ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS Education – Others 109ET – A school for social development for boys in Area 2B, Tuen Mun

Members are invited to recommend to the Finance Committee the upgrading of **109ET** to Category A at an estimated cost of \$408.5 million in money-of-the-day prices.

PROBLEM

We need to build a school for social development (SSD) for boys-cum-residential home in Area 2B, Tuen Mun for the reprovisioning of Tung Wan Mok Law Shui Wah School cum Island Hostel (the School).

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Education, proposes to upgrade **109ET** to Category A at an estimated cost of \$408.5 million in money-of-the-day (MOD) prices for the construction of an SSD for boys in Area 2B, Tuen Mun for reprovisioning the School.

/PROJECT

PROJECT SCOPE AND NATURE

- 3. The project site occupies an area of around 7 220 square metres (m²) in Area 2B, Tuen Mun. The proposed scope of works comprises
 - (a) a school section with the following facilities
 - (i) 16 classrooms;
 - (ii) two small group teaching rooms;
 - (iii) ten special rooms, comprising a home economics room, a design and technology room, two elective subject rooms, a computer room, a visual arts room, a music/general purpose room, an integrated science laboratory, a computer assisted learning room and a multi-purpose room;
 - (iv) two interview rooms;
 - (v) a staff room and a staff common room;
 - (vi) a conference room;
 - (vii) a student activity centre;
 - (viii) three social workers' rooms;
 - (ix) a library;
 - (x) an assembly hall;
 - (xi) a multi-purpose area;
 - (xii) ancillary facilities including accessible/fireman's lifts, facilities for the disabled, a tuck shop-cumcentral portioning area, stores and toilets, etc.; and
 - (b) a residential home section with the following facilities
 - (i) bedrooms to accommodate 144 boarders;
 - (ii) eight study rooms;

- (iii) eight sitting rooms;
- (iv) a dining/multi-purpose hall;
- (v) a kitchen;
- (vi) a central laundry and linen store;
- (vii) two interview rooms; and
- (viii) ancillary facilities, including toilets, pantry, sick bays, staff duty and sleep-in rooms, staff office, superintendent's office and storerooms, etc.
- 4. The new school premises will meet the planning target of providing 2 m² of open space per student. A site plan, layout plans, a sectional plan, artist's impressions and a barrier-free access plan for the project are at Enclosures 1 to 6. Subject to the funding approval of the Finance Committee in this legislative session, we plan to commence construction in late 2016 for completion in early 2019.

JUSTIFICATION

5. It is the Government's plan to, based on the needs of individual schools, improve the physical conditions and facilities of school premises not built according to the prevailing standards through the School Improvement Programme (SIP)¹ as well as reprovisioning and redevelopment projects. The School was built in 1960. It provides counselling and educational guidance for students with behaviour and emotional difficulties with a view to helping them tide over their transient development difficulties and strengthening their life skills so that they may resume mainstream education as soon as possible. The School currently occupies a site area of about 12 390 m² on Shek Pik, Lantau Island. However, the usable construction site area is only 2 478 m². Owing to the building height restrictions under the land lease conditions and the large number of slopes within the current school site, both school facilities enhancement through SIP and in-situ redevelopment of the School are infeasible.

/6.

School Improvement Programme was carried out in five phases between 1994 and 2006. It was introduced at that time to progressively upgrade the teaching and learning environment of schools so as to provide additional space and facilities for teaching, out-of-class activities and supporting services for both teachers and students.

- 6. On the existing school premises, facilities such as visual arts room, small group teaching room, music room, library and student activity centre are lacking. Other facilities such as covered playground, staff room, general office, assembly hall, multi-purpose area, etc., are smaller than the prevailing standards. In the 2015/16 school year, the School operates six primary classes and provides 63 residential home places.
- 7. In consideration of the site constraints set out in paragraph 5 above, reprovisioning of the School to new school premises is the most cost-effective way to improve its teaching and learning environment. Furthermore, the School is currently operating beyond its capacity to meet the excess demand as far as the existing infrastructure permits. The reprovisioning project will enable the School to extend its service to secondary school students in need of SSD services as well.
- 8. The demand for SSD places is on the rise. There are seven existing SSDs (five are for boys) in Hong Kong, of which six are located in Kowloon and on Hong Kong Island, and the remaining one (i.e. the School) on Lautau Island. The reprovisioning of the School at Area 2B, Tuen Mun will increase the current provision of SSD places by 120 primary and secondary school places and 81 residential home places. It will help meet the projected shortage of SSD places in the territory, especially that in the New Territories region.
- 9. The School shall cease to occupy its existing premises on Lantau Island after reprovisioning. The Government will handle the to-be-vacated existing premises following the established mechanism. In other words, the Education Bureau (EDB) will consider factors including the size, location, physical conditions etc. of the existing premises to assess the premises' suitability for educational use or whether the premises is needed to be re-allocated for school or other educational use. Once it is confirmed that the premises is no longer required by EDB for school or other educational uses, EDB would refer them to the Planning Department for consideration of suitable alternative uses in accordance with the central clearing house mechanism.

/FINANCIAL

FINANCIAL IMPLICATIONS

10. We estimate the capital cost of the project to be \$408.5 million in MOD prices (please see paragraph 12 below), broken down as follows –

	\$ million				
(a)	Site works	2.1			
(b)	Piling	14.2			
(c)	Geotechnical works	31.8			
(d)	Building works ²	154.5			
(e)	Building services	34.9			
(f)	Drainage	9.8			
(g)	External works	29.7			
(h)	Additional energy conservation, green and recycled features	4.4			
(i)	Furniture and equipment (F&E) ³	5.1			
(j)	Consultants' fees for (i) contract administration (ii) management of resident site staff (RSS)	10.8 10.3 0.5			
(k)	Remuneration of RSS	11.7			
(1)	Contingencies	30.9			
	Sub-total	339.9	(in September 2015 prices)		
			/(m)		

Building works cover construction of substructure and superstructure of the building.

The estimated cost of F&E is prepared with reference to the F&E reference lists for schools of similar nature prepared by the Education Bureau for the school section and the indicative F&E list prepared by the Social Welfare Department for the residential home section. The actual cost will be subject to a survey on the conditions of the existing F&E.

	\$ million			
(m)	Provision for price adjustment	68.6		
	Total	408.5	(in MOD prices)	

11. We plan 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 7. The construction floor area (CFA) of **109ET** is about 8 700 m². The estimated construction unit cost, represented by the building and building services costs, is \$21,770 per m² of CFA in September 2015 prices. We consider this comparable to that of similar projects built by the Government.

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

Year	\$ million (Sept 2015)	Price adjustment factor	\$ million (MOD)
2016 – 17	5.0	1.05775	5.3
2017 – 18	80.0	1.12122	89.7
2018 – 19	175.0	1.18849	208.0
2019 – 20	35.0	1.25980	44.1
2020 – 21	25.0	1.33539	33.4
2021 – 22	19.9	1.40549	28.0
	339.9		408.5

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 2016 to 2022. We will deliver the construction works 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 about \$5.1 million, will be borne by the Government according to the existing policy. We estimate the additional annual recurrent expenditure arising from this project to be \$30.2 million upon full commissioning of the new school premises.

PUBLIC CONSULTATION

- 15. We visited the four schools in the district to explain the proposed reprovisioning project and solicit their views in February 2016. We then consulted the Social Services Committee of Tuen Mun District Council (TMDC) on 8 March 2016. While Committee members did not object to the proposal and considered it beneficial to the community as a whole, some were concerned about the potential impact on the neighbourhood and requested the Government to conduct further local consultation. A consultation meeting with the Tai Hing and Shan King Area Committee (the AC) was subsequently held on 10 March 2016. The majority of the AC members had no objection to the proposal, but a few had concerns about the traffic generated by the School and the environmental issues arising from the reprovisioning project during the construction period. The latter concerns will be addressed by the proposed mitigating measures in the construction plan. The new school premises are also designed to minimise the adverse impact on the view and ventilation of buildings nearby. Visits to the School on Lantau Island and an SSD in Kwun Tong were arranged in March and April 2016 to enable members of TMDC and the AC to better understand the operation of the School and that of an SSD in an urban district.
- As for the concern about the possible impact of the School on traffic and the neighbourhood, with reference to most of the other SSDs for boys with residential portion, it is estimated that about 75% of the students will stay at the hostel. The rest will take school buses or public transport for daily commuting between the school and their homes. Lay-bys and parking lots will be provided inside the school premises. Given the School has a relatively small student population (around 190 at most), the operation of the School should have little adverse impact on the traffic nearby. In addition, based on the experience of the other six existing SSD which are located in urban areas, operation of the School will not cause any disturbance to the neighbourhood.
- 17. We consulted the Legislative Council Panel on Education on 9 May 2016. Panel Members supported the project and did not raise any objection to the submission of the funding proposal to the Public Works Subcommittee.

ENVIRONMENTAL IMPLICATIONS

- 18. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have completed a Preliminary Environmental Review (PER) for the project in May 2016. The PER recommended implementation of 2.5m high solid boundary walls on the eastern site boundary to mitigate the traffic noise, together with window insulation and air-conditioning for classrooms and teaching rooms being exposed to traffic noise exceeding the established criteria. The estimated cost of the above mitigation measures is \$8.1 million in September 2015 prices. We have included the cost of these mitigation measures as part of the building and building services works in the project estimate.
- 19. 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 wall for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.
- 20. 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 facilities⁴. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

/21.

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. At the construction stage, we will require the contractor to submit a waste management plan (WMO) setting out the waste management measures for our approval. The WMP 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 WMP. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will monitor the contractor's compliance of construction waste disposal under the contract through a trip-ticket system and ensure that the disposal of inert construction waste and non-inert construction waste would be delivered to the designated public fill reception facilities and landfills respectively as specified in the tender documents. We will record the disposal, reuse and recycling of construction waste for monitoring purposes.
- 22. We estimate that the project will generate 13 000 tonnes of construction waste. Of these, we will reuse 2 900 tonnes (22.3%) of inert construction waste on site and deliver 8 000 tonnes (61.5%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 2 100 tonnes (16.2%) of non-inert construction waste at The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$0.5 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 (Cap. 354N)).

HERITAGE IMPLICATIONS

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

LAND ACQUISITION

24. The project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

- 25. This project will adopt various forms of energy efficient features and renewable energy technologies, including in particular
 - (a) heat recovery fresh air pre-conditioners in the airconditioned space for heat energy reclaim of exhaust air; and
 - (b) solar hot water system.
- 26. For greening features, there will be vertical greening on the fence wall and landscape in appropriate area on the main roofs and terraces for environmental and amenity benefits.
- 27. For recycled features, we will adopt a rainwater harvesting system for landscape irrigation with a view to conserving water.
- 28. The total estimated additional cost for adoption of the above features is around \$4.4 million (including \$0.5 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 6.8% energy savings in the annual energy consumption with a payback period of about 9.5 years.

BACKGROUND INFORMATION

29. We upgraded **109ET** to Category B in September 2011. We engaged a geotechnical consultant in June 2012 to carry out preliminary geotechnical assessment; a consultant in October 2014 to undertake various services, including topographical survey, utility survey, layout design, detailed design, PER and preparation of tender documentation; a contractor in June 2015 to undertake ground investigation; and a quantity surveying consultant in May 2016 to prepare tender documents. The total cost of the consultancy services and works is about \$9.1 million. The services and works by the consultants are funded under block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The consultants and contractors have completed all the above consultancy services and works except the preparation of tender documentation which is in progress.

- 30. The proposed works will involve the felling of all 27 trees within the project boundary. All trees to be removed are not important trees⁵. We will incorporate planting proposals as part of the project, including the planting of about 27 trees, 6 150 shrubs, 6 850 groundcovers, and 330 m² of grassed area.
- 31. We estimate that the proposed works will create about 160 jobs (140 for labourers and 20 for professional or technical staff), providing a total employment of 3 130 man-months.

Education Bureau May 2016

⁵ "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 –

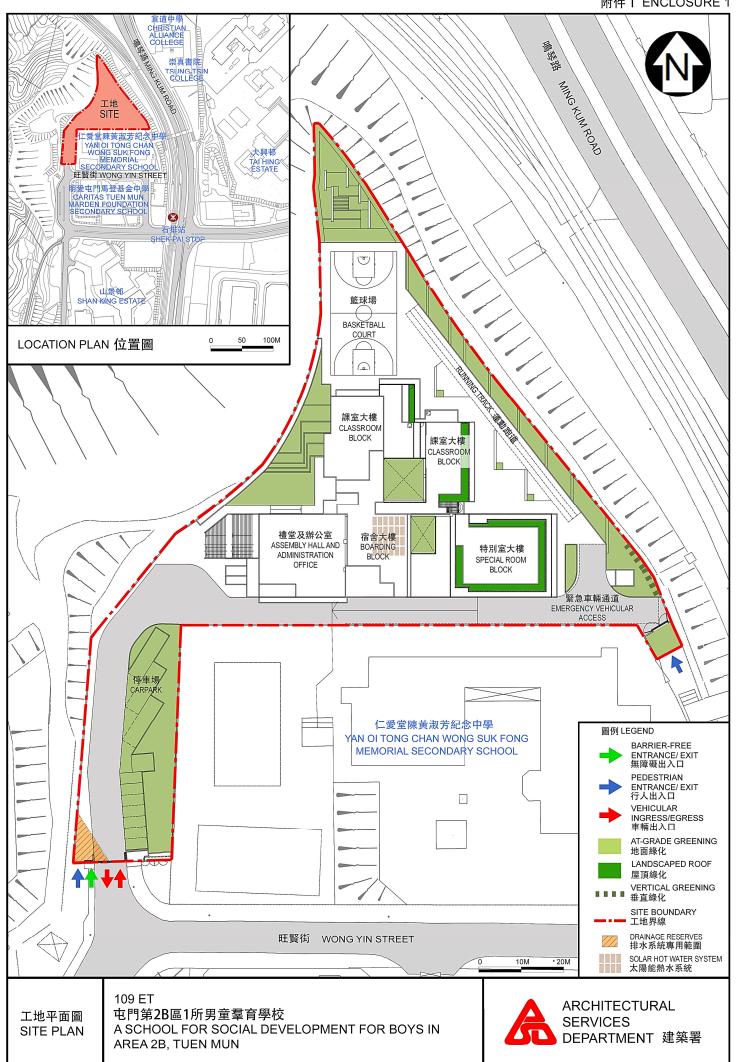
⁽a) trees of 100 years old or above;

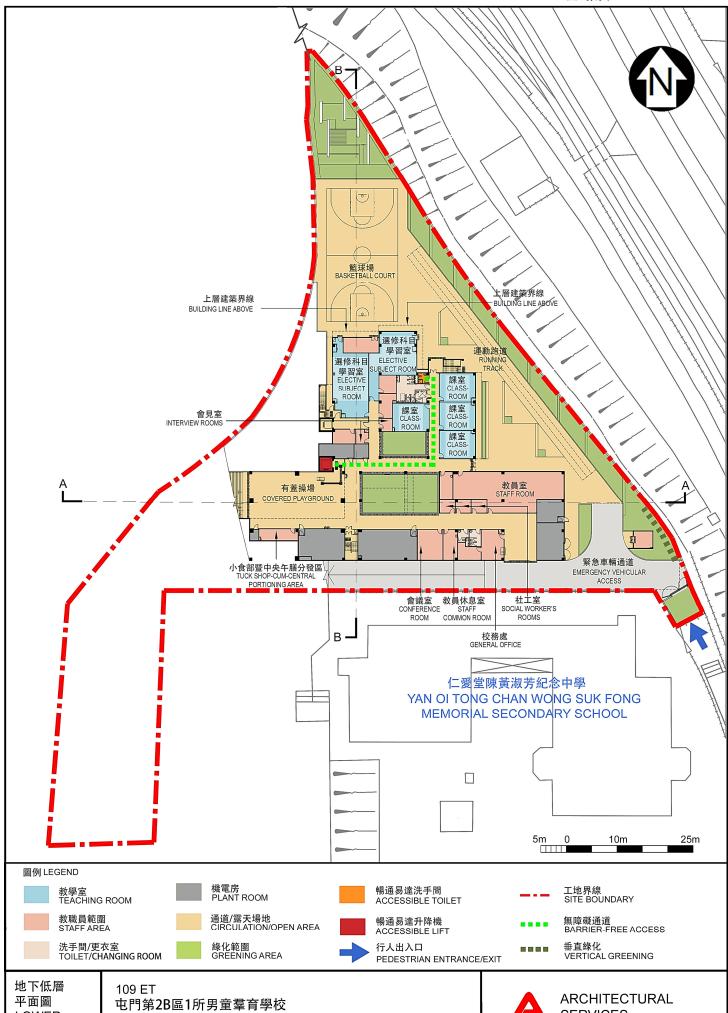
⁽b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;

⁽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 (m) (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.



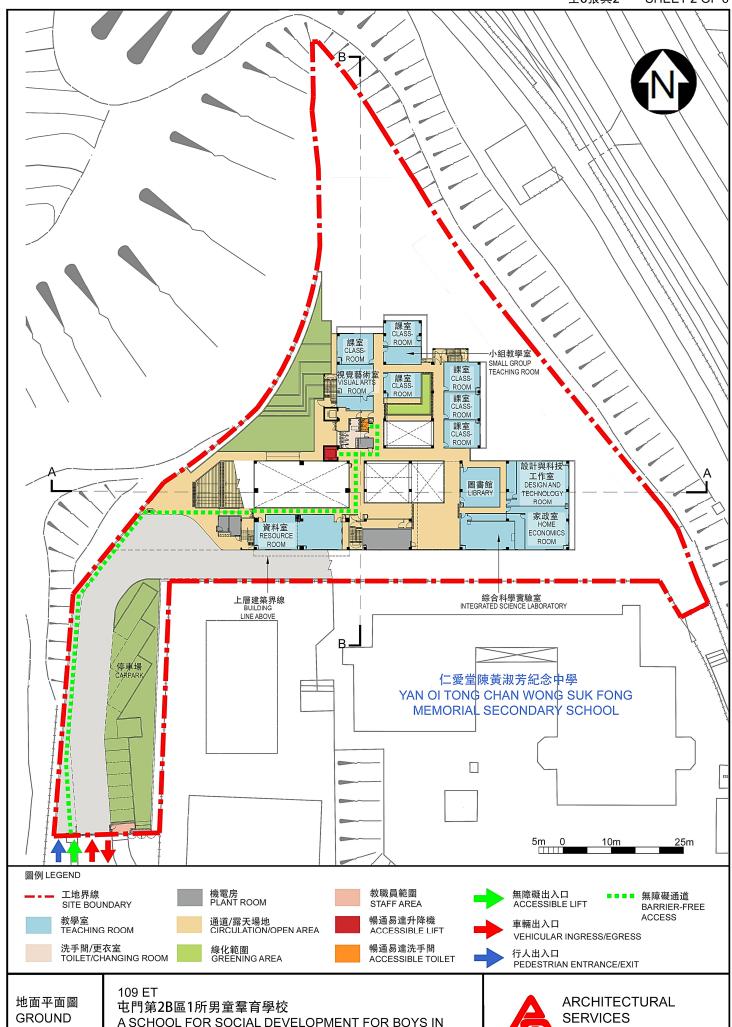


地下低層 平面圖 LOWER GROUND FLOOR PLAN

屯門第2B區1所男童羣育學校 A SCHOOL FOR SOCIAL DEVELOPMENT FOR BOYS IN AREA 2B, TUEN MUN



ARCHITECTURAL SERVICES DEPARTMENT 建築署

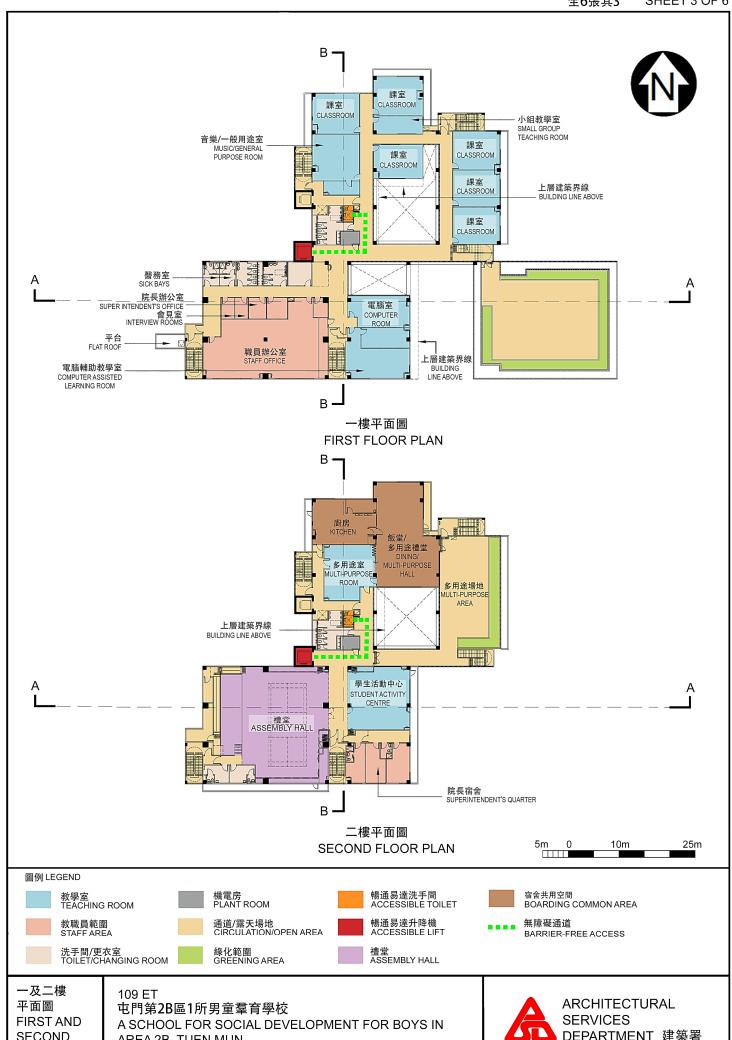


FLOOR PLAN

A SCHOOL FOR SOCIAL DEVELOPMENT FOR BOYS IN AREA 2B, TUEN MUN



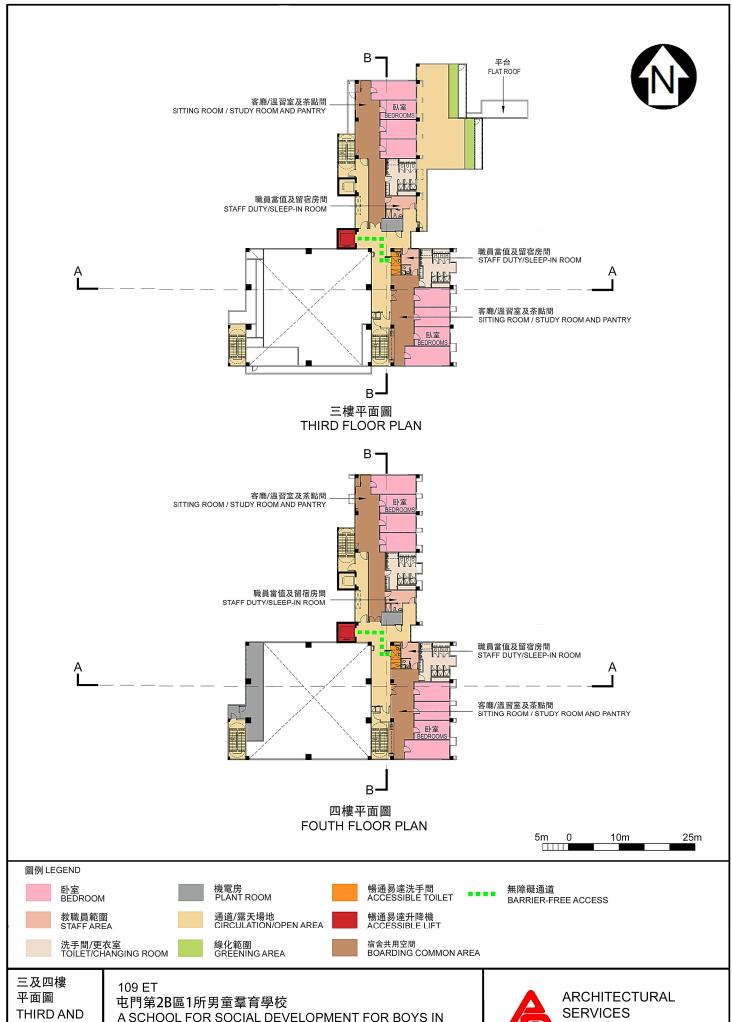
DEPARTMENT 建築署



SECOND FLOOR PLAN

AREA 2B, TUEN MUN

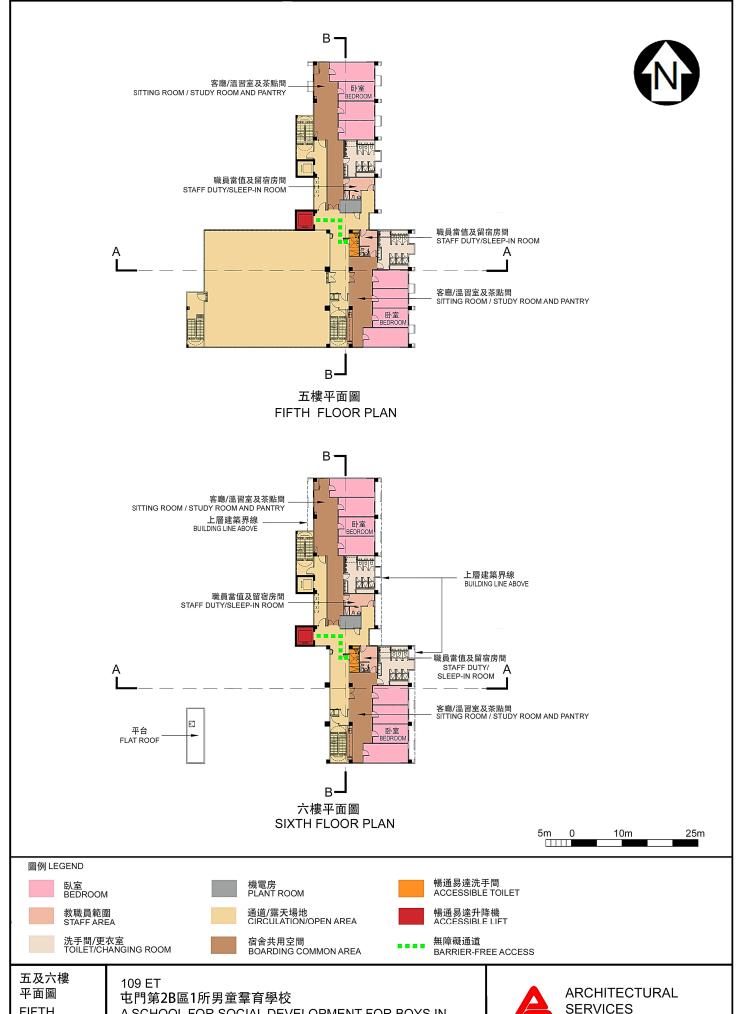




FOUTH FLOOR PLAN

A SCHOOL FOR SOCIAL DEVELOPMENT FOR BOYS IN AREA 2B, TUEN MUN



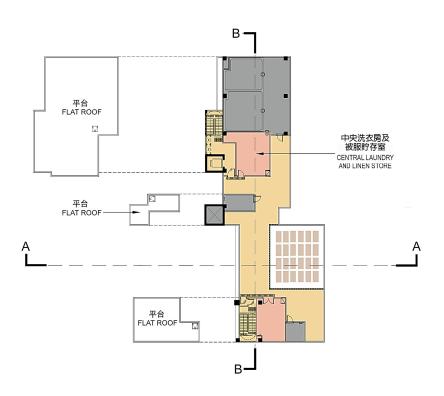


FIFTH AND SIXTH FLOOR PLAN

A SCHOOL FOR SOCIAL DEVELOPMENT FOR BOYS IN AREA 2B, TUEN MUN







5m 0 10m 25m

圖例 LEGEND

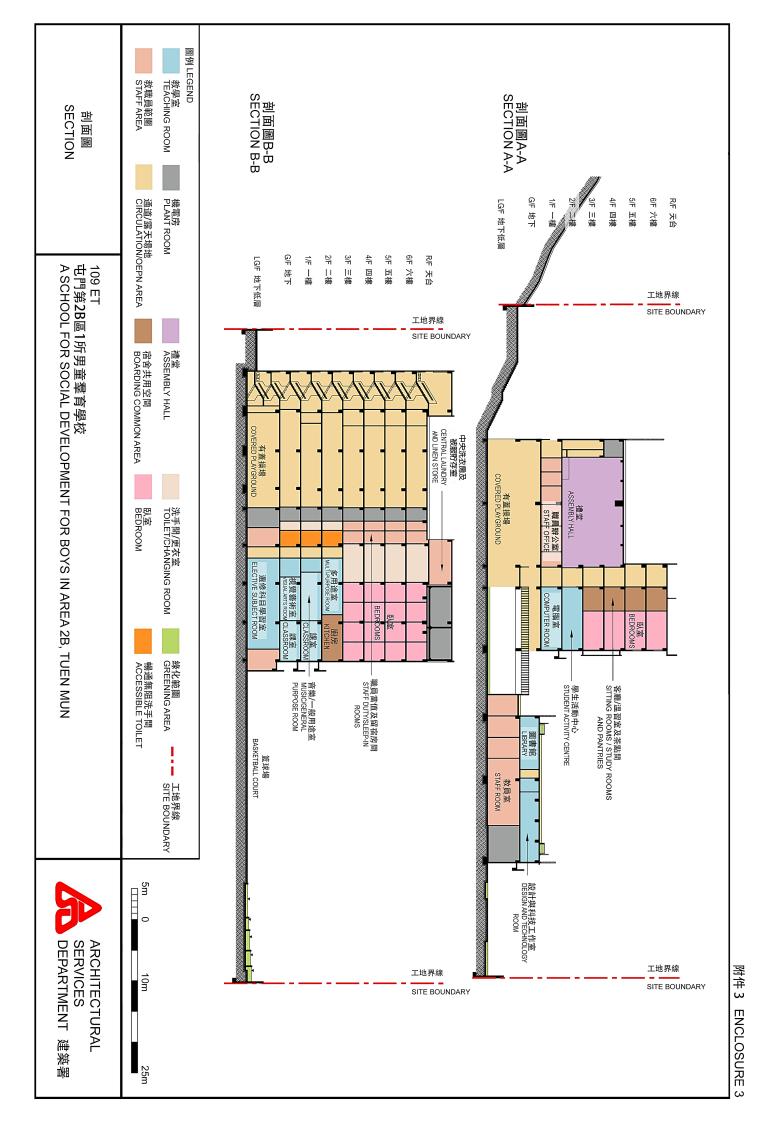
機電房 PLANT ROOM ▲ 太陽能熱水系統 SOLAR HOT WATER SYSTEM

教職員範圍 STAFF AREA

通道/露天場地 CIRCULATION/OPEN AREA

ROOF FLOOR PLAN 頂樓平面圖 109 ET 屯門第2B區1所男童羣育學校 A SCHOOL FOR SOCIAL DEVELOPMENT FOR BOYS IN AREA 2B, TUEN MUN







從東北面望向學校的構思鳥瞰圖 | 109 ET | 中門第28區1所男童羣育題

109 ET 屯門第2B區1所男童羣育學校 A SCHOOL FOR SOCIAL DEVELOPMENT FOR BOYS IN AREA 2B, TUEN MUN

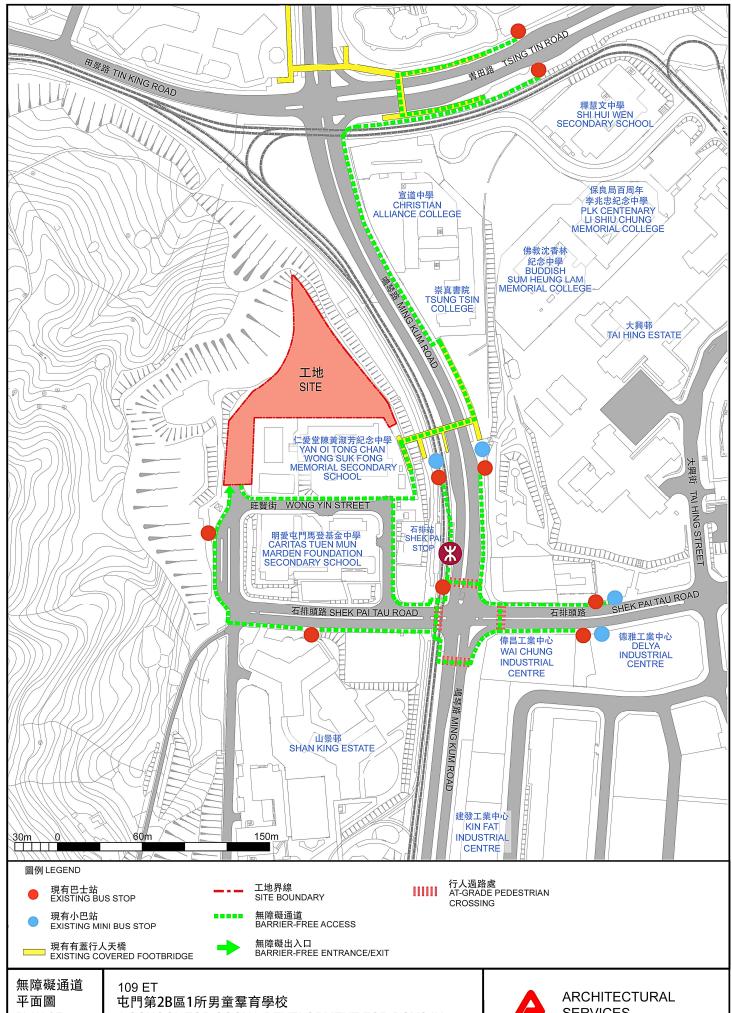




109 ET 屯門第2B區1所男童羣育學校 A SCHOOL FOR SOCIAL DEVELOPMENT FOR BOYS IN AREA 2B, TUEN MUN



鸦件 5 ENCLOSURE 5



PLAN OF **BARRIER-FREE** ACCESS

A SCHOOL FOR SOCIAL DEVELOPMENT FOR BOYS IN AREA 2B, TUEN MUN



109ET - A school for social development for boys in Area 2B, Tuen Mun

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2015 prices)

				Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional Technical	<u> </u>	- -	- -	6.0 4.3	
	uun	administration				Sub-total	10.3
(b)	Res	Resident site staff (RSS) costs (Note 3)	Professional Technical	28 218	38 14	1.6	3.3
	(RS					1.6	8.9
						Sub-total	12.2
	Cor	mprising -					
	(i)	Consultants' fees for management of RSS				0.5	
	(ii)	Remuneration of RSS				11.7	
						Total	22.5

^{*} MPS = Master Pay Scale

Notes

- 1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = \$74,210 per month and MPS salary point 14 = \$25,505 per month).
- 2. The consultants' fees for contract administration are calculated in accordance with the existing consultancy agreement for the design and construction of **109ET**. The assignment will only be executed subject to Finance Committee's funding approval to upgrade **109ET** to Category A.
- 3. The actual man-months and actual costs will only be known after completion of the construction works.