

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 703 – BUILDINGS**

#### **Education – Others**

#### **107ET – A school for social development for girls at Choi Hing Road, Kwun Tong, Kowloon**

Members are invited to recommend to Finance Committee the upgrading of **107ET** to Category A at an estimated cost of \$373.7 million in money-of-the-day prices.

### **PROBLEM**

We need to cope with the shortage of school and residential home places for providing general education and residential services for girls with moderate to severe behavioural and emotional difficulties and for implementation of the New Senior Secondary (NSS) Curriculum under the New Academic Structure.

### **PROPOSAL**

2. The Director of Architectural Services, with the support of the Secretary for Education, proposes to upgrade **107ET** to Category A at an estimated cost of \$373.7 million in money-of-the-day (MOD) prices for the construction of a school for social development (SSD)-cum-residential home for girls at Choi Hing Road, Kwun Tong, Kowloon.

**/PROJECT .....**

**PROJECT SCOPE AND NATURE**

3. The proposed scope of works under the project includes –
- (a) a school section with the following facilities –
    - (i) 18 classrooms;
    - (ii) three small group teaching rooms;
    - (iii) 11 special rooms, comprising a music room, a visual arts room, a multi-purpose room, a computer room, a design and technology workshop, a computer assisted learning room, an integrated science laboratory, a home economics room, and three rooms for elective subjects;
    - (iv) two interview rooms;
    - (v) a conference room;
    - (vi) a library;
    - (vii) an assembly hall;
    - (viii) a student activity centre; and
    - (ix) other ancillary facilities, including a disabled/fireman's lift, facilities for the disabled, stores and toilets, etc.;
  - (b) a residential home section with the following facilities –
    - (i) bedrooms to accommodate 202 boarders;
    - (ii) eight sitting rooms;
    - (iii) eight study rooms;
    - (iv) a dining/multi-purpose hall;

- (v) a kitchen;
- (vi) a central laundry and linen store;
- (vii) two interview rooms; and
- (viii) other ancillary facilities, including toilets, pantries, staff duty and sleep-in rooms, sick bays, parent-child chambers, a superintendent's quarters, staff office and storerooms, etc.

A site plan, floor plans, a sectional plan, artist's impressions of the school premises and a barrier-free access plan are at Enclosures 1 to 12. The proposed school will meet the planning target of providing two square metres (m<sup>2</sup>) of open space per student. Subject to the funding approval of the Finance Committee, we plan to commence the construction works in June 2015 for completion in August 2017.

## JUSTIFICATION

4. In order to meet the projected shortage of school places of SSDs for girls and to tie in with the implementation of the NSS Curriculum under the New Academic Structure, the Education Bureau and the Social Welfare Department plan to construct an SSD-cum-residential home for girls with moderate to severe behavioural and emotional difficulties.

5. The SSDs for girls provide intensive counselling and educational guidance for students with behavioural 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. With the implementation of the NSS Curriculum under the New Academic Structure, the SSDs have started operating Secondary 6 classes from the 2011/12 school year when the NSS was fully implemented. This development requires the expansion of SSDs to cater for the increased demand for SSD services.

6. In the 2013/14 school year, the demand for SSDs for girls is 330 school places. However, the design capacity of existing SSDs for girls in the territory currently stands at only 180 school places. At present, existing SSDs for girls are operating beyond their capacity to meet the demand as far as the existing infrastructure permits. Also, a total of 200 residential home places are provided in the boarding section of existing SSDs for girls. We project that the demand for

SSDs for girls will increase to 390 school places by the 2020/21 school year, resulting in a shortfall of 210 school places in 2020/21 school year if there is no new SSD for girls built by then. When the new SSD commences operation in 2017/18 school year, the school places and residential home places in SSD for girls will reach 450 and 402 respectively. The surplus places will provide buffer to cope with further increase in demand or for improvement of the class size of SSDs.

## FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the project to be \$373.7 million in MOD prices (please see paragraph 8 below), broken down as follows –

		<b>\$ million</b>	
(a)	Foundation	13.9	
(b)	Building	183.7	
(c)	Building services	39.4	
(d)	Drainage	10.1	
(e)	External works	28.6	
(f)	Additional energy conservation, green and recycled features	5.4	
(g)	Furniture and equipment <sup>1</sup>	5.7	
(h)	Contingencies	28.6	
	Sub-total	315.4	(in September 2014 prices)
(i)	Provision for price adjustment	58.3	
	Total	373.7	(in MOD prices)
			/The .....

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<sup>1</sup> The estimated cost is based on an indicative list of furniture and equipment.



The construction floor area (CFA) of the project is about 11 785 m<sup>2</sup>. The estimated construction unit cost, represented by the building and building services costs, is \$18,931 per m<sup>2</sup> of CFA in September 2014 prices. We consider this comparable to that of similar projects built by the Government.

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

Year	\$ million (Sept 2014)	Price adjustment factor	\$ million (MOD)
2015 – 16	20.0	1.06000	21.2
2016 – 17	100.0	1.12360	112.4
2017 – 18	130.0	1.19102	154.8
2018 – 19	35.0	1.26248	44.2
2019 – 20	20.0	1.32876	26.6
2020 – 21	10.4	1.39519	14.5
	<hr/> 315.4 <hr/>		<hr/> 373.7 <hr/>

9. 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 2015 to 2021. 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.

10. The cost of furniture and equipment for the project, estimated to be \$5.7 million, will be borne by the Government according to the existing policy. We estimate the annual recurrent expenditure arising from this project to be \$57.5 million.

/PUBLIC .....

## **PUBLIC CONSULTATION**

11. We consulted the Social Services Committee of the Kwun Tong District Council on 28 January 2014. Members supported the proposed project.

12. We consulted the Legislative Council Panel on Education on 14 April 2014. Members supported the Administration's proposal to seek funding from the Public Works Subcommittee. The supplementary information requested by Members was submitted to the Panel on 18 June 2014.

## **ENVIRONMENTAL IMPLICATIONS**

13. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We engaged a consultant to conduct Preliminary Environmental Review (PER) for the project in March 2014. The PER recommended installation of insulated windows and air-conditioning for Medical Inspection Room and Multi-purpose Room on G/F, Design & Technology Workshop on 2/F, Small Group Teaching Room and Elective Subject Room on 4/F. 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 mitigation measure is \$1.6 million in September 2014 prices. We have included the cost of the above mitigation measures as part of the building and building services works in the project estimate.

14. The project falls within the 250 metre Consultation Zone of the Jordan Valley Landfill (JVL). Landfill gas hazard assessment was carried out in December 2011. The assessment shows that landfill gas risk posed by JVL to the project during construction and operation/maintenance stage is "low" and "medium" respectively. During construction, we will adopt landfill gas protection measures and monitoring requirements including measures to control ignition, control of naked flame and measurement of landfill gas during excavation and in confined spaces. Gas-resistant polymeric membranes are incorporated into the ground floor slab to reduce the risk of gas accumulation within the building. Ventilation of void spaces by natural air movement is incorporated into the design. Sensors in appropriate locations will be provided where landfill gas have potential to accumulate. With such measures in place, the risks posed by landfill gas hazard during operation/maintenance stage will be reduced to acceptable levels. We have included the cost of the above measures as part of the building and building services works in the project estimate.

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 relevant contract. These include the use of silencers, mufflers, acoustic linings 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.

16. 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<sup>2</sup>. 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 generation of construction waste.

17. At the construction stage, we will 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 at public fill reception facilities and landfills respectively through a trip-ticket system.

18. We estimate that the project will generate in total about 11 700 tonnes of construction waste. Of these, we will reuse about 800 tonnes (6.8%) of inert construction waste on site and deliver 9 000 tonnes (77.0%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 1 900 tonnes (16.2%) 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 \$0.5 million for this

/project .....

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<sup>2</sup> 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.

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**

19. 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**

20. The project does not require any land acquisition.

## **ENERGY CONSERVATION , GREEN AND RECYCLED FEATURES**

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

- (a) heat recovery fresh air pre-conditioners in the air-conditioned space for heat energy reclaim of exhaust air;
- (b) solar hot water system; and
- (c) photovoltaic system.

22. For greening features, there will be landscaping, vertical greening and roof greening in appropriate areas for environmental and amenity benefits.

23. For recycled features, we will adopt a rainwater recycling system for landscape irrigation with a view to conserving water.

24. The total estimated additional cost for adoption of the above features is around \$5.4 million (including \$0.5 million for energy efficient features), which has been included in the cost estimate of the project. The energy efficient features will achieve 7.7% energy savings in the annual energy consumption with a payback period of about 5.5 years.

**/BACKGROUND .....**

**BACKGROUND INFORMATION**

25. We upgraded the project to Category B in September 2010. We engaged a term contractor to undertake site investigation, consultants to undertake topographical survey, underground utilities survey, landfill gas hazard assessment, geotechnical engineering services and PER between February 2011 and March 2014. The total cost of the works and consultancy services is about \$1.5 million. The works and services by the contractor and 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 contractor and consultants have completed all the above consultancy services and works. We have completed the detailed design and tender documents of the project with in-house resources.

26. There is no existing tree within the project boundary. We will incorporate planting proposals as part of the project, including planting of about 45 trees, 4 500 shrubs and 18 500 ground covers.

27. We estimate that the proposed works will create about 175 jobs (162 for labourers and another 13 for professional/technical staff) providing a total employment of 3 520 man-months.

28. This paper supersedes PWSC(2014-15)26 which was not discussed by the PWSC during the 2013-14 legislative session. The programme, phasing of expenditure and estimated cost of the project have been updated due to the lapse of time.

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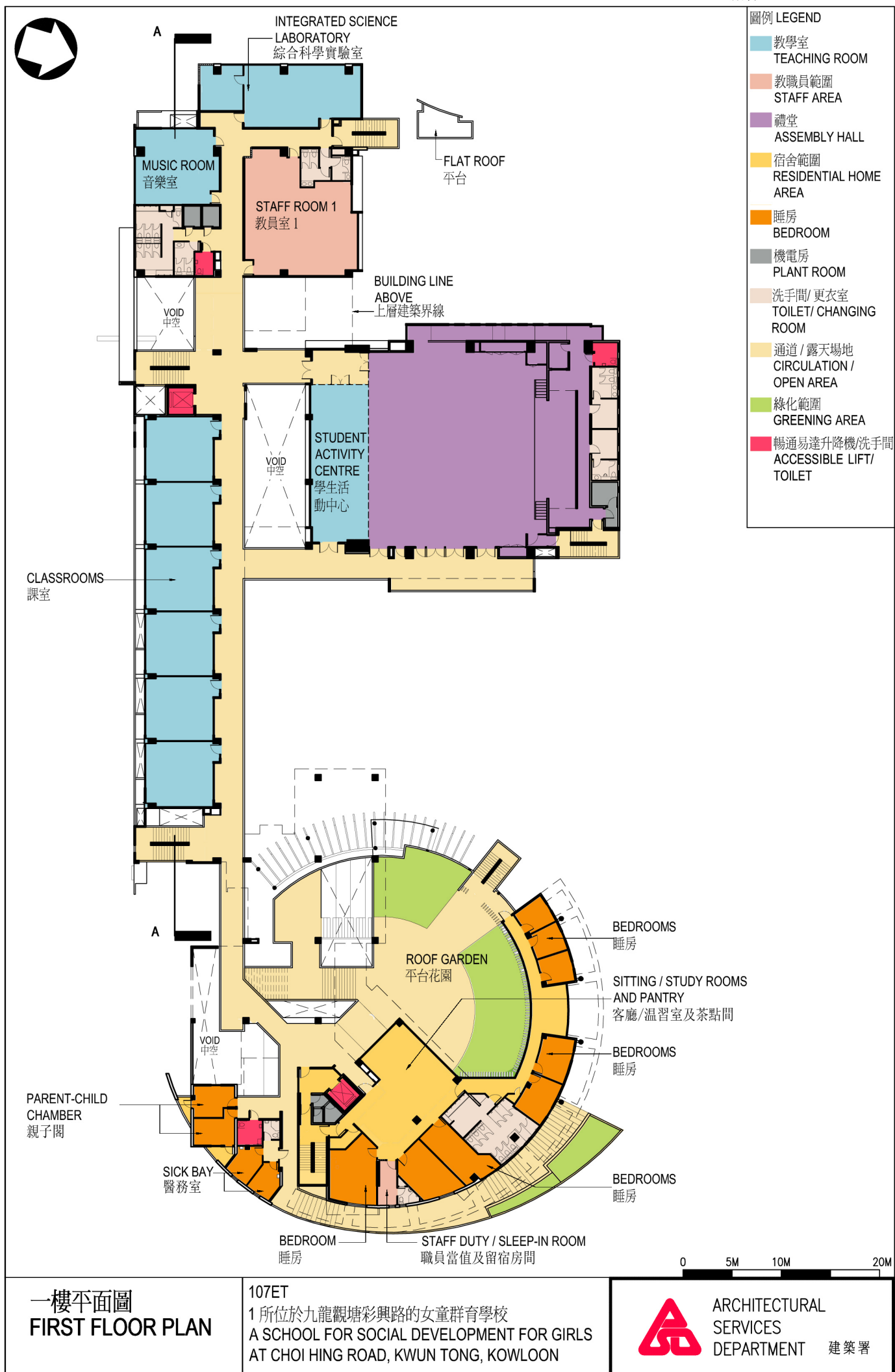
地面平面圖  
GROUND FLOOR  
PLAN

107ET  
1 所位於九龍觀塘彩興路的女童群育學校  
A SCHOOL FOR SOCIAL DEVELOPMENT FOR GIRLS  
AT CHOI HING ROAD, KWUN TONG, KOWLOON

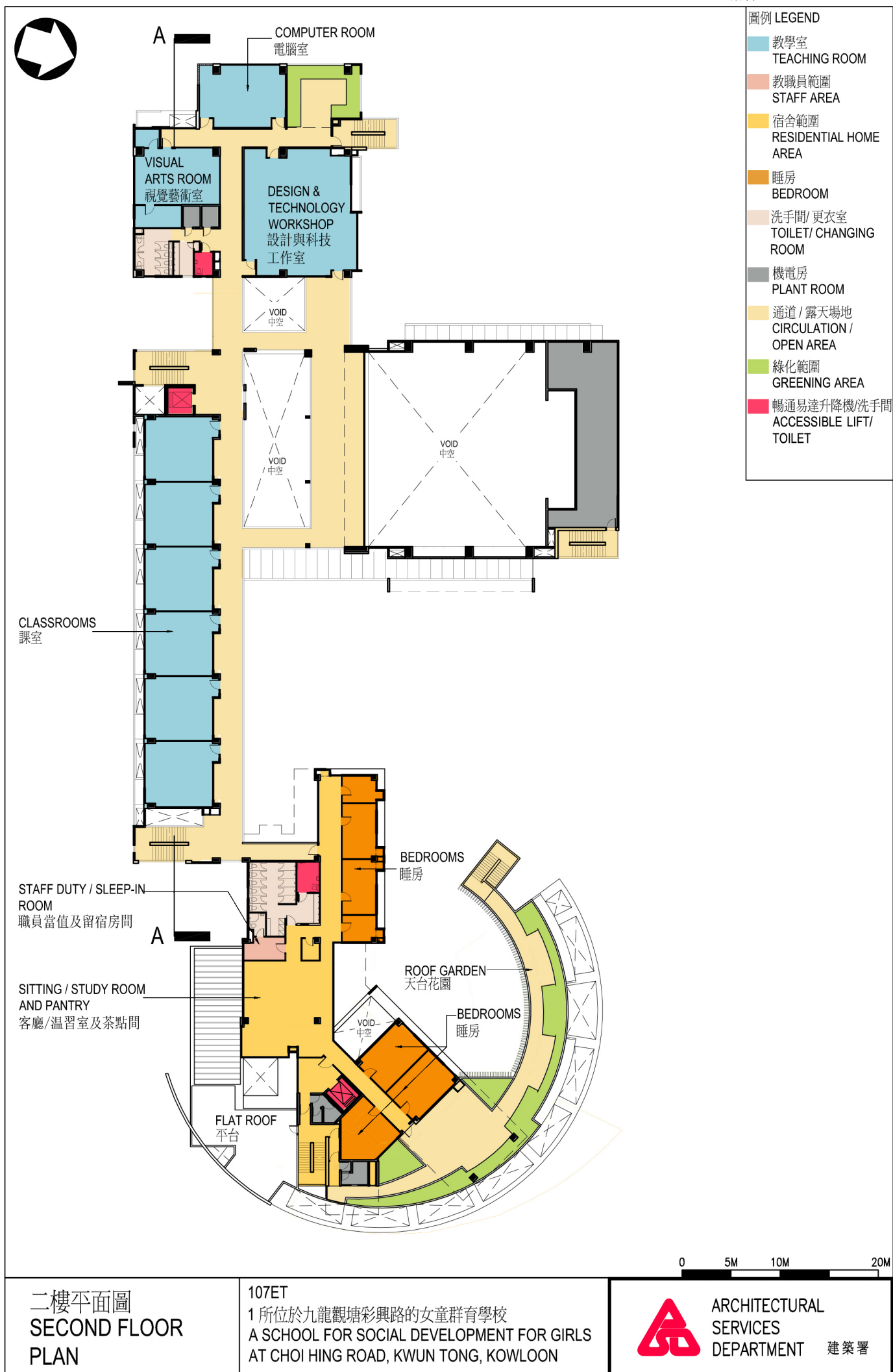


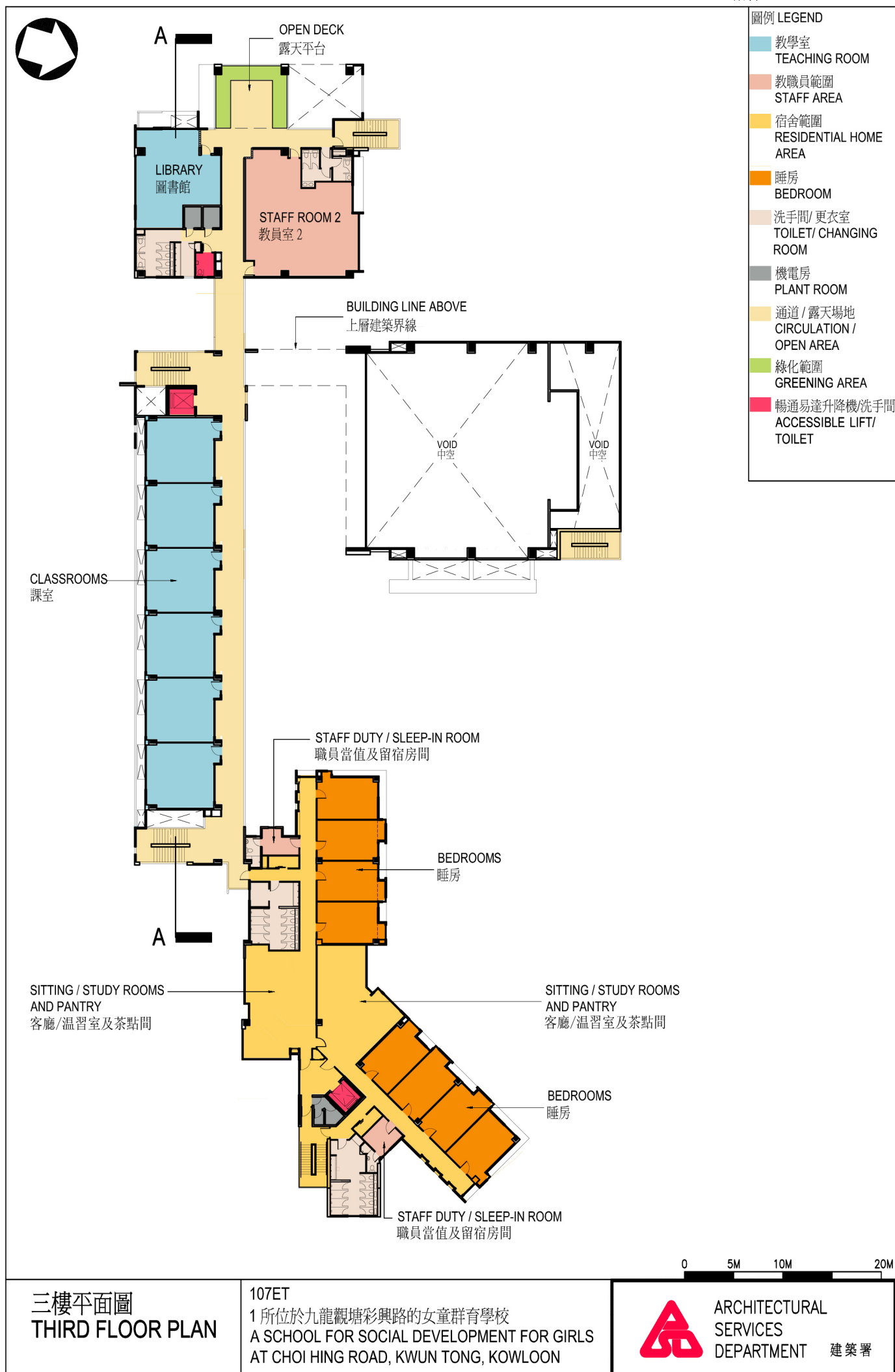
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DEPARTMENT 建築署

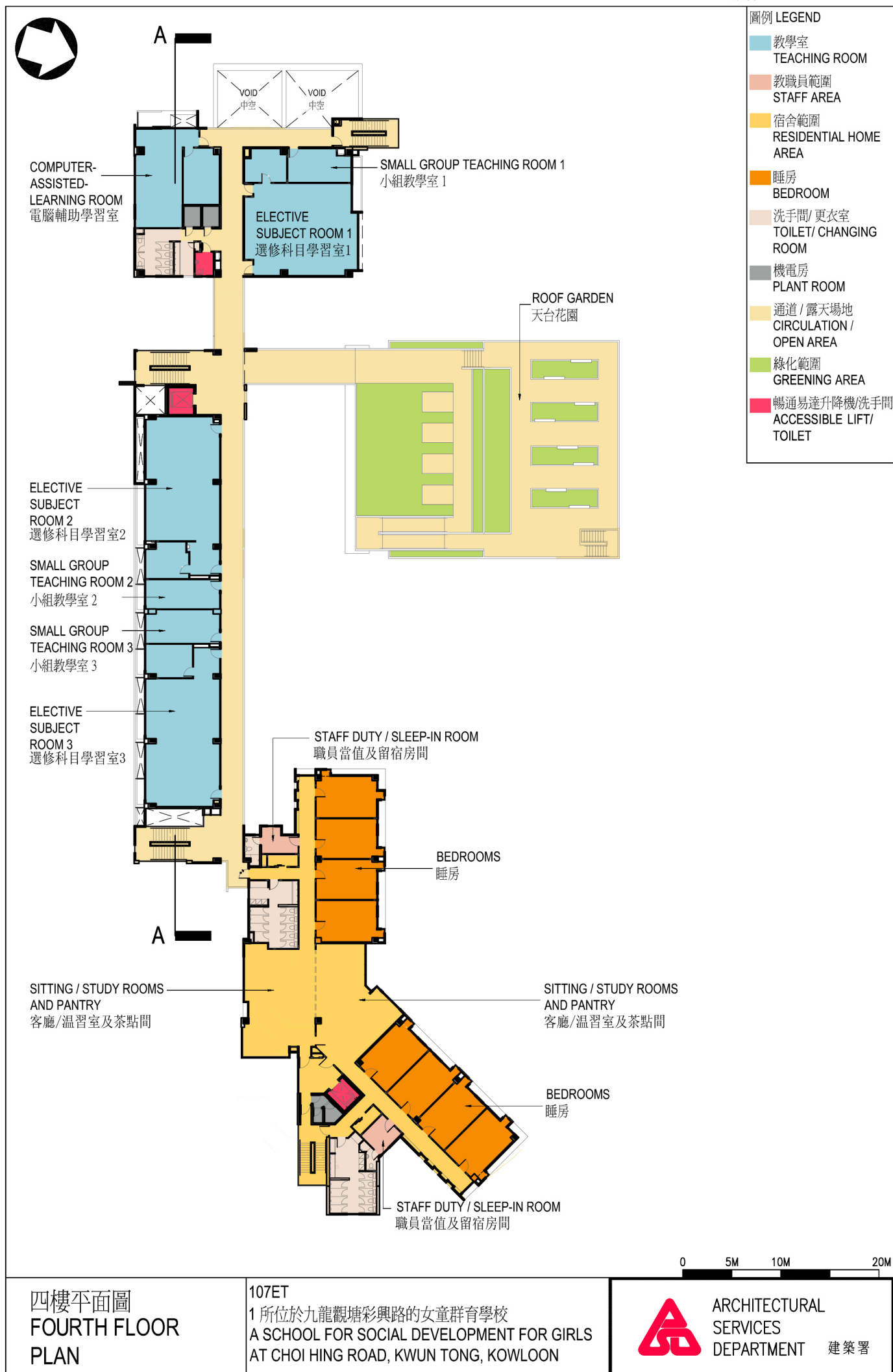


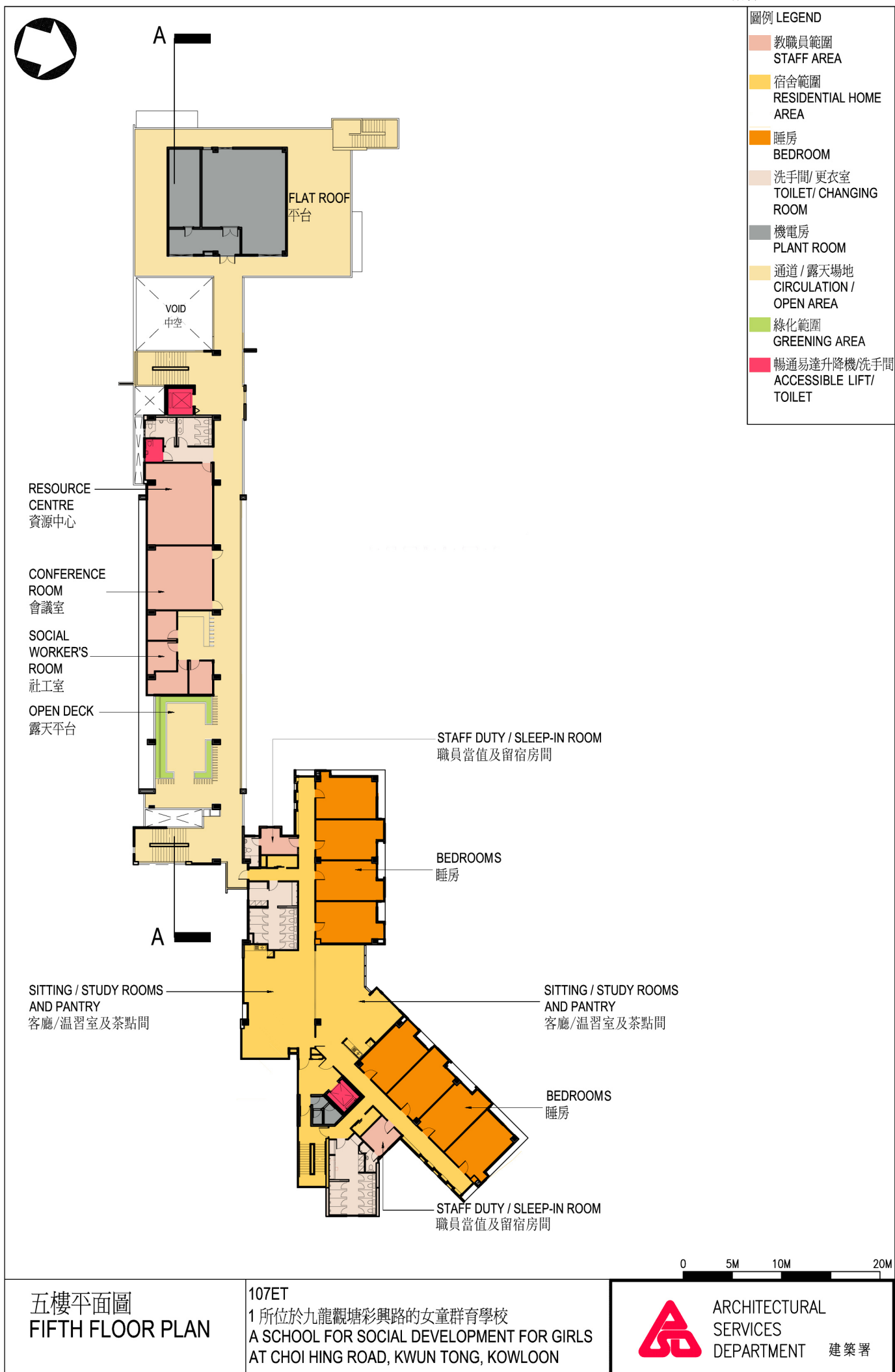






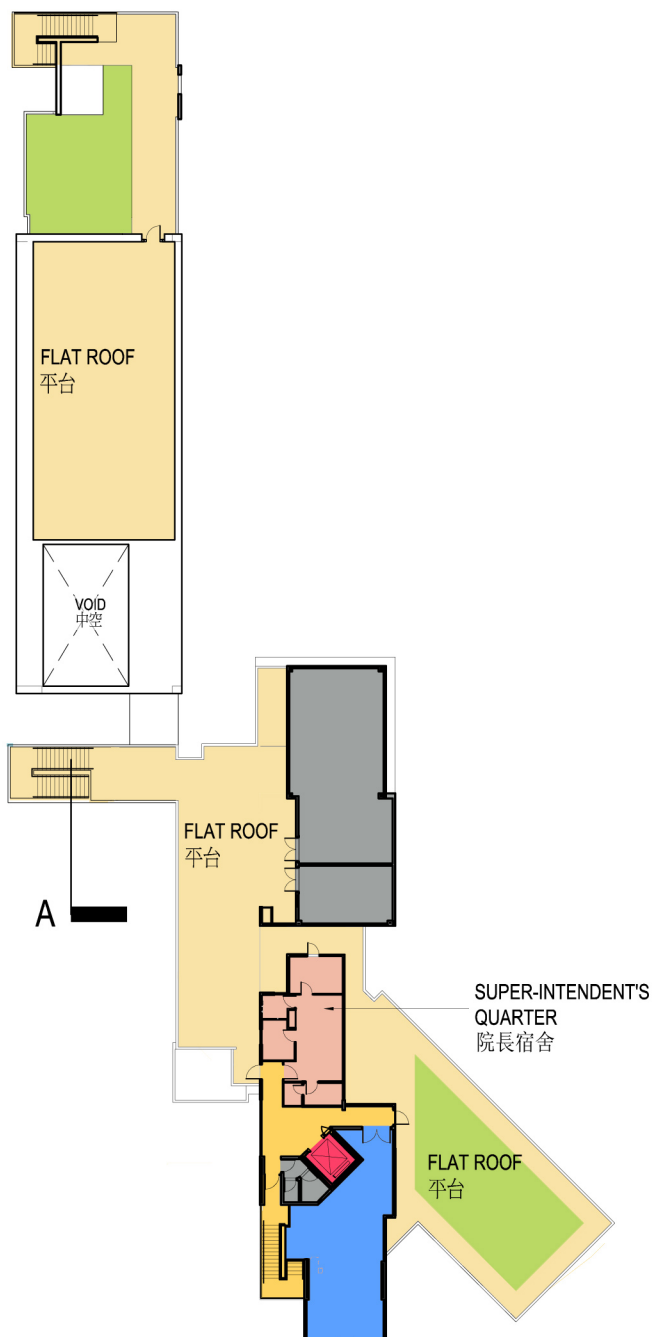
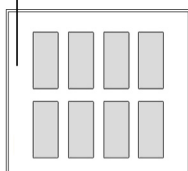








A



圖例 LEGEND

- 教職員範圍  
STAFF AREA
- 中央洗衣房及布草房  
CENTRAL LAUNDRY  
AND LINEN STORE
- 宿舍範圍  
RESIDENTIAL HOME  
AREA
- 機電房  
PLANT ROOM
- 通道 / 露天場地  
CIRCULATION /  
OPEN AREA
- 綠化範圍  
GREENING AREA
- 光伏板範圍  
AREA FOR  
PHOTOVOLTAIC  
PANELS
- 暢通易達升降機/洗手間  
ACCESSIBLE LIFT/  
TOILET

0 5M 10M 20M

天台平面圖  
ROOF FLOOR PLAN

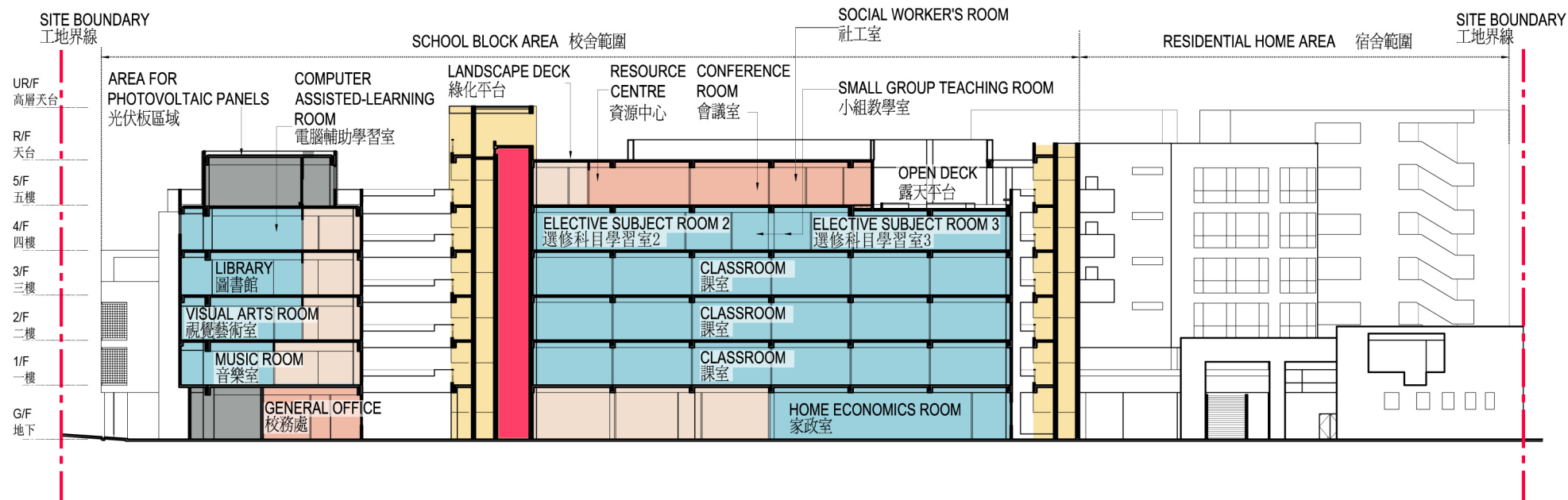
107ET

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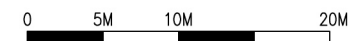
ARCHITECTURAL  
SERVICES  
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BUILDING HEIGHT LIMIT : 8 STOREYS  
建築物高度上限：八層



圖例 LEGEND

- |  |  |  |
|--|--|--|
| <span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span> 教學室<br>TEACHING ROOM                | <span style="display:inline-block; width:15px; height:15px; background-color:gray; border:1px solid black;"></span> 機電房<br>PLANT ROOM                      | <span style="display:inline-block; width:15px; height:15px; border-top:1px dashed red; border-bottom:1px dashed red;"></span> 工地界線<br>SITE BOUNDARY  |
| <span style="display:inline-block; width:15px; height:15px; background-color:lightorange; border:1px solid black;"></span> 教職員範圍<br>STAFF AREA               | <span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> 通道 / 露天場地<br>CIRCULATION / OPEN AREA | <span style="display:inline-block; width:15px; height:15px; background-color:lightcoral; border:1px solid black;"></span> 暢通易達升降機<br>ACCESSIBLE LIFT |
| <span style="display:inline-block; width:15px; height:15px; background-color:lightpink; border:1px solid black;"></span> 洗手間 / 更衣室<br>TOILET / CHANGING ROOM |  |  |



剖面圖 A-A  
SECTION A-A

107ET  
1 所位於九龍觀塘彩興路的女童群育學校  
A SCHOOL FOR SOCIAL DEVELOPMENT FOR GIRLS  
AT CHOI HING ROAD, KWUN TONG, KOWLOON



ARCHITECTURAL  
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DEPARTMENT 建築署





從南面望向學校的構思透視圖  
PERSPECTIVE VIEW FROM SOUTHERN DIRECTION (ARTIST'S IMPRESSION)

構思圖  
ARTIST'S  
IMPRESSION

107ET  
1 所位於九龍觀塘彩興路的女童群育學校  
A SCHOOL FOR SOCIAL DEVELOPMENT FOR GIRLS  
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從東北面望向學校的鳥瞰圖

AERIAL VIEW FROM NORTH EASTERN DIRECTION (ARTIST'S IMPRESSION)

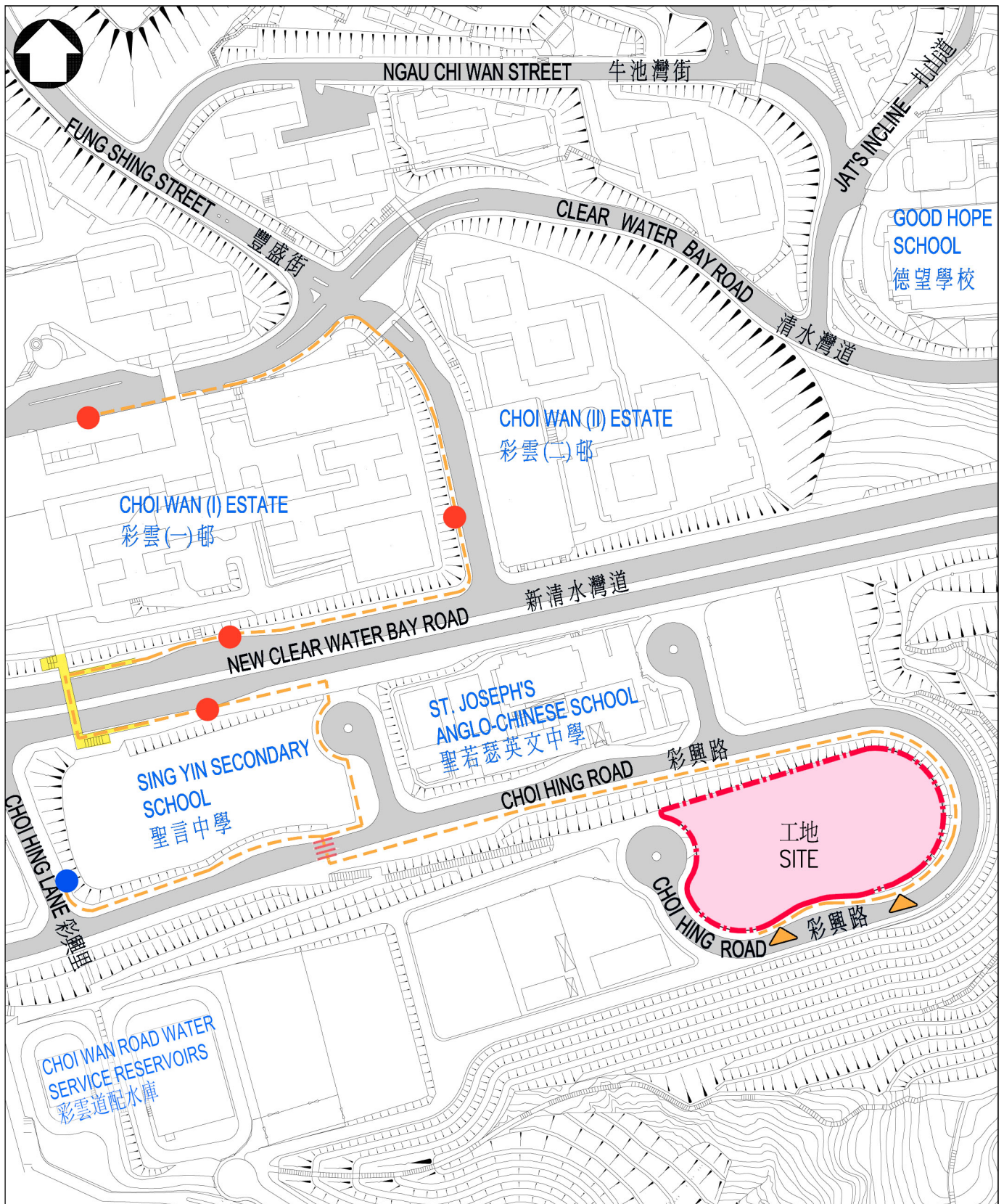
構思圖  
ARTIST'S  
IMPRESSION

107ET  
1 所位於九龍觀塘彩興路的女童群育學校  
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圖例 LEGEND

- |  |   |                           |
|--|---|---------------------------|
| ● 現有巴士站<br>EXISTING BUS STOP             | ■ 現有有蓋行人天橋(設有暢通無阻的斜道)<br>EXISTING COVERED FOOTBRIDGE<br>(WITH BARRIER-FREE RAMPS) | --- 工地界線<br>SITE BOUNDARY |
| ● 現有小巴站<br>EXISTING MINI-BUS STOP        | --- 無障礙通道<br>BARRIER-FREE ACCESS  |                           |
| 行人過路處<br>AT-GRADE PEDESTRIAN<br>CROSSING | ▲ 無障礙出入口<br>BARRIER-FREE ENTRANCE/ EXIT   |                           |

0 25M 50M 100M

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

107ET  
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