $125/tonne[5] at landfills).

## LAND ACQUISITION

20. The project does not require land acquisition.

## BACKGROUND INFORMATION

21. We upgraded **85EB** to Category B in October 2003. The school sponsor engaged consultants to carry out the detailed design and tender documentation in January 2005, topographical survey in February 2005 and ground investigation work in April 2005 for the project. We will charge the Government's contribution of $2.5 million to block allocation **Subhead 8100QX** "Alterations, additions, repairs and improvements to education subvented buildings". The consultants have completed these services except for the tender documents which are being finalised.

22. The proposed construction works will involve the felling of three existing trees. All trees to be removed are not important trees[6]. The school sponsor will incorporate a planting proposal, including an estimated quantity of 13 trees, as part of the contract.

/23. .....

[5] 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.

[6] "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 over 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons 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 25m.

23. We estimate that the proposed works will create about 90 jobs (81 for labourers and another nine for professional/technical staff) providing a total employment of 1 450 man-months.

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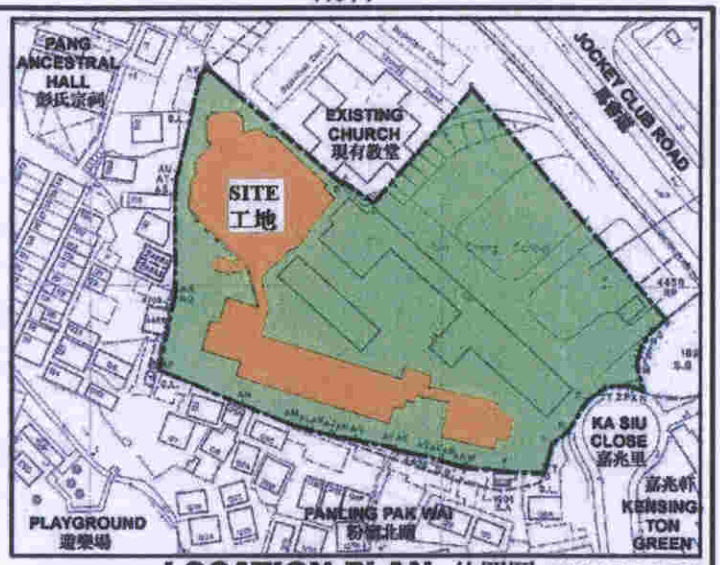
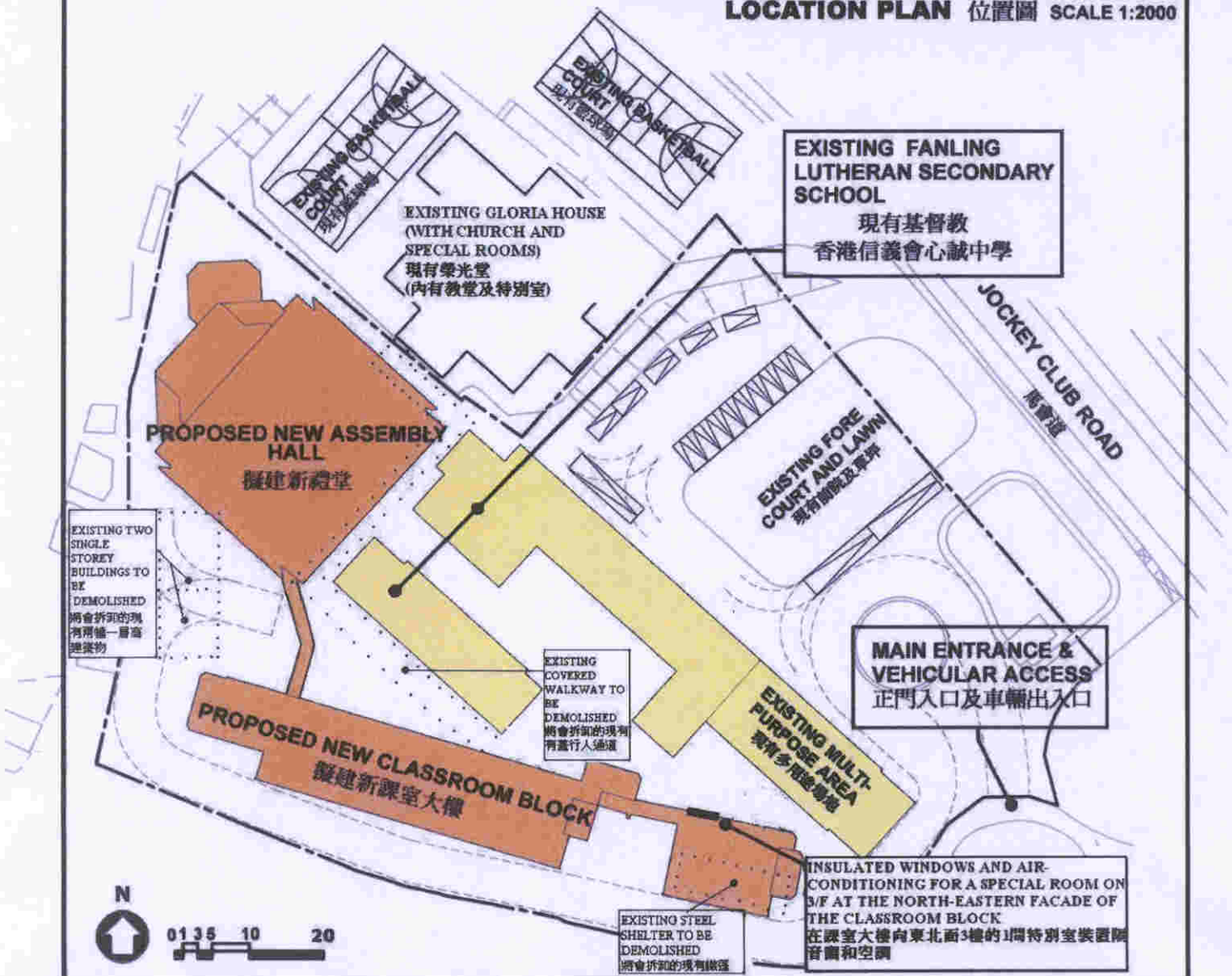
Education and Manpower Bureau
October 2006

附件1 **ENCLOSURE 1**

SITE AREA : 10 466 m²
工地面積 : 10 466 平方米

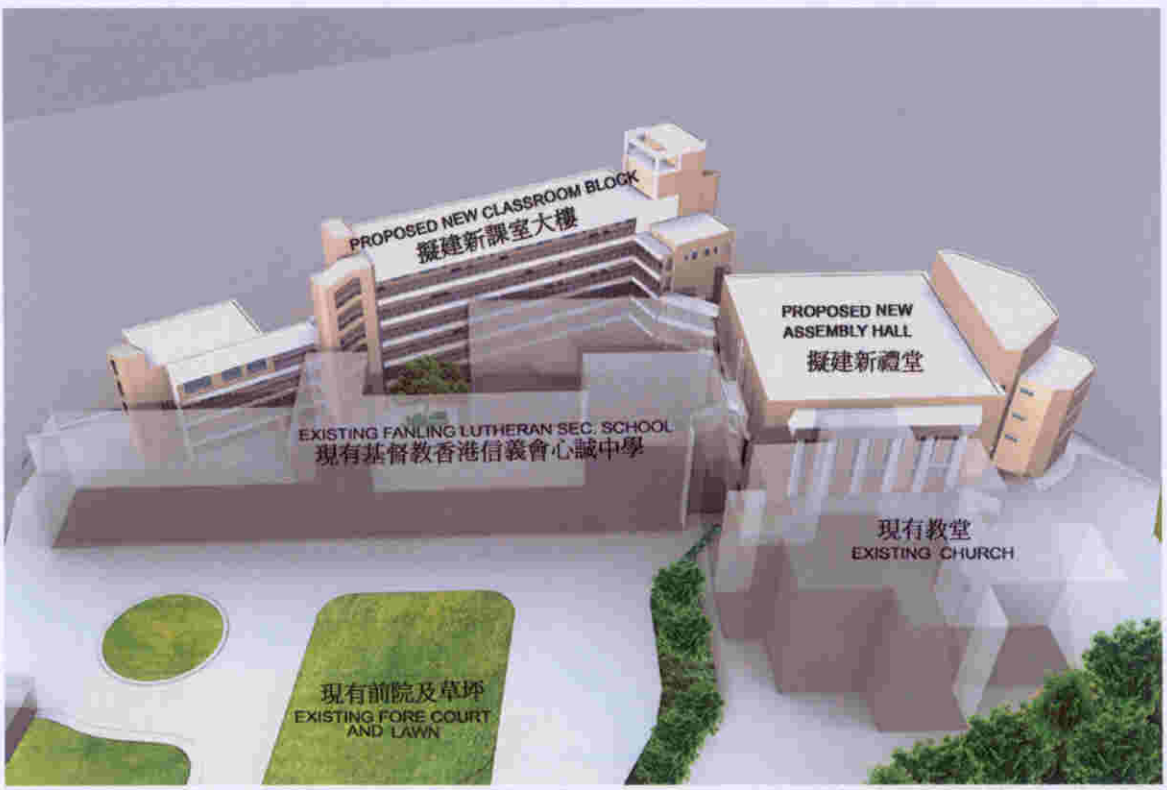



**LOCATION PLAN** 位置圖 SCALE 1:2000




**85EB - EXTENSION TO FANLING LUTHERAN SECONDARY SCHOOL AT JOCKEY CLUB ROAD, FANLING**
**粉嶺馬會道基督教香港信義會心誠中學擴建計劃**

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




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

**85EB - EXTENSION TO FANLING LUTHERAN SECONDARY SCHOOL AT JOCKEY CLUB ROAD, FANLING**
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## Breakdown of the estimate for consultants' fees

| | | Estimated man-months | Average MPS* salary point | Multiplier (Note 1) | Estimated fee ($ million) |
|---|---|---|---|---|---|
| (a) Consultants' staff cost | | | | | |
| (i) Contract administration (Note 2) | Professional | – | – | – | 1.0 |
| | Technical | – | – | – | |
| (ii) Site supervision (Note 3) | Technical | 42 | 14 | 1.6 | 1.2 |
| | | | | Sub-total | 2.2 |
| (b) Out-of-pocket expenses (Note 4) | | | | | |
| Lithography and other direct expenses | | | | | 0.3 |
| | | | | Sub-total | 0.3 |
| | | | | Total | 2.5 |

* 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 January 2006, MPS point 14 = $18,010 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 **85EB**. The assignment will only be executed subject to Finance Committee's approval to upgrade **85EB** to Category A.

**3.** We will only know the actual man-months and actual costs for site supervision after completion of the works.

**4.** Out-of-pocket expenses are the actual costs incurred. The consultants are not entitled to any additional payment for overheads or profit in respect of these items.