For discussion **PWSC(2014-15)29**
on 2 July 2014

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT
Education Subventions
93EB – Construction of an Annex to Baptist Lui Ming Choi Secondary School, Shatin, New Territories

Members are invited to recommend to the Finance Committee the upgrading of **93EB** to Category A at an estimated cost of $146.9 million in money-of-the-day prices.

PROBLEM

We need to improve the existing premises of the Baptist Lui Ming Choi Secondary School (the School) to meet the current operational requirements and for the implementation of the New Senior Secondary (NSS) curriculum under the New Academic Structure.

PROPOSAL

2. The Secretary for Education, proposes to upgrade **93EB** to Category A at an estimated cost of $146.9 million in money-of-the-day (MOD) prices including a contribution of $1.8 million in MOD prices (or $1.5 million in September 2013 prices) from the school sponsor, for construction of an annex to the School.

/PROJECT …..

PROJECT SCOPE AND NATURE

3. The proposed scope of works under the project includes –

(a) demolition of a store room and a caretaker's quarters located at the end of the existing open car park of the School;

(b) construction of a five-and-a-half storey new annex at the existing open car park to provide the following facilities[1] –

new facilities –

(i) five additional classrooms;

(ii) a language room;

(iii) a conference room;

(iv) a multi-purpose area;

(v) a roof playground;

(vi) a staff room;

(vii) a green roof; and

(viii) other ancillary facilities including store rooms and toilets;

reprovisioned facilities –

(ix) a store room;

(x) a guard booth;

(xi) a caretaker's quarter;

/(xii) …..

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[1] These facilities include standard facilities to be funded by Government subvention and the above-standard facilities requested and funded by the school sponsor. The above-standard provisions consist of (a) construction of the additional storey in the double-storey multi-purpose area; (b) the above-standard building services items requested by the School; and (c) consultants' fees in association with (a) & (b).

(xii) five accessible toilets;

(xiii) three classrooms; and

(xiv) a staff room; and

(c) provision of three small group teaching rooms and a guidance activity room through converting the existing three classrooms and a staff room. These classrooms and staff room will be reprovisioned to the new annex as mentioned in paragraph 3(b)(xiii and xiv) above.

4. The School will maintain the planning target of providing two square metres (m^2) of open space per student after the construction of the new annex. A site plan, floor plans, artist's impressions and a barrier-free access plan for the project are at Enclosures 1 to 8. Subject to funding approval, the project will be carried out in two phases. Phase one involves the construction of the new annex. We plan to commence the construction works for Phase one in December 2014 for completion in March 2017. After handover of the new annex to the School, Phase two involving the conversion works mentioned in paragraph 3(c) above will commence in April 2017 for completion in September 2017. During the construction period for the new annex, the School will continue using the three classrooms and the staff room mentioned in paragraph 3(c) above until the completion of the new annex.

JUSTIFICATION

5. The existing school premises was built in 1978 and has only 25 classrooms. The School is currently operating 30 classes. Hence, the School needs to operate five floating classes and use special rooms such as music room, art and design room, hall and laboratories as classrooms. Other than classrooms, the School also lacks certain facilities such as language room, guidance activity room, multi-purpose area and small group teaching rooms. Staff rooms are also seriously undersized. With changes in curriculum and pedagogy in recent years, including the implementation of the NSS curriculum under the New Academic Structure since the 2009/10 school year, there is a drastic increase in grouping and split classes for senior secondary students and greater demand for classrooms and special rooms. Upon completion of the new annex and the conversion works in the existing school building, the School will have sufficient number of classrooms and facilities. The teaching and learning environment for teachers and students will be enhanced to meet the requirements for implementation of the NSS curriculum.

/6. …..

6. The design of the new annex has taken into account a number of considerations, including the surrounding environment, site constraints and learning and teaching needs of the School. We have also made reference to the prevailing standard design of a 30-classroom public sector secondary school except for the additional storey in the double-storey multi-purpose area and some building services items, which are above-standard items to be funded by the school sponsor.

7. In order to enhance circulation and connection between the new annex and the existing school building, conversion works will be carried out at the area connecting the new annex and the existing school building on the first to fifth floors. Three classrooms and a staff room as mentioned in paragraph 3(c), as well as five existing toilets for persons with a disability will be relocated to the new annex to provide space for circulation areas and the construction of three small group teaching rooms and a guidance activity room. The existing guard booth on the ground floor will also be relocated near to the school entrance.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the project to be $146.9 million in MOD prices (please see paragraph 13 below), broken down as follows –

		$ million
(a)	Demolition	2.3
(b)	Piling	26.9
(c)	Building	48.4
(d)	Building services	10.9
(e)	Drainage	1.9
(f)	External works	6.4
(g)	Additional energy conservation measures	0.4
(h)	Conversion works at the areas connecting the new annex and the existing building	4.5

/(i) …..

			$ million	
(i)	Furniture and equipment[2]		0.7	
(j)	Consultants' fee for		2.4	
	(i) contract administration	2.1		
	(ii) management of resident site staff (RSS)	0.3		
(k)	Remuneration of resident site staff		4.3	
(l)	Contingencies		10.9	
	Sub-total		120.0	(in September 2013 prices)
(m)	Provision for price adjustment		26.9	
	Total		146.9	(in MOD prices)

9. We propose to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees and resident site staff costs by man-months is at Enclosure 9. The construction floor area (CFA) of the new annex is about 3 372 m^2. The estimated construction unit cost, represented by the building and building services costs, is $17,586 per m^2 of CFA in September 2013 prices. We consider this unit cost comparable to similar school projects undertaken by the Government.

10. The school sponsor will bear the cost of $1.8 million in MOD prices (or $1.5 million in September 2013 prices) for construction of an additional storey in the double-storey multi-purpose area and provision of some above-standard building services items. The total project cost after incorporating the contribution of the school sponsor is $146.9 million in MOD prices. The school sponsor's contribution is expected to be spent in 2016-17 financial year which has been included in the cash flow expenditure in paragraph 12.

/11. …..

[2] The estimated cost of furniture and equipment is based on the standard furniture and equipment list prepared by the Education Bureau for a new standard 30-classroom secondary school with suitable downward adjustment made having regard to the project scope in paragraph 3. The actual cost will be determined based on a survey on the serviceability of the existing furniture and equipment which can be re-used as far as practicable. The cost of furniture and equipment, estimated to be $0.7 million, will be borne by the Government according to the existing policy.

11. The amount of school sponsor's contribution is calculated based on the extra cost incurred by the construction of an additional storey[3] in the double-storey multi-purpose area and additional above-standard building services items[4] requested by the School. The school sponsor will be responsible for any additional funding requirements for these above-standard facilities, no matter they are due to higher-than-expected tender outturn or other variations. Further, cost savings on this project, if any, will not affect the school sponsor's commitment to contribute the full sum of $1.8 million in MOD prices. In other words, the Government will retain all savings arising from lower-than-expected tender outturn. The school sponsor will under no circumstances be entitled to claim, reimbursement or compensation of any kind from the Government.

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

Year	$ million (Sept 2013)	Price adjustment factor	$ million (MOD)
2014 – 15	1.5	1.05450	1.6
2015 – 16	24.0	1.11777	26.8
2016 – 17[5]	45.0	1.18484	53.3
2017 – 18	21.0	1.25593	26.4
2018 – 19	16.0	1.33128	21.3
2019 – 20	12.5	1.40117	17.5
	120.0		146.9

/13. …..

[3] The associated additional building and building services works include additional structural works, formwork, window wall system, finishes works, fittings and building services installations such as conduits and light fittings.

[4] The above-standard building services items requested by the School includes extra light fittings, socket outlets, trunkings, conduits and power points.

[5] The school sponsor's contribution of $1.5 million (in September 2013 prices) or $1.8 million (in MOD prices) have been included in 2016-17 expenditure.

13. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2014 to 2020. We will deliver the demolition works and the two phases of the project through a lump-sum contract because we can clearly define the scope of the works in advance. The contract will provide for price adjustments.

14. The cost of furniture and equipment for the project, estimated to be $0.7 million, will be borne by the Government according to the existing policy. We estimate the additional annual recurrent expenditure arising from the project to be $0.8 million.

PUBLIC CONSULTATION

15. We consulted the Education and Welfare Committee of Shatin District Council on the project on 3 January 2014. Members generally expressed their support for the project.

16. We consulted the Legislative Council Panel on Education on the project on 12 May 2014. Members supported the project.

ENVIRONMENTAL IMPLICATIONS

17. The proposed project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We engaged a consultant to complete the Preliminary Environmental Review (PER) for the project following the Class Assessment Document for Standard School (CAD) in October 2013 to meet with the requirement of the Environmental Protection Department. The PER recommended implementation of the following mitigation measures –

(a) insulated windows for conference room on 1/F and Staff Room 1 & 2 on 3/F at the façade facing Yuen Wo Road; and

(b) insulated windows and air conditioning for eight classrooms from 3/F to 4/F and Language Room at 5/F at the façade facing Yuen Wo Road.

/With …..

With the mitigation measures in place, noise affecting the teaching and learning environment of the School will be reduced to the minimum. The estimated cost of the above mitigation measures is $1.2 million (in September 2013 prices). We have included the cost of the above mitigation measures as part of the building and building services works in the project estimate.

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

19. At the planning and design stages, we have considered measures 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 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 minimise the disposal of inert construction waste at public fill reception facilities[6]. We will encourage the contractor to maximise the use of recycled/ recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

20. At the construction stage, we will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation measures 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 at public fill reception facilities and landfills respectively through a trip-ticket system.

/21. …..

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[6] Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

21. We estimate that the project will generate in total about 6 187 tonnes of construction waste. Of these, we will reuse about 933 tonnes (15.1%) of inert construction waste on site and deliver 4 382 tonnes (70.8%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 872 tonnes (14.1%) 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 about $0.2 million for this project (based on a unit charge rate of $27 per tonne for disposal at public fill reception facilities and $125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

HERITAGE IMPLICATIONS

22. The 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.

ENERGY CONSERVATION AND GREEN FEATURES

24. This project will adopt various forms of energy efficient features and renewable energy technology, in particular –

(a) thermal energy reclaim of exhaust air from air conditioned space by using fresh air pre-conditioners; and

(b) photovoltaic system.

25. For greening features, there will be landscape in the appropriate areas on the roof floor, planters at first to fifth floor, vertical greening on ground floor and first to fourth floor for environmental and amenity benefits.

26. The total estimated additional cost for adoption of the above features is around $0.4 million, which has been included in the cost estimates of the project. The energy efficient features will achieve 7.7% energy savings in the annual energy consumption with a payback period of about 8.9 years.

/BACKGROUND …..

BACKGROUND INFORMATION

27. We upgraded the project to Category B in September 2010. We engaged an architectural consultant to undertake detailed design in January 2012, a contractor to carry out site investigation in July 2012 and a quantity surveying consultant to prepare tender documents in October 2012. The total cost of the consultancy services and works is about $3.5 million. We have charged this amount to block allocation **Subhead 8100QX** "Alterations, additions, repairs and improvements to education subvented buildings". The contractor and consultants have completed all the above consultancy services and works, and the consultants have completed the detailed design and tender documents.

28. There are two trees within the project boundary. The proposed works will involve felling of these two trees, which are not suitable for transplanting. Both trees are not important trees[8]. We will incorporate planting proposals as part of the project, including estimated quantities of three trees, and 475 m^2 of planting area which includes vertical greening, shrubs, groundcovers and lawns.

29. We estimate that the proposed works will create about 74 jobs (67 for labourers and another seven for professional / technical staff) providing a total employment of 1 310 man-months.

Education Bureau
June 2014

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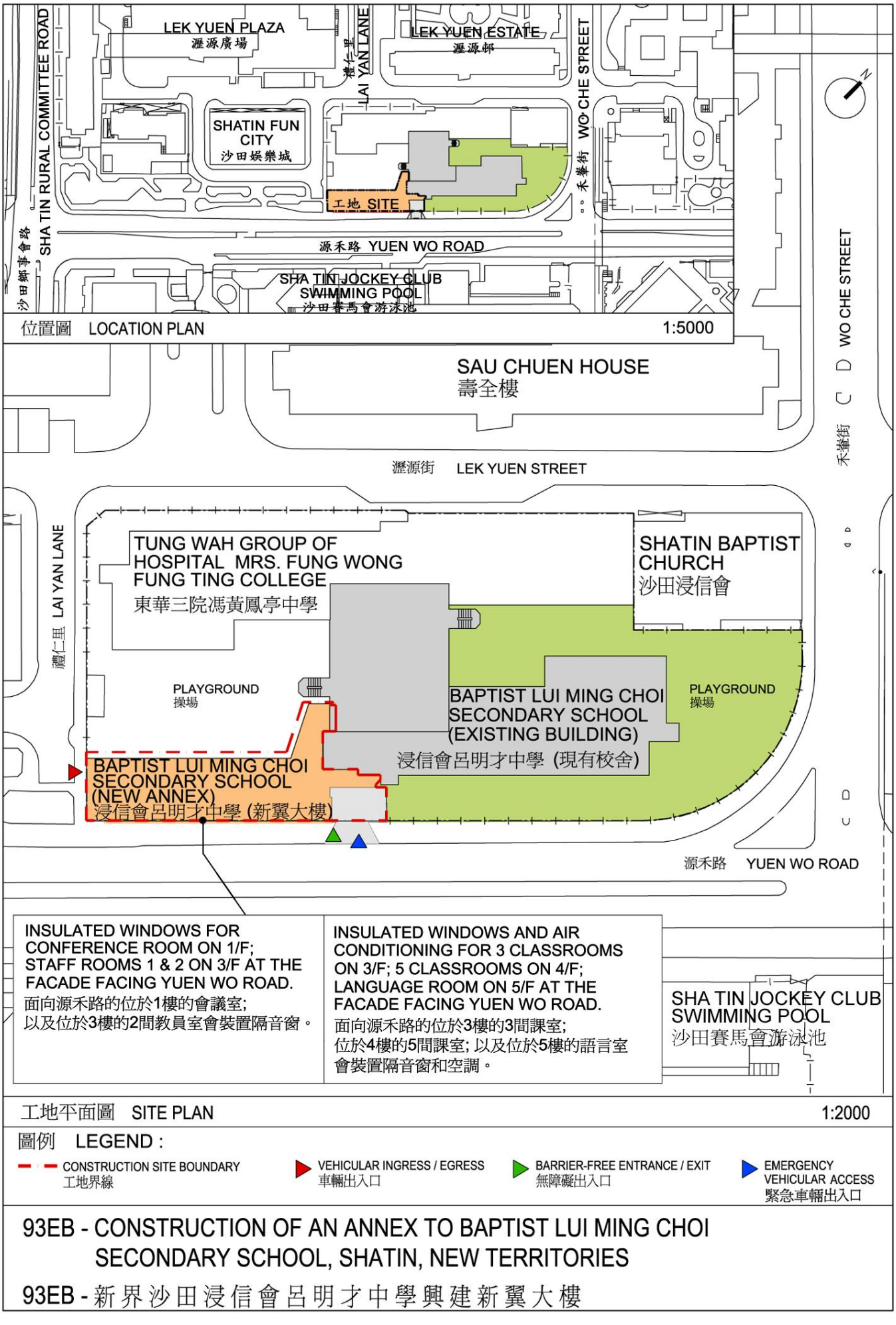
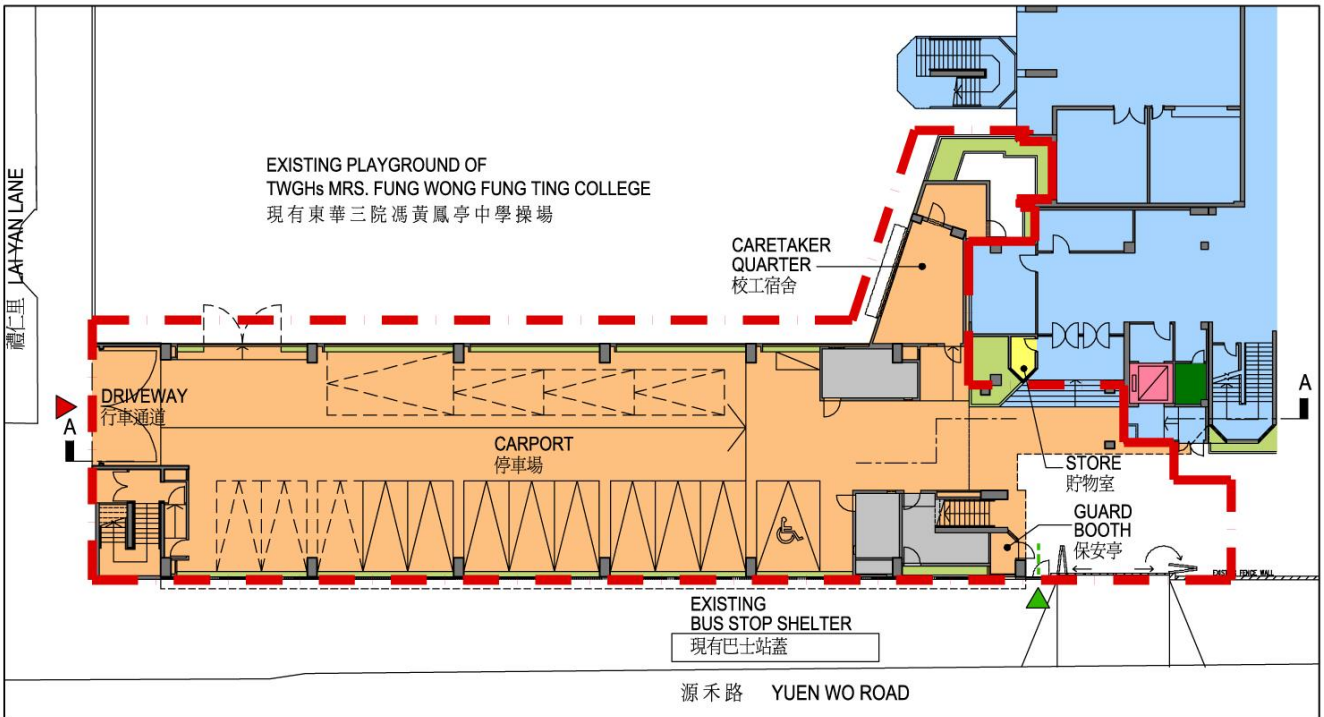
[8] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria -
(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage 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.

Enclosure 1
附件 1

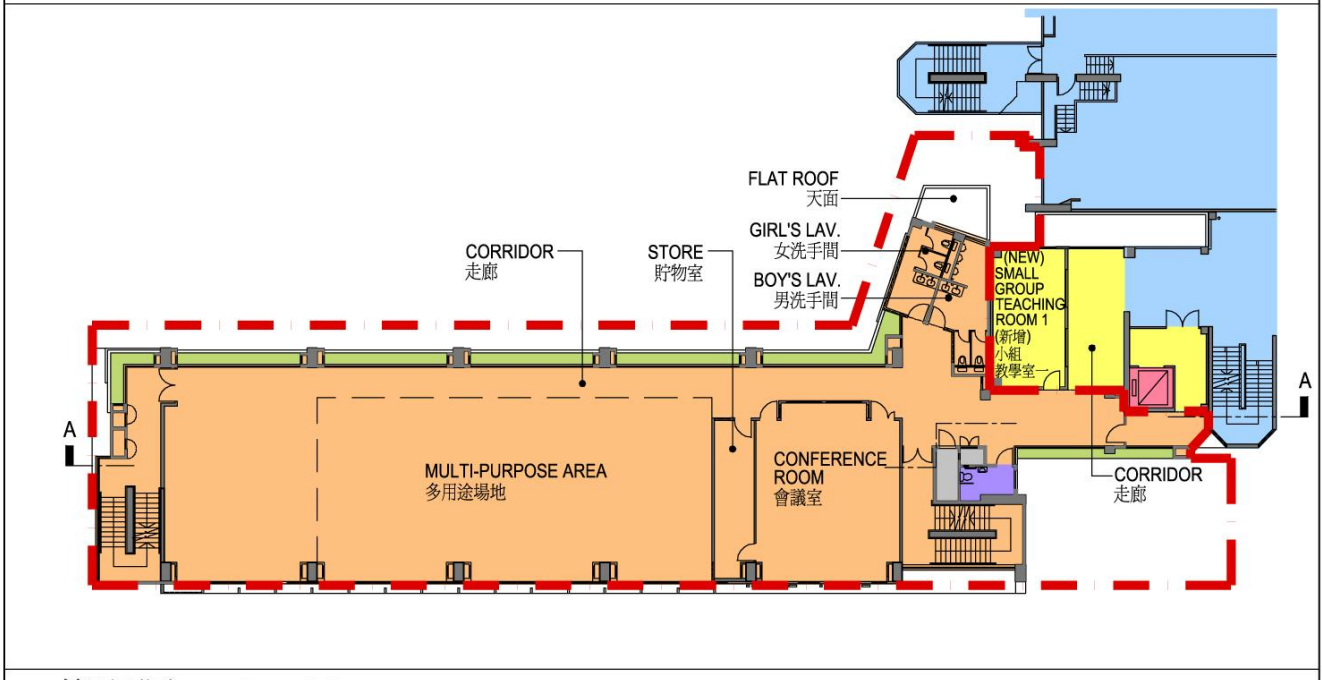


93EB - CONSTRUCTION OF AN ANNEX TO BAPTIST LUI MING CHOI SECONDARY SCHOOL, SHATIN, NEW TERRITORIES

93EB - 新界沙田浸信會呂明才中學興建新翼大樓



地下平面圖 GROUND FLOOR PLAN



一樓平面圖 FIRST FLOOR PLAN

圖例 LEGEND :

- BAPTIST LUI MING CHOI SECONDARY SCHOOL (NEW ANNEX PORTION) 浸信會呂明才中學 (新翼部分)
- BAPTIST LUI MING CHOI SECONDARY SCHOOL (EXISTING SCHOOL PORTION) 浸信會呂明才中學 (現有部分)
- CONVERSION AREA 改建部份
- ACCESSIBLE TOILET 暢通易達洗手間
- LANDSCAPE AREA 綠化範圍
- PLANT ROOMS 機房
- EXISTING LIFT FOR PERSONS WITH A DISABILITY 現有殘疾人士升降機
- EXISTING TOILET FOR PERSONS WITH A DISABILITY 現有殘疾人士洗手間
- CONSTRUCTION SITE BOUNDARY 工地界線
- BARRIER-FREE ENTRANCE / EXIT 無障礙出入口
- VEHICULAR INGRESS / EGRESS 車輛出入口

93EB - CONSTRUCTION OF AN ANNEX TO BAPTIST LUI MING CHOI SECONDARY SCHOOL, SHATIN, NEW TERRITORIES

93EB - 新界沙田浸信會呂明才中學興建新翼大樓

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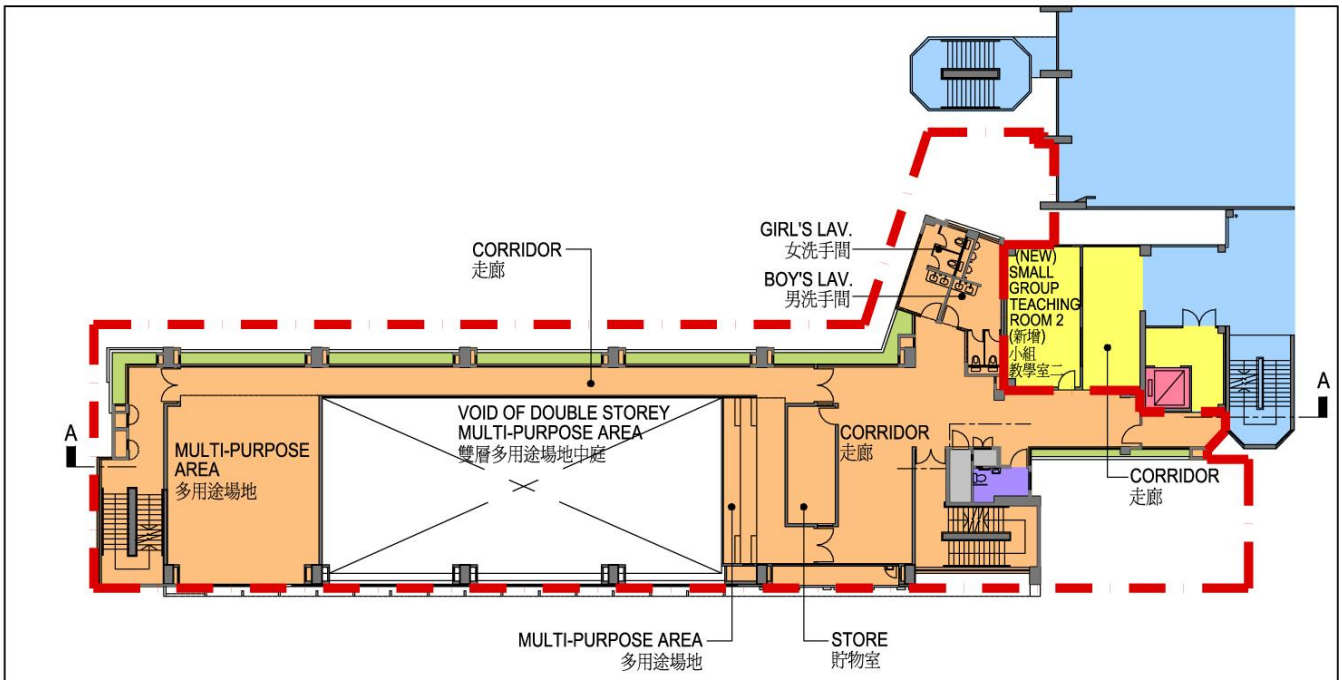
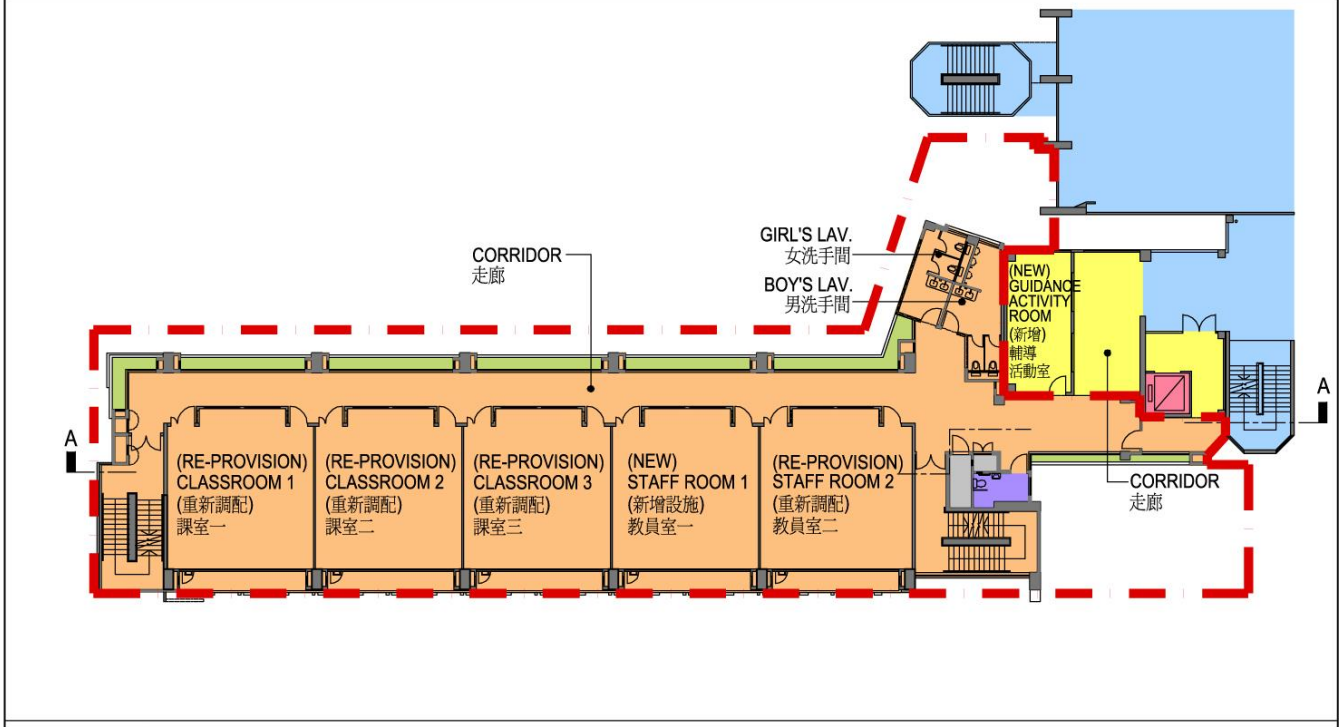


二樓平面圖 SECOND FLOOR PLAN



三樓平面圖 THIRD FLOOR PLAN

圖例 LEGEND :

- BAPTIST LUI MING CHOI SECONDARY SCHOOL (NEW ANNEX PORTION) 浸信會呂明才中學 (新翼部分)
- BAPTIST LUI MING CHOI SECONDARY SCHOOL (EXISTING SCHOOL PORTION) 浸信會呂明才中學 (現有部分)
- CONVERSION AREA 改建部份
- LANDSCAPE AREA 綠化範圍
- PLANT ROOMS 機房
- EXISTING LIFT FOR PERSONS WITH A DISABILITY 現有殘疾人士升降機
- ACCESSIBLE TOILET 暢通易達洗手間
- CONSTRUCTION SITE BOUNDARY 工地界線

93EB - CONSTRUCTION OF AN ANNEX TO BAPTIST LUI MING CHOI SECONDARY SCHOOL, SHATIN, NEW TERRITORIES

93EB - 新界沙田浸信會呂明才中學興建新翼大樓

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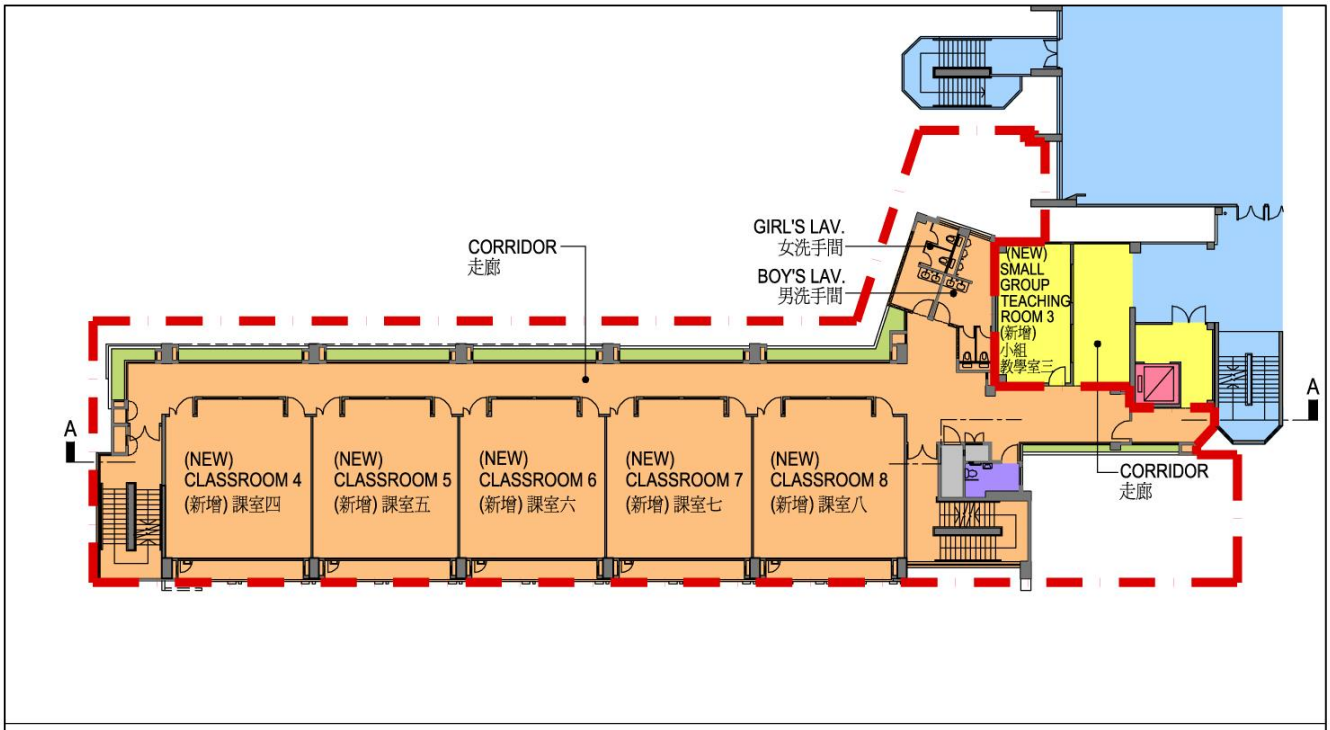
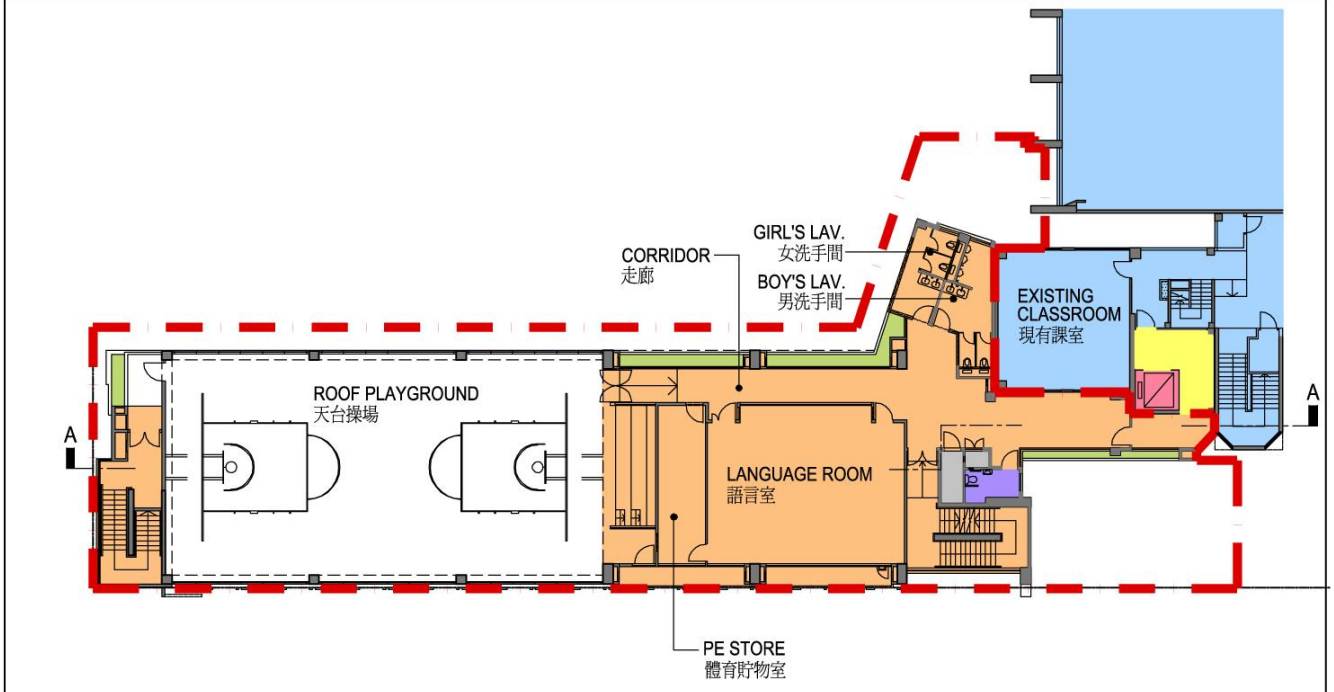


四樓平面圖 FOURTH FLOOR PLAN



五樓平面圖 FIFTH FLOOR PLAN

圖例 LEGEND :

- BAPTIST LUI MING CHOI SECONDARY SCHOOL (NEW ANNEX PORTION) 浸信會呂明才中學 (新翼部分)
- BAPTIST LUI MING CHOI SECONDARY SCHOOL (EXISTING SCHOOL PORTION) 浸信會呂明才中學 (現有部分)
- CONVERSION AREA 改建部份
- LANDSCAPE AREA 綠化範圍
- PLANT ROOMS 機房
- EXISTING LIFT FOR PERSONS WITH A DISABILITY 現有殘疾人士升降機
- ACCESSIBLE TOILET 暢通易達洗手間
- CONSTRUCTION SITE BOUNDARY 工地界線

93EB - CONSTRUCTION OF AN ANNEX TO BAPTIST LUI MING CHOI SECONDARY SCHOOL, SHATIN, NEW TERRITORIES

93EB - 新界沙田浸信會呂明才中學興建新翼大樓

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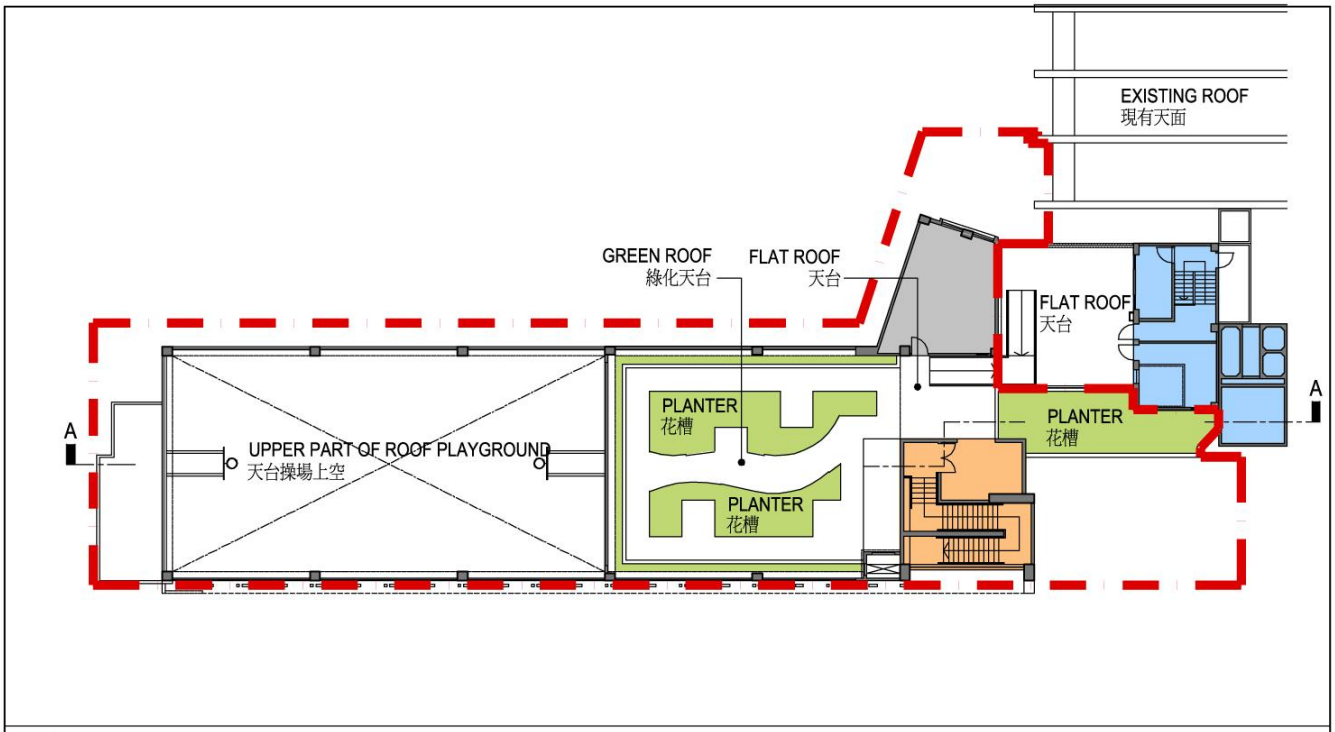
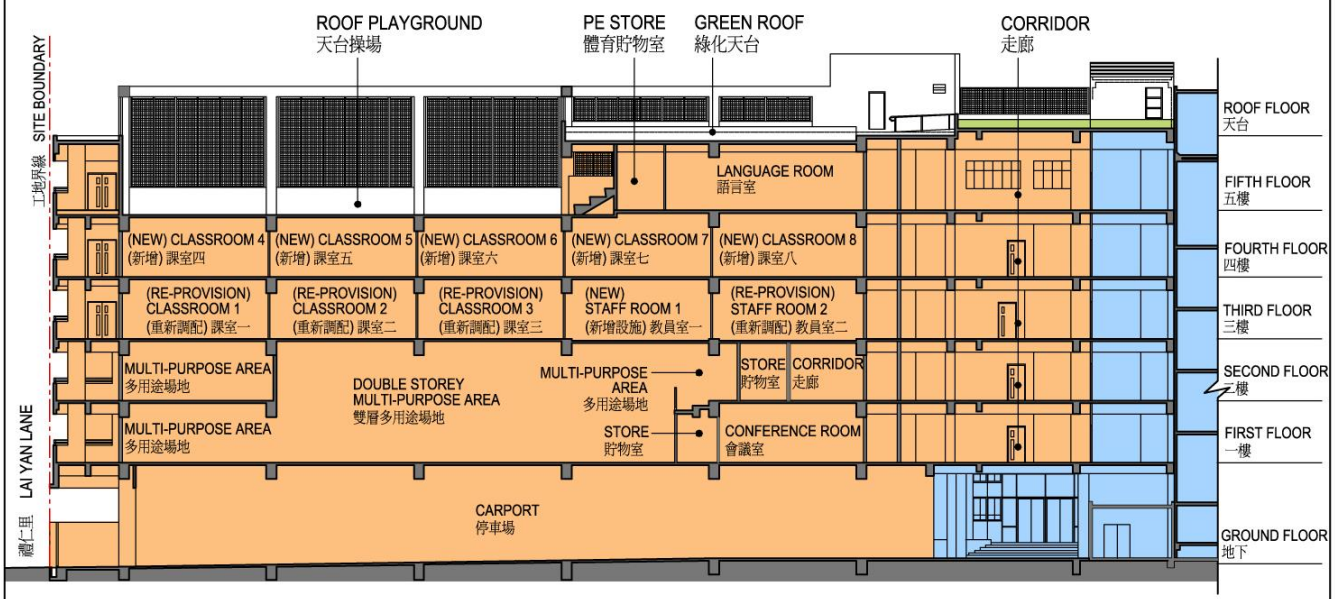


頂層平面圖 ROOF FLOOR PLAN



剖面圖 "A-A" SECTION "A-A"

圖例 LEGEND :

- BAPTIST LUI MING CHOI SECONDARY SCHOOL (NEW ANNEX PORTION) 浸信會呂明才中學 (新翼部分)
- BAPTIST LUI MING CHOI SECONDARY SCHOOL (EXISTING SCHOOL PORTION) 浸信會呂明才中學 (現有部分)
- LANDSCAPE AREA 綠化範圍
- PLANT ROOMS 機房
- CONSTRUCTION SITE BOUNDARY 工地界線

93EB - CONSTRUCTION OF AN ANNEX TO BAPTIST LUI MING CHOI SECONDARY SCHOOL, SHATIN, NEW TERRITORIES

93EB - 新界沙田浸信會呂明才中學興建新翼大樓

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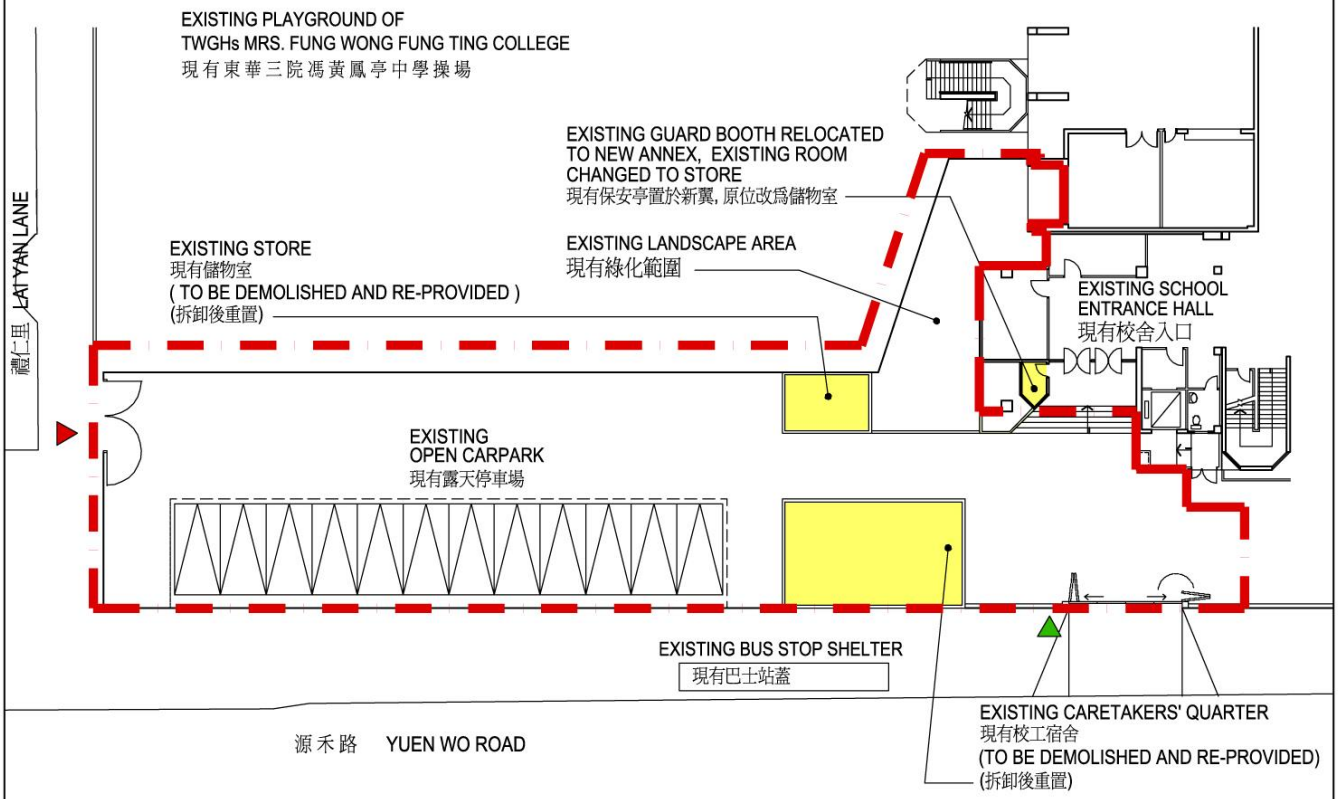

現有露天停車場及附近設施平面圖 EXISTING OPEN CARPARK AND ADJACENT FACILITIES FLOOR PLAN

圖例 LEGEND :

- CONSTRUCTION SITE BOUNDARY 工地界線
- EXISTING PEDESTRIAN ENTRANCE / EXIT 現有行人出入口
- EXISTING VEHICULAR INGRESS / EGRESS 現有車輛出入口

93EB - CONSTRUCTION OF AN ANNEX TO BAPTIST LUI MING CHOI SECONDARY SCHOOL, SHATIN, NEW TERRITORIES

93EB - 新界沙田浸信會呂明才中學興建新翼大樓

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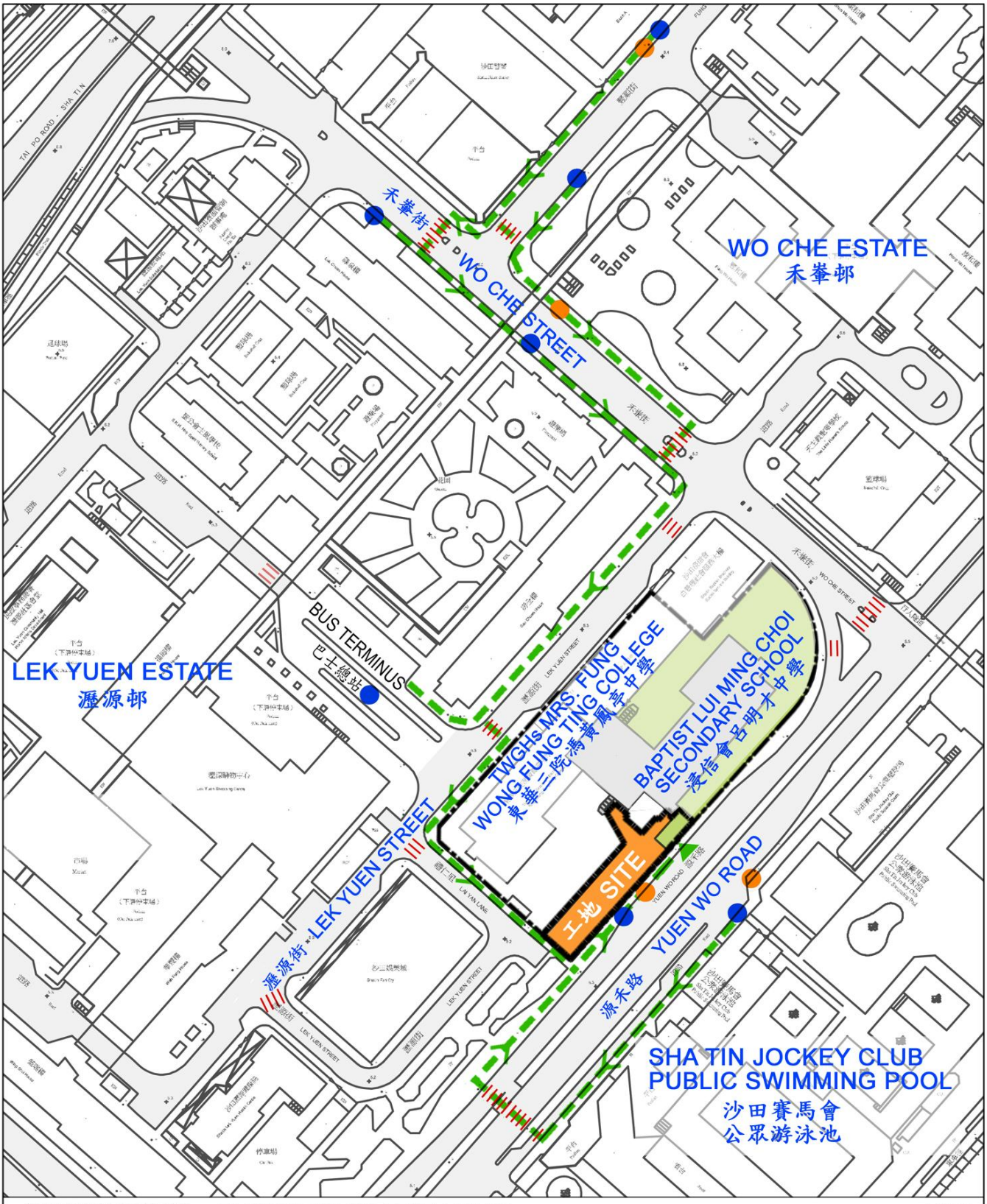
VIEW OF THE NEW ANNEX FROM YUEN WO ROAD (ARTIST'S IMPRESSION)
從源禾路望向新翼大樓構思圖

VIEW OF THE NEW ANNEX FROM LAI YAN LANE (ARTIST'S IMPRESSION)
從禮仁里望向新翼大樓構思圖

93EB - CONSTRUCTION OF AN ANNEX TO BAPTIST LUI MING CHOI SECONDARY SCHOOL, SHATIN, NEW TERRITORIES

93EB - 新界沙田浸信會呂明才中學興建新翼大樓

Enclosure 8
附件 8



無障礙通道平面圖 PLAN OF BARRIER-FREE ACCESS 1:5000

圖例 LEGEND :

- BARRIER-FREE ENTRANCE / EXIT 無障礙出入口
- BARRIER-FREE ACCESS 無障礙通道
- AT GRADE PEDESTRIAN CROSSING 行人過路處
- EXISTING BUS STOP 現有巴士站
- EXISTING MINI-BUS STOP 現有小巴站

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93EB - CONSTRUCTION OF AN ANNEX TO BAPTIST LUI MING CHOI SECONDARY SCHOOL, SHATIN, NEW TERRITORIES

93EB - 新界沙田浸信會呂明才中學興建新翼大樓

93EB – Construction of an Annex to Baptist Lui Ming Choi Secondary School, Shatin, New Territories

Breakdown of estimates for consultants' fees and resident site staff costs (in September 2013 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated Fees ($ million)
(a)	Consultants' fees for contract administration(Note 2)	Professional	–	–	–	2.1
					Sub-total	2.1
(b)	Resident site staff (RSS) costs	Technical	124	14	1.6	4.6
					Sub-total	4.6
	Comprising –					
	(i) Consultants' fees for management of RSS(Note 3)				0.3	
	(ii) Remuneration of RSS				4.3	
					Total	**6.7**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of resident site staff supplied by the consultants. (As at now, MPS salary point 14 = $23,285 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 **93EB**. The construction phase of the assignment will only be executed subject to the Finance Committee's funding approval to upgrade **93EB** to Category A.

3. The consultants' staff cost for site supervision is based on the proposed on-cost rates of the existing consultancy agreement. We will only know the actual man-months and actual costs after completion of the construction works.