For discussion **PWSC(2020-21)38**
on 24 March 2021

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS
Education – Primary
365EP – A 36-classroom primary school at Area 9, Tai Po

Members are invited to recommend to the Finance Committee the upgrading of **365EP** to Category A at an estimated cost of $427.3 million in money-of-the-day prices.

PROBLEM

We need to construct a new primary school at Area 9, Tai Po, to meet the projected long-term demand for public sector primary school places of the Tai Po District, including those arising from the new public housing developments at Chung Nga Road East and Area 9.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Education, proposes to upgrade **365EP** to Category A at an estimated cost of $427.3 million in money-of-the-day (MOD) prices for the construction of a primary school premises at Area 9, Tai Po, to meet the projected long-term demand for public sector primary school places of the Tai Po District.

/PROJECT …..

PROJECT SCOPE AND NATURE

3. The proposed scope of works of the project includes the construction of a primary school with the following facilities —

(a) 36 classrooms;

(b) nine special rooms, comprising a music room, a visual arts room, a general studies room, three multi-purpose rooms, two computer assisted learning rooms and a language room;

(c) four small group teaching rooms;

(d) a guidance activity room;

(e) two interview rooms;

(f) a staff room and a staff common room;

(g) a student activity centre;

(h) a conference room;

(i) a library;

(j) an assembly hall;

(k) multi-purpose areas;

(l) a covered playground;

(m) two basketball courts;

(n) a running track[1]; and

(o) ancillary facilities including an accessible/fireman's lift, facilities for the disabled, a tuck shop-cum-central portioning area, stores and toilets, etc.

/4. …..

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[1] A 30-metre running track will be provided to make optimal use of the campus space.

4. The proposed new school premises, with a site area of about 7 060 square metres (m^2), will meet the planning target of providing 2 m^2 of open space per student. The site and location plan, floor plans, sectional drawings, an artist's impression and the barrier-free access plan for the project are at **Enclosures 1 to 5** respectively.

5. We plan to commence the proposed works upon obtaining funding approval from the Finance Committee for target completion in around two and a half years.

JUSTIFICATION

6. Under the established mechanism, the Government will reserve sites for public sector school development when preparing town plans and planning large-scale residential developments having regard to the planned population intake and on the basis of the needs for community services in accordance with the guidelines set out in the Hong Kong Planning Standards and Guidelines. The school site at Area 9, Tai Po, was reserved in accordance with the above-mentioned mechanism.

7. The public housing developments at Chung Nga Road East and Area 9, Tai Po, are respectively scheduled for completion in 2021 and 2023 with an estimated total population of about 17 500, and the major population intake is expected in 2023. After taking into account the projected demand for public sector primary school places of the Tai Po District including those arising from the population intake of the public housing developments at Chung Nga Road East and Area 9, as well as the projected demand and supply situation of the Tai Po District, we consider that there is a need for the new 36-classroom aided primary school at Area 9 from the 2023/24 school year. The planned school premises to be constructed was allocated through the School Allocation Exercise completed in 2019 to the Superintendent in Hong Kong of the Pentecostal Holiness Church for operating the school. Upon completion of the proposed capital works project, the school may operate up to 36 classes, subject to the actual enrolment and operational needs.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the project to be $427.3 million in MOD prices, broken down as follows –

/(a) …..

			$million (in MOD prices)
(a)	Site works		2.4
(b)	Piling		36.4
(c)	Building[2]		183.7
(d)	Building services[3]		117.1
(e)	Drainage		8.3
(f)	External works		24.9
(g)	Additional energy conservation, green and recycled features		5.7
(h)	Consultants' fees for		9.9
	(i) contract administration	9.1	
	(ii) management of resident site staff (RSS)	0.8	
(i)	Remuneration of RSS		14.6
(j)	Contingencies		24.3
	Total		427.3

9. We propose engaging consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at **Enclosure 6**. The construction floor area (CFA) of the project is about 13 136 m^2. The estimated construction unit cost, represented by the building and building services costs, is $22,899 per m^2 of CFA in MOD prices. We consider this unit cost comparable to that of similar projects built by the Government.

/10. …..

[2] Building works cover construction of substructure and superstructure of the building.

[3] Building services works cover electrical installation, ventilation and air-conditioning installation, fire services installation, lifts installation and other specialist installations.

10. Subject to funding approval, we plan to phase the expenditure as follows –

Year	$ million (in MOD prices)
2021 – 2022	15.7
2022 – 2023	92.2
2023 – 2024	212.0
2024 – 2025	36.3
2025 – 2026	35.6
2026 – 2027	35.5
	427.3

11. 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 2021 to 2027. 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 adjustment.

12. The cost of furniture and equipment (F&E) for the project, estimated to be about $2.6 million[4], will be borne by the School Sponsoring Body according to the existing policy. We estimate the annual recurrent expenditure arising from this project to be $62.0 million upon full commissioning of the new school premises.

/PUBLIC …..

[4] The estimated cost is based on the F&E cost ceiling for a new 36-classroom primary school adopting the standard schedule of accommodation and commencing operation in 2020/21 school year.

PUBLIC CONSULTATION

13. The Government consulted the Environment, Housing and Works Committee of the Tai Po District Council on 9 March 2016 on the public housing developments at Chung Nga Road East and Area 9. The Committee supported the public housing developments and the building of ancillary government, institutional and community facilities, including the proposed 36-classroom primary school development at Area 9. We provided the Healthcare, Education and Social Services Committee of the Tai Po District Council with an information paper on the latest details of the school project at Area 9 on 9 November 2020. The Committee did not raise any objection to the project.

14. We consulted the Legislative Council Panel on Education on 8 January 2021. Members of the Panel supported the project and did not raise any objection to the submission of the funding proposal to the Public Works Subcommittee. At the request of the Panel, we provided supplementary information on 4 February 2021.

ENVIRONMENTAL IMPLICATIONS

15. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We completed a Preliminary Environmental Review (PER) in February 2021. The PER recommended the installation of insulated windows for noise sensitive rooms exposed to traffic noise exceeding the limits set out in the Hong Kong Planning Standards and Guidelines, in addition to the standard provision of air-conditioning for all standard teaching facilities. With such mitigation measures in place, the project will not be exposed to long-term environmental impacts. We have included in the project estimates the cost to implement these mitigation measures.

16. 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 measures 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 to prevent dust nuisance.

17. 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 …..

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 (PFRFs)[5]. 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.

18. 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 PFRFs and landfills respectively through a trip-ticket system.

19. We estimate that the project will generate in total about 17 010 tonnes of construction waste. Of these, we will reuse about 2 080 tonnes (12.2%) of inert construction waste on site and deliver 13 240 tonnes (77.9%) of inert construction waste to PFRFs for subsequent reuse. We will dispose of the remaining 1 690 tonnes (9.9%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRFs and landfill sites is estimated to be $1.3 million for this project (based on a unit charge rate of $71 per tonne for disposal at PFRFs and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

20. 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

21. This project does not require any land acquisition.

/ ENERGY …..

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

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

22. 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) photovoltaic system; and

(c) light tubes.

23. For greening features, there will be landscaping, vertical greening and green roof at appropriate areas for environmental and amenity benefits.

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

25. The total estimated additional cost for adoption of the above features is around $5.7 million (including $0.8 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 6.0% energy savings in the annual energy consumption with a payback period of about ten years.

BACKGROUND INFORMATION

26. We upgraded **365EP** to Category B in September 2018. We engaged term contractor to undertake ground investigation, and consultants to undertake various services at a total cost of about $12.6 million. The services and works provided by the consultants were 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 term contractor and consultants have completed all the above consultancy services and works except the assessment of tenders which is in progress.

/27. …..

27. There are two trees within the project boundary, which are not important trees[6]. The proposed works will not involve any tree removal proposal. We will incorporate planting proposals as part of the project, including the planting of about 47 trees, 10 480 shrubs, 445 climbers, 7 282 groundcovers, and 276 m^2 of grassed area.

28. We estimate that the proposed works will create about 130 jobs (110 for labourers and 20 for professional or technical staff) providing a total employment of 3 000 man-months.

Education Bureau
March 2021

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[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 –

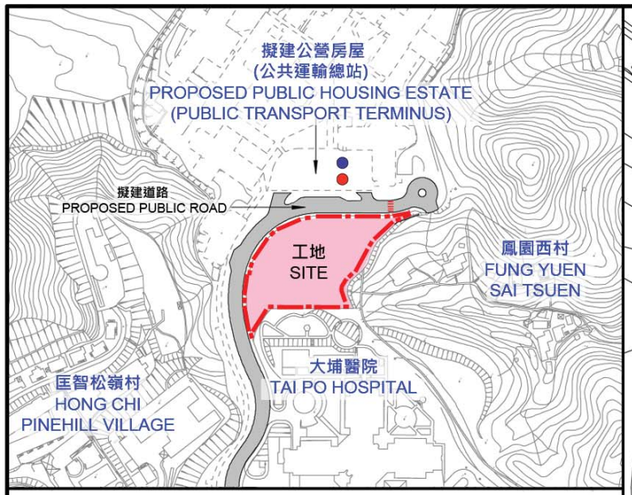
(a) trees of 100 years old or above;

(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 metres above ground level), or with height/canopy spread equal or exceeding 25 metres.

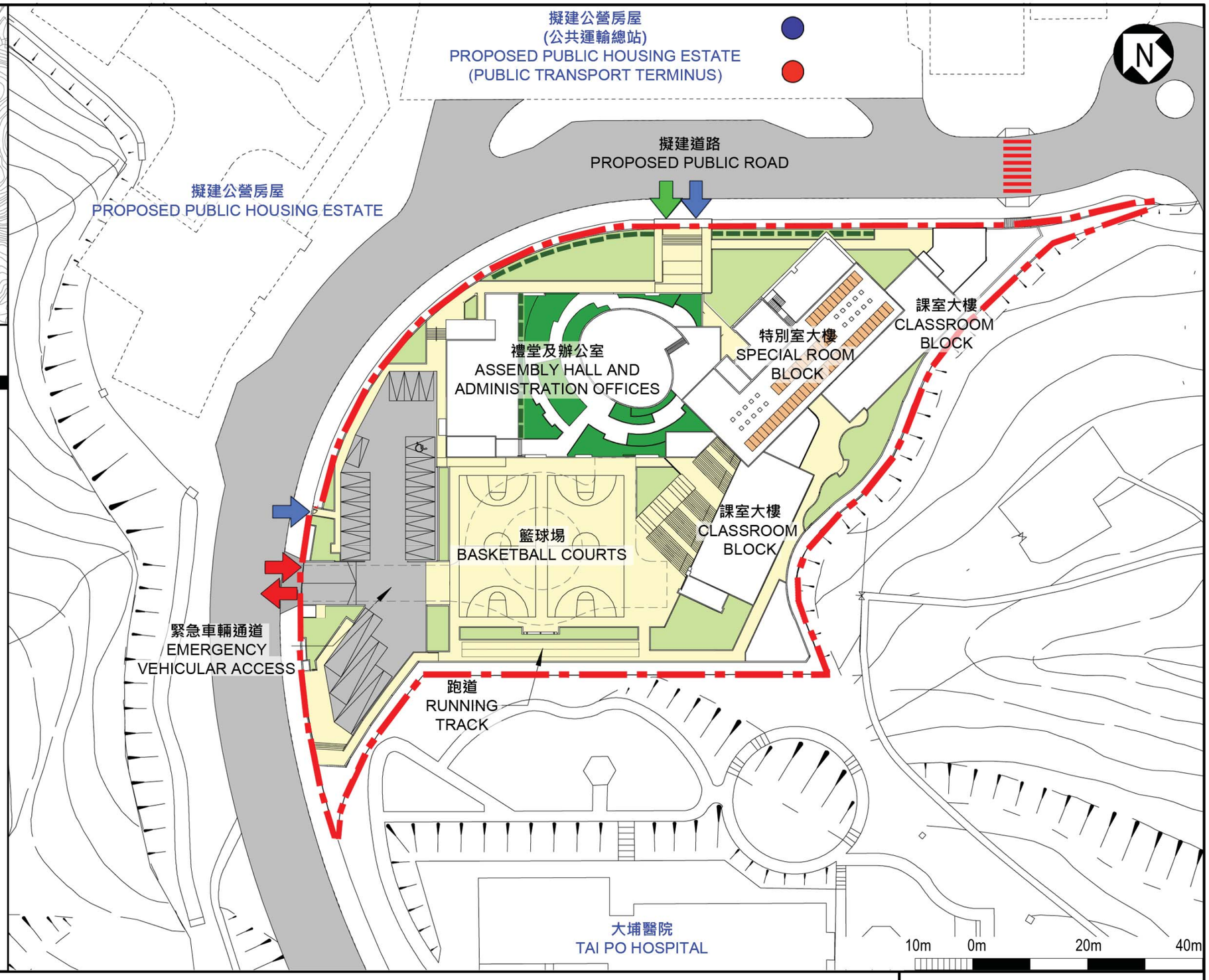


位置圖 LOCATION PLAN

100m 0m 200m

圖例 LEGEND

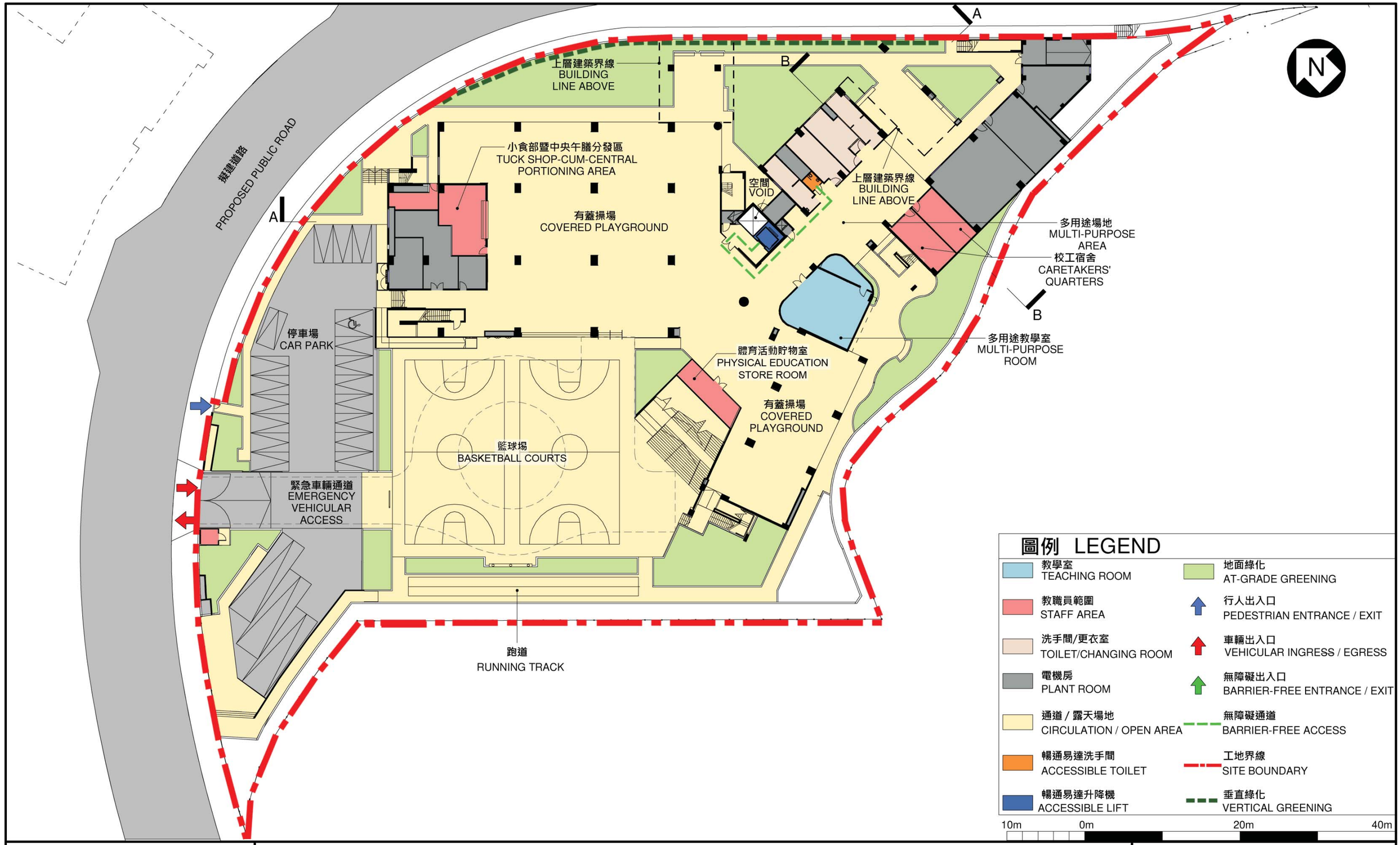
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT
- 車輛出入口 VEHICULAR INGRESS / EGRESS
- 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
- 地面綠化 AT-GRADE GREENING
- 天台綠化 LANDSCAPED ROOF
- 通道 / 露天場地 CIRCULATION / OPEN AREA
- 太陽能光伏板 PHOTOVOLTAIC PANEL
- 擬建行人過路處 PROPOSED AT-GRADE PEDESTRIAN CROSSING
- 工地界線 SITE BOUNDARY
- 垂直綠化 VERTICAL GREENING
- 擬建小巴站 PROPOSED MINIBUS STOP
- 擬建巴士站 PROPOSED BUS STOP



工地平面圖
SITE PLAN

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

ARCHITECTURAL SERVICES DEPARTMENT 建築署



圖例 LEGEND

教學室 TEACHING ROOM	地面綠化 AT-GRADE GREENING
教職員範圍 STAFF AREA	行人出入口 PEDESTRIAN ENTRANCE / EXIT
洗手間/更衣室 TOILET/CHANGING ROOM	車輛出入口 VEHICULAR INGRESS / EGRESS
電機房 PLANT ROOM	無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
通道 / 露天場地 CIRCULATION / OPEN AREA	無障礙通道 BARRIER-FREE ACCESS
暢通易達洗手間 ACCESSIBLE TOILET	工地界線 SITE BOUNDARY
暢通易達升降機 ACCESSIBLE LIFT	垂直綠化 VERTICAL GREENING

10m 0m 20m 40m

地下平面圖
GROUND FLOOR PLAN

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

ARCHITECTURAL SERVICES DEPARTMENT 建築署

擬建道路
PROPOSED PUBLIC ROAD

校務處
GENERAL OFFICE
會見室
INTERVIEW ROOMS
會議室
CONFERENCE ROOM
公共詢問櫃檯
PUBLIC
INFORMATION
COUNTER
電腦輔助教學室
COMPUTER ASSISTED
LEARNING ROOM
空間
VOID
課室
CLASSROOMS
多用途場地
MULTI-PURPOSE
AREA
教員室
STAFF ROOM
教員休息室
STAFF COMMON ROOM
輔導活動室
GUIDANCE ACTIVITY ROOM
上層建築界線
BUILDING LINE
ABOVE
課室
CLASSROOMS
A
B
N

圖例 LEGEND

- 教學室 TEACHING ROOM
- 教職員範圍 STAFF AREA
- 洗手間 TOILET
- 電機房 PLANT ROOM
- 通道 / 露天場地 CIRCULATION / OPEN AREA
- 暢通易達洗手間 ACCESSIBLE TOILET
- 暢通易達升降機 ACCESSIBLE LIFT
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT
- 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
- 無障礙通道 BARRIER-FREE ACCESS
- 工地界線 SITE BOUNDARY

10m 0m 20m 40m

一樓平面圖
FIRST FLOOR PLAN

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

ARCHITECTURAL SERVICES DEPARTMENT 建築署

二樓平面圖
SECOND FLOOR PLAN

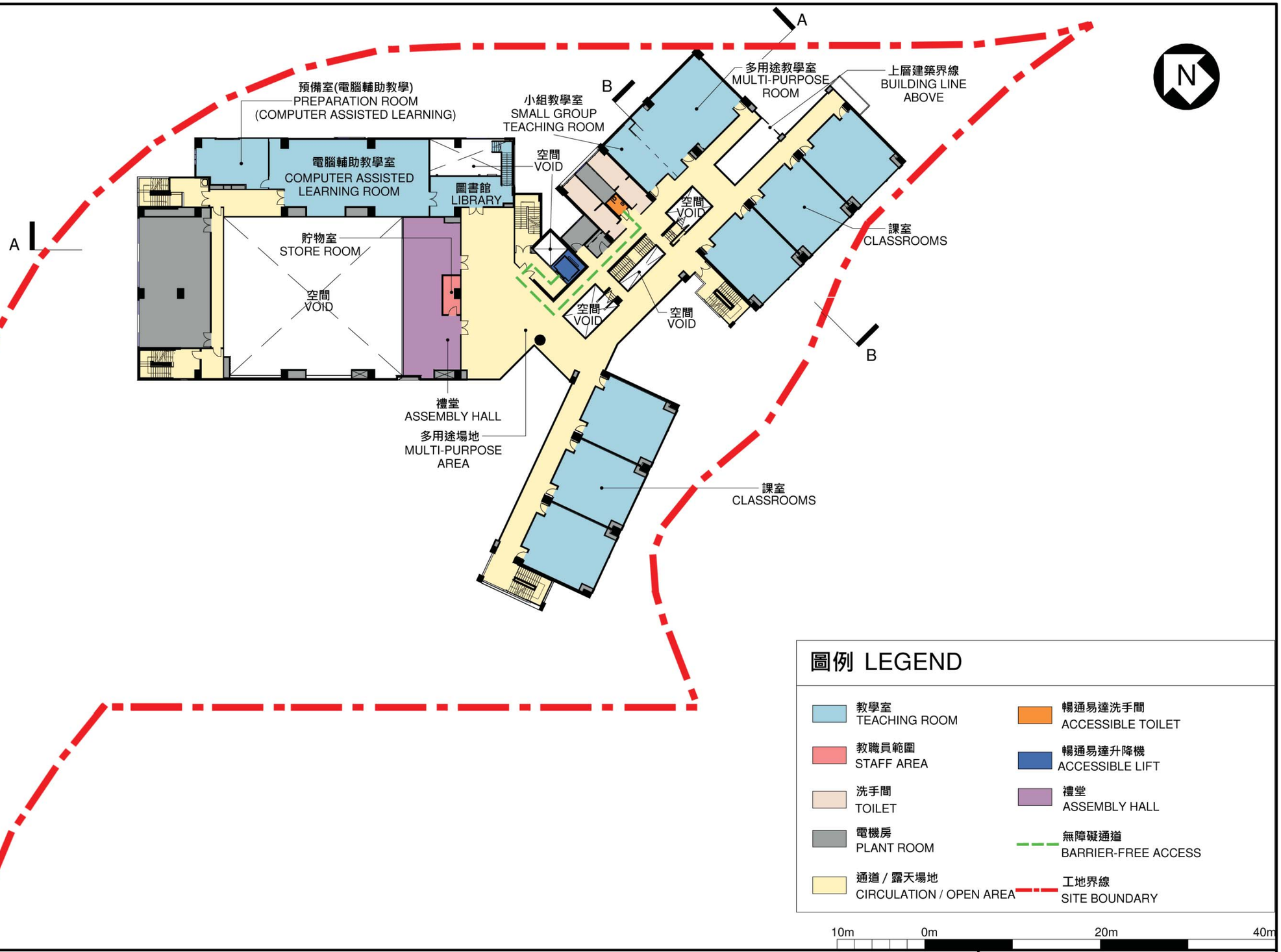
365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

ARCHITECTURAL SERVICES DEPARTMENT 建築署

三樓平面圖
THIRD FLOOR PLAN

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

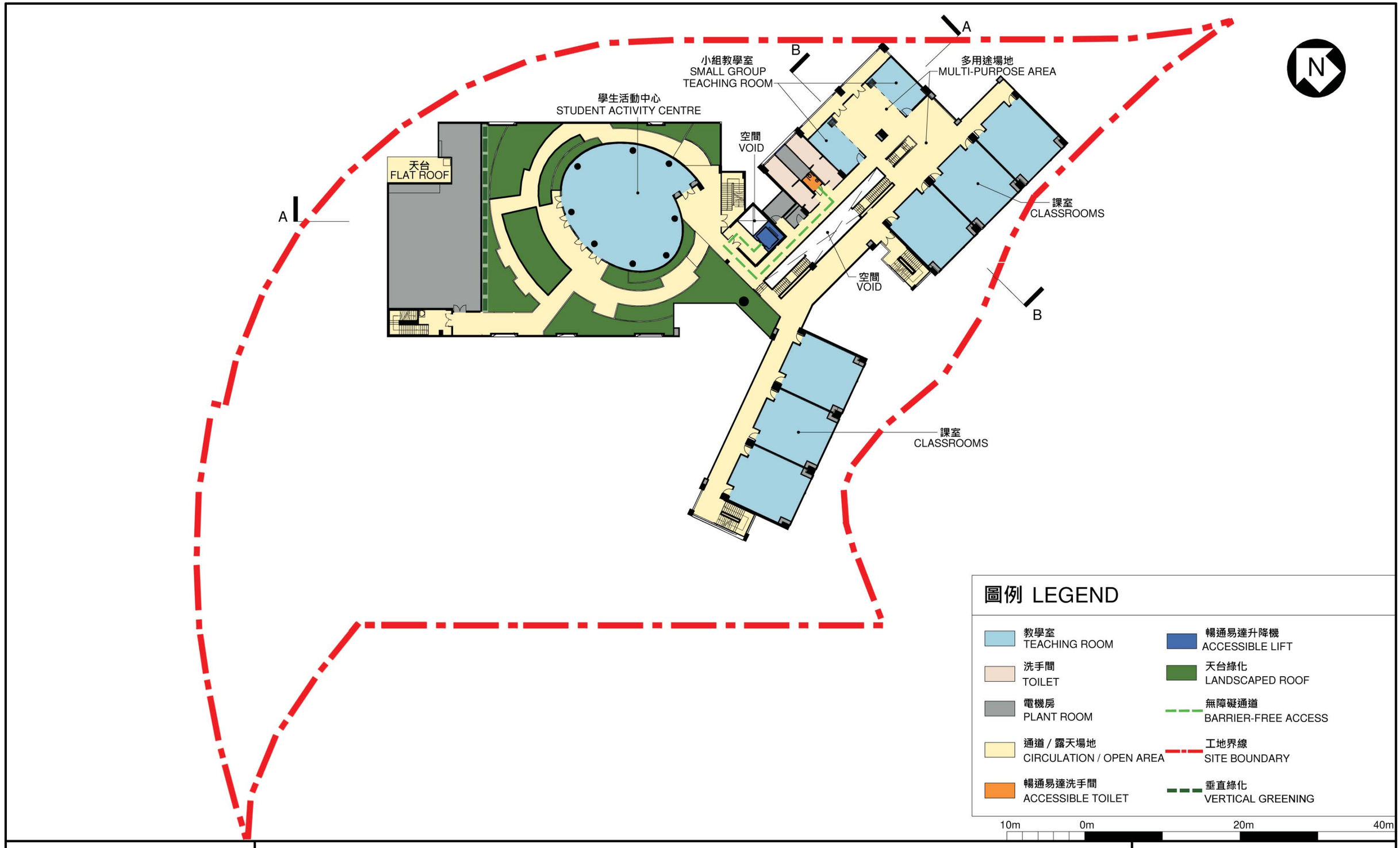
ARCHITECTURAL SERVICES DEPARTMENT 建築署



四樓平面圖
FOURTH FLOOR PLAN

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

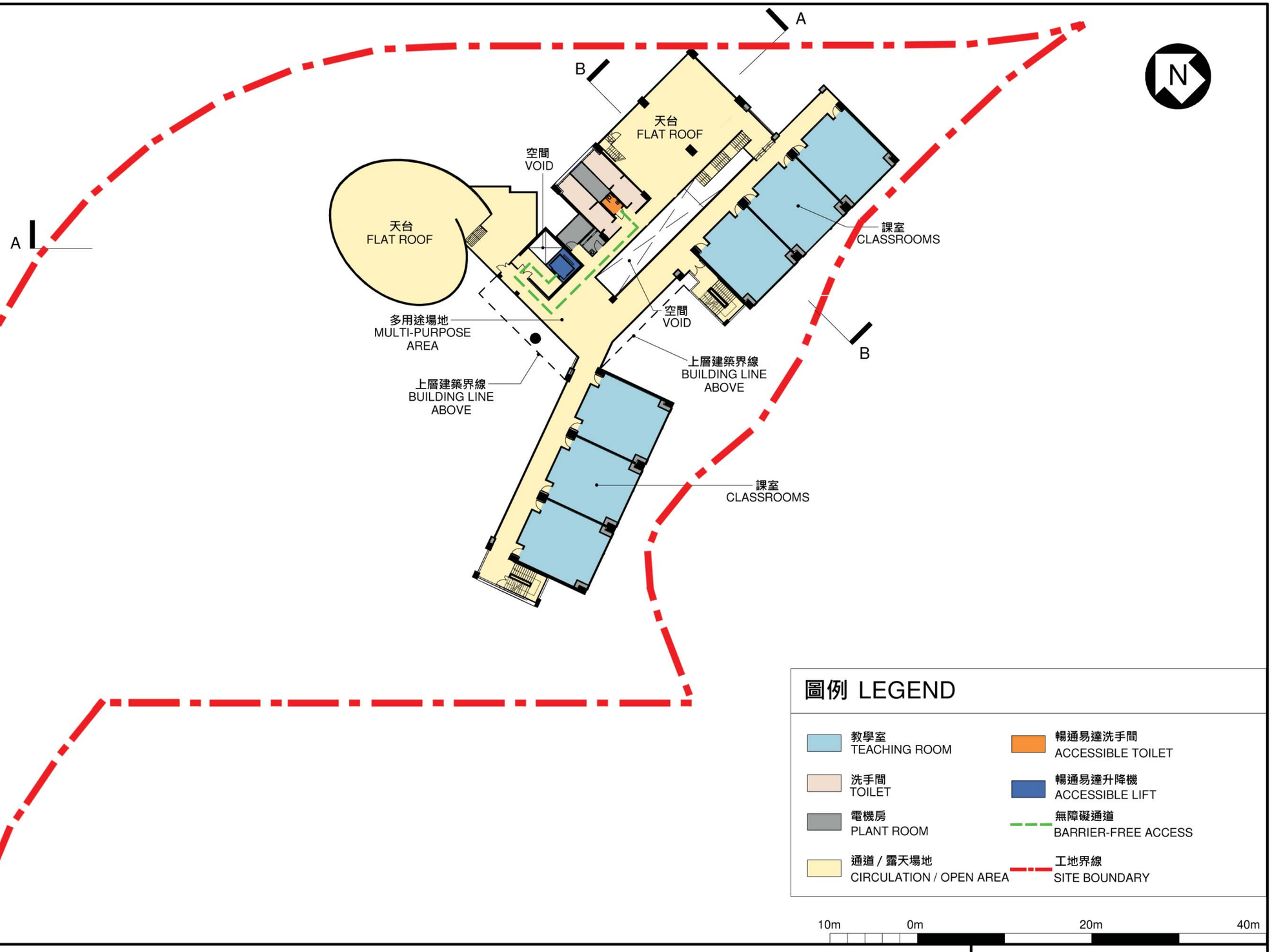
ARCHITECTURAL SERVICES DEPARTMENT 建築署



五樓平面圖
FIFTH FLOOR PLAN

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

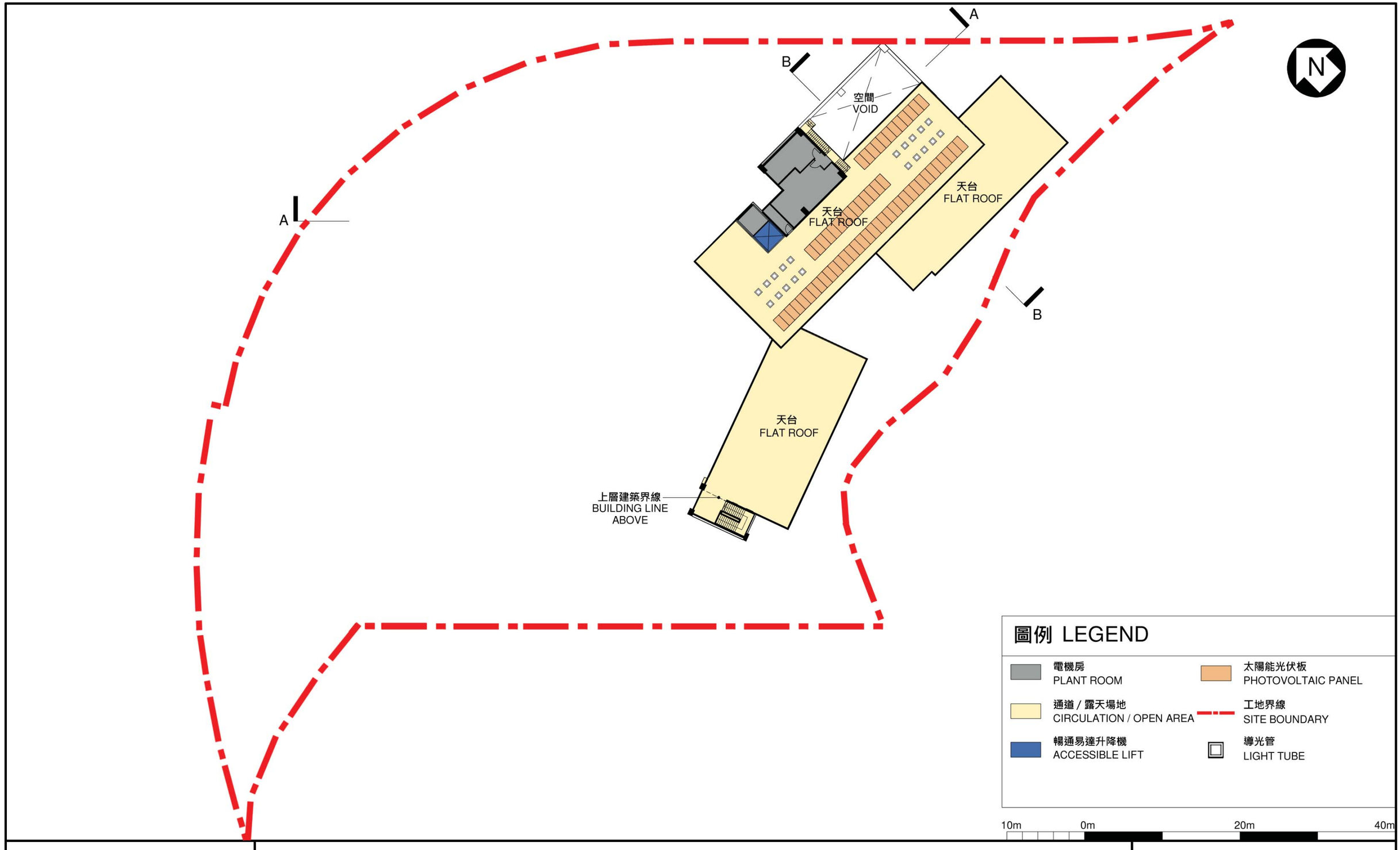
ARCHITECTURAL SERVICES DEPARTMENT 建築署



六樓平面圖
SIXTH FLOOR PLAN

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

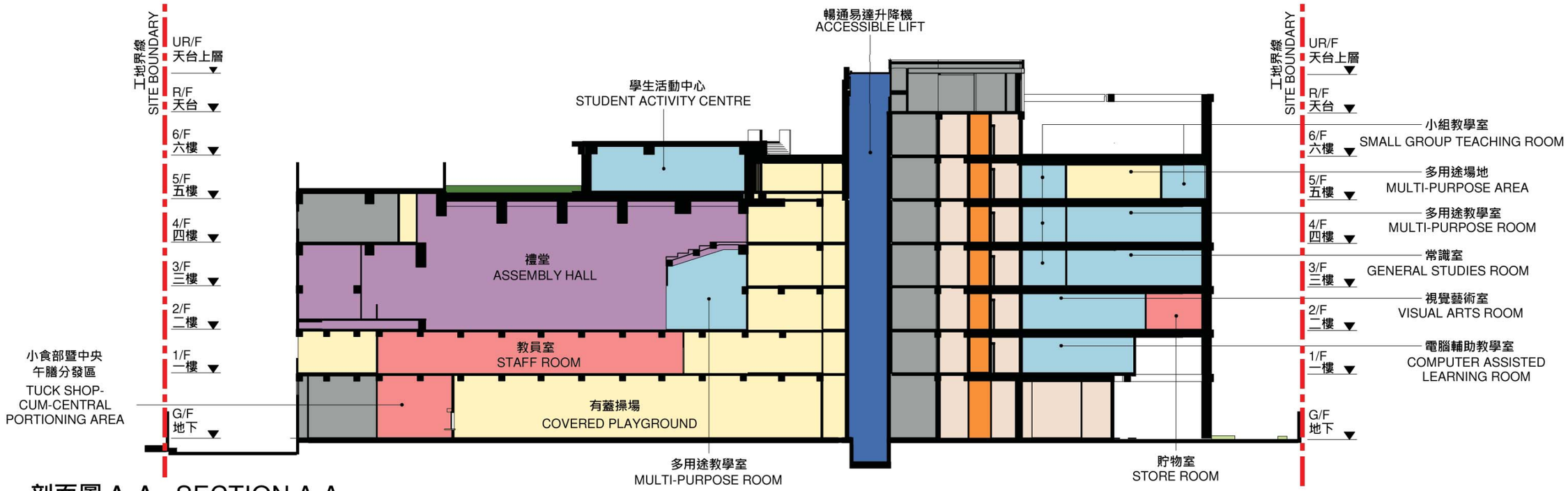
ARCHITECTURAL SERVICES DEPARTMENT 建築署



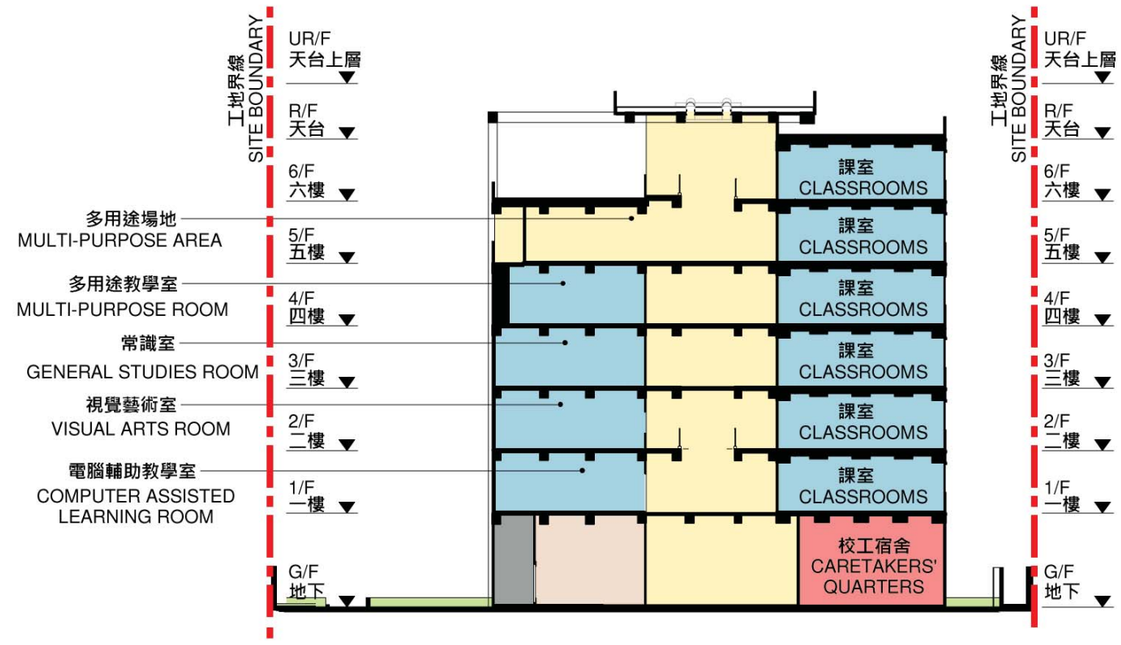
天台平面圖
ROOF FLOOR PLAN

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

ARCHITECTURAL SERVICES DEPARTMENT 建築署



剖面圖 A-A SECTION A-A



剖面圖 B-B SECTION B-B

圖例 LEGEND

- 教學室 TEACHING ROOM
- 教職員範圍 STAFF AREA
- 洗手間 TOILET
- 電機房 PLANT ROOM
- 通道 / 露天場地 CIRCULATION / OPEN AREA
- 暢通易達洗手間 ACCESSIBLE TOILET
- 暢通易達升降機 ACCESSIBLE LIFT
- 地面綠化 AT-GRADE GREENING
- 天台綠化 LANDSCAPED ROOF
- 禮堂 ASSEMBLY HALL
- 工地界線 SITE BOUNDARY

5m 0m 10m 20m

剖面圖
SECTIONS

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

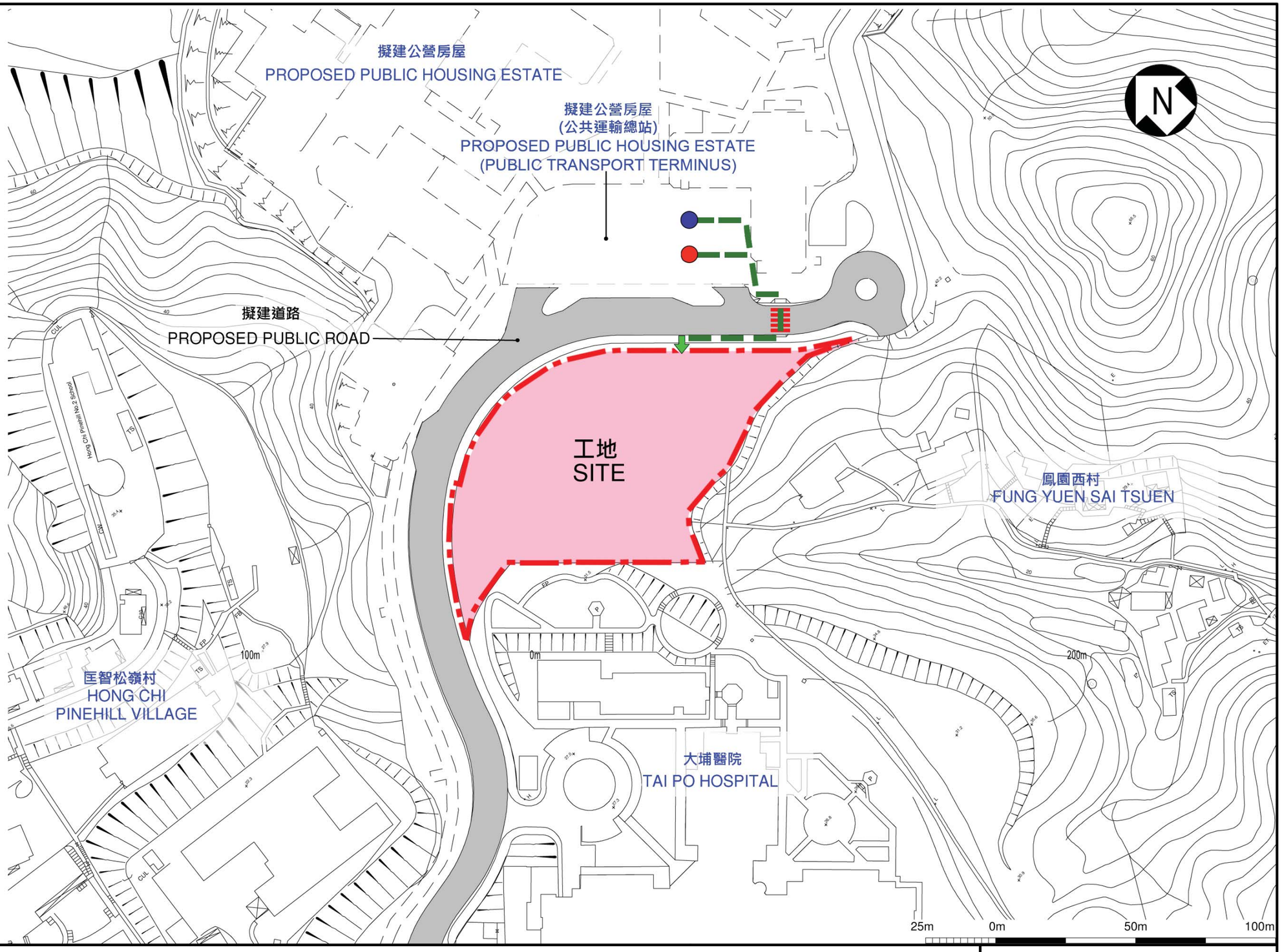
ARCHITECTURAL SERVICES DEPARTMENT 建築署

從西面望向小學的構思透視圖
PERSPECTIVE VIEW FROM WESTERN DIRECTION (ARTIST'S IMPRESSION)

構思圖 ARTIST'S IMPRESSION	365EP 大埔第9區 1 所設有36間課室的小學 A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO	ARCHITECTURAL SERVICES DEPARTMENT 建築署

圖例 LEGEND

- 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
- 擬建行人過路處 PROPOSED AT-GRADE PEDESTRIAN CROSSING
- 工地界線 SITE BOUNDARY
- 無障礙通道 BARRIER-FREE ACCESS
- 擬建小巴站 PROPOSED MINIBUS STOP
- 擬建巴士站 PROPOSED BUS STOP



無障礙通道平面圖
PLAN OF BARRIER-FREE ACCESS

365EP
大埔第9區 1 所設有36間課室的小學
A 36-CLASSROOM PRIMARY SCHOOL AT AREA 9, TAI PO

ARCHITECTURAL SERVICES DEPARTMENT 建築署

365EP – A 36-classroom primary school at Area 9, Tai Po

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2020 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	–	–	–	7.2
		Technical	–	–	–	0.6
					Sub-total	7.8#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	20	38	1.6	2.7
		Technical	219	14	1.6	10.6
					Sub-total	13.3
	Comprising -					
	(i) Consultants' fees for management of RSS				0.7#	
	(ii) Remuneration of RSS				12.6#	
					Total	**21.1**

* 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 = $85,870 per month and MPS salary point 14 = $30,235 per month).

2. The consultants' fees for contract administration are calculated in accordance with the existing consultancy agreement for the design and construction of **365EP**. The assignment will only be executed subject to Finance Committee's funding approval to upgrade the project to Category A.

3. The actual man-months and actual costs will only be known after completion of the construction works.

Remarks

The figures in this Enclosure are shown in constant prices correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 8 of the main paper.