For discussion **PWSC(2014-15)42**
on 22 October 2014

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS
Recreation, Culture and Amenities – Sports facilities
273RS – Sports centre in Area 24D, Sha Tin

Members are invited to recommend to the Finance Committee the upgrading of **273RS** to Category A at an estimated cost of $639.7 million in money-of-the-day prices.

PROBLEM

There are insufficient sports facilities in Sha Tin to meet the needs of the local community and promote the development of sport.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Home Affairs, proposes to upgrade **273RS** to Category A at an estimated cost of $639.7 million in money-of-the-day (MOD) prices for the construction of a sports centre in Area 24D, Sha Tin.

PROJECT SCOPE AND NATURE

3. The project site occupies an area of about 6 200 square metres (m^2) at Sha Tin Tau Road in Area 24D, Sha Tin. The proposed scope of works under **273RS** includes –

/ (a) …..

(a) a multi-purpose arena with seating capacity for about 1 000 people, which can be used as two basketball courts, two volleyball courts or eight badminton courts;

(b) two multi-purpose activity rooms which can be combined into one larger activity room;

(c) a children's play room;

(d) a dance room;

(e) a fitness room;

(f) a lobby and lounge area and a cafeteria;

(g) a fee-paying car park with 17 spaces for private cars and two spaces for motorcycles; and

(h) ancillary facilities including a baby-care room, a first aid room, toilets and changing facilities, a management office, a booking office, a meeting room, store rooms, loading and unloading areas.

A location plan and a site plan of the proposed sports centre are at Enclosures 1 and 2 respectively. The floor plans, a section plan, a barrier-free access plan and an artist's impression for the proposed sports centre are at Enclosures 3 to 11. Subject to funding approval of the Finance Committee, we plan to commence construction of the proposed project in May 2015 for completion in June 2018.

JUSTIFICATION

4. Sha Tin District has a population of about 651 600, which we expect to increase to about 711 700 by 2021. Whilst the Hong Kong Planning Standards and Guidelines suggest a provision of 11 sports centres for Sha Tin District by 2021, there are only five sports centres in the district[1] at present. The average overall usage rate (including peak and non-peak times) of the main games arenas of these five sports centres was about 87% in the past three years, with peak time usage rates in the evenings and at weekends averaging about 95%. A new sports centre is under construction in Area 14B, Sha Tin for completion in early 2016. The proposed project will help to meet the strong demand for sports centres in the district and will help promote sport by providing capacity for organising more sports training courses and competitions in the local community.

/ 5. …..

[1] The five existing sports centres are Heng On Sports Centre, Hin Keng Sports Centre, Ma On Shan Sports Centre, Mei Lam Sports Centre and Yuen Wo Road Sports Centre.

5. The proposed sports centre is located within 5 minutes' walk from the Che Kung Temple Mass Transit Railway Station. There are three secondary schools, five primary schools and several villages and housing developments, including San Tin, Sha Tin Tau and Lee Uk, Chun Shek Estate, Fung Shing Court, Sun Tin Wai Estate and Sun Chui Estate in the vicinity. It is expected that the project will be welcomed by students and local residents in particular.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be $639.7 million in MOD prices (please see paragraph 7 below), broken down as follows –

		$ million	
(a)	Site works	5.3	
(b)	Site formation	24.9	
(c)	Geotechnical works	11.6	
(d)	Piling	45.2	
(e)	Building[2]	268.8	
(f)	Building services	77.6	
(g)	Drainage	8.6	
(h)	External works	16.6	
(i)	Additional energy conservation measures	8.7	
(j)	Furniture and equipment[3]	4.5	
(k)	Consultants' fees	1.2	
(l)	Contingencies	47.2	
	Sub-total	520.2	(in September 2014 prices)
(m)	Provision for price adjustment	119.5	
	Total	639.7	(in MOD prices)

/ We …..

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

[3] The estimated cost is based on an indicative list of furniture and equipment.

We propose to engage consultants to undertake the geotechnical engineering works and environmental assessment of the project. A detailed breakdown of the estimate for consultants' fees is at Enclosure 12. The construction floor area (CFA) of the project is about 12 590 m^2. The estimated construction unit cost, represented by the building and building services costs, is $27,514 per m^2 of CFA in September 2014 prices. We consider this comparable to that of similar projects built by the Government.

7. 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	90.0	1.12360	101.1
2017 – 18	145.0	1.19102	172.7
2018 – 19	162.0	1.26248	204.5
2019 – 20	68.0	1.32876	90.4
2020 – 21	25.0	1.39519	34.9
2021 – 22	10.2	1.46495	14.9
	520.2		639.7

8. 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 2015 to 2022. Subject to funding approval, we will deliver the construction works through a lump sum contract because we can clearly define the scope of works in advance. The contract will provide for price adjustments.

9. We estimate the annual recurrent expenditure arising from this project to be about $14.5 million. The capital and recurrent costs arising from the project would be taken into consideration when determining the affected fees and charges as appropriate in future.

PUBLIC CONSULTATION

10. We consulted the Culture, Sports and Community Development Committee under the Sha Tin District Council (STDC CSCDC) on the scope, conceptual layout and car parking arrangement of the project in October 2009, April 2013 and December 2013. Members supported the project and requested its early implementation.

11. We conducted further local consultation through the Sha Tin District Office in July 2013. In January 2014, we submitted to the Town Planning Board (TPB) the planning application for the proposed development of the sports centre in "Open Space" and "Village Type Development" zones as required under section 16 of the Town Planning Ordinance (Cap. 131). We received support as well as objections regarding mainly on the adequacy of public car parking spaces in the vicinity. As agreed by the STDC CSCDC, we will arrange for the car park for the proposed sports centre to open round-the-clock and provide monthly overnight parking services to meet public needs. The TPB approved the planning application on 7 March 2014.

12. We consulted the Legislative Council Panel on Home Affairs on 11 April 2014. Members supported submitting the funding proposal to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

13. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The project will not cause long-term environmental impacts. We have included in the project estimates the cost to implement suitable mitigation measures to control short-term environmental impacts.

14. 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.

15. 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[4]. 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.

16. 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 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.

17. We estimate that the project will generate in total about 41 654 tonnes of construction waste. Of these, we will reuse about 10 212 tonnes (24.5%) of inert construction waste on site and deliver 27 394 tonnes (65.8%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 4 048 tonnes (9.7%) 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 $1.2 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

18. 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 …..

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

LAND ACQUISITION

19. The project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

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

(a) water-cooled chiller (evaporative cooling tower using fresh water);

(b) automatic demand control of chilled water circulation system;

(c) demand control of fresh air supply with carbon dioxide sensors;

(d) heat wheels for heat energy reclaim of exhaust air;

(e) heat pump for space heating / dehumidification;

(f) LED general light fittings;

(g) solar hot water system; and

(h) photovoltaic system.

21. For greening features, we will provide greening on appropriate area of the rooftop and facades of the building for environmental and amenity benefits.

22. For recycled features, we will adopt rainwater recycling system for makeup water of cooling towers and landscape irrigation.

23. The total estimated additional cost for adoption of the above features is around $8.7 million (including $2.7 million for energy efficient features), which has been included in the cost estimate of the project. The energy efficient features will achieve 10.7% energy savings in the annual energy consumption with a payback period of about 4.9 years.

/ **BACKGROUND** …..

BACKGROUND INFORMATION

24. We upgraded **273RS** to Category B in September 2010. We employed contractors to carry out topographical survey, site investigation and utility mapping. We engaged consultants to carry out geotechnical assessment, planning submission, traffic impact assessment and environmental studies. The total cost of these works and services of $2.2 million was funded under block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". We have completed the detailed design and tender documents with in-house resources.

25. There are 76 existing trees within the project boundary. The proposed project will involve the removal of these 76 trees, including 74 trees to be felled and 2 trees to be transplanted within the project site. All trees to be removed are not important trees[5]. We will incorporate planting proposals as part of the project, including the planting of 80 trees, 2 800 shrubs and 17 000 groundcovers, and 950 m^2 of grassed area.

26. We estimate that the proposed works will create about 274 jobs (250 for labourers and 24 for professional/technical staff) providing a total employment of 5 020 man-months.

27. This paper supersedes PWSC(2014-15)19 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.

Home Affairs Bureau
October 2014

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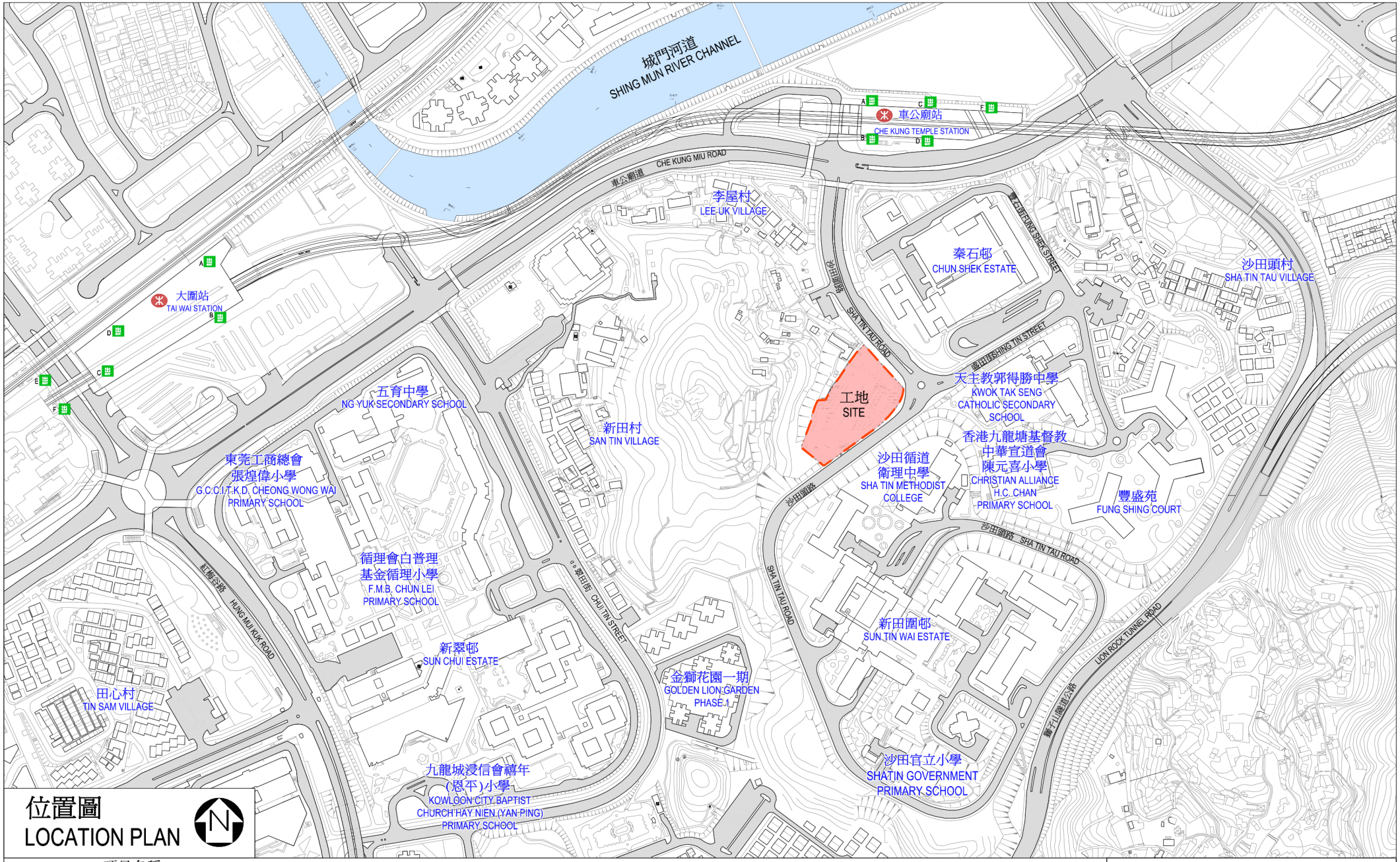
[5] "Important trees" refer to trees in the Register of Old and Valuable trees, or any trees that meet one or more of the following criteria—

(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 curtail like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 metre (m) (measured at 1.3m above ground level), or with height/canopy spread equal or exceeding 25 m.



位置圖
LOCATION PLAN

Project Title 項目名稱

273RS

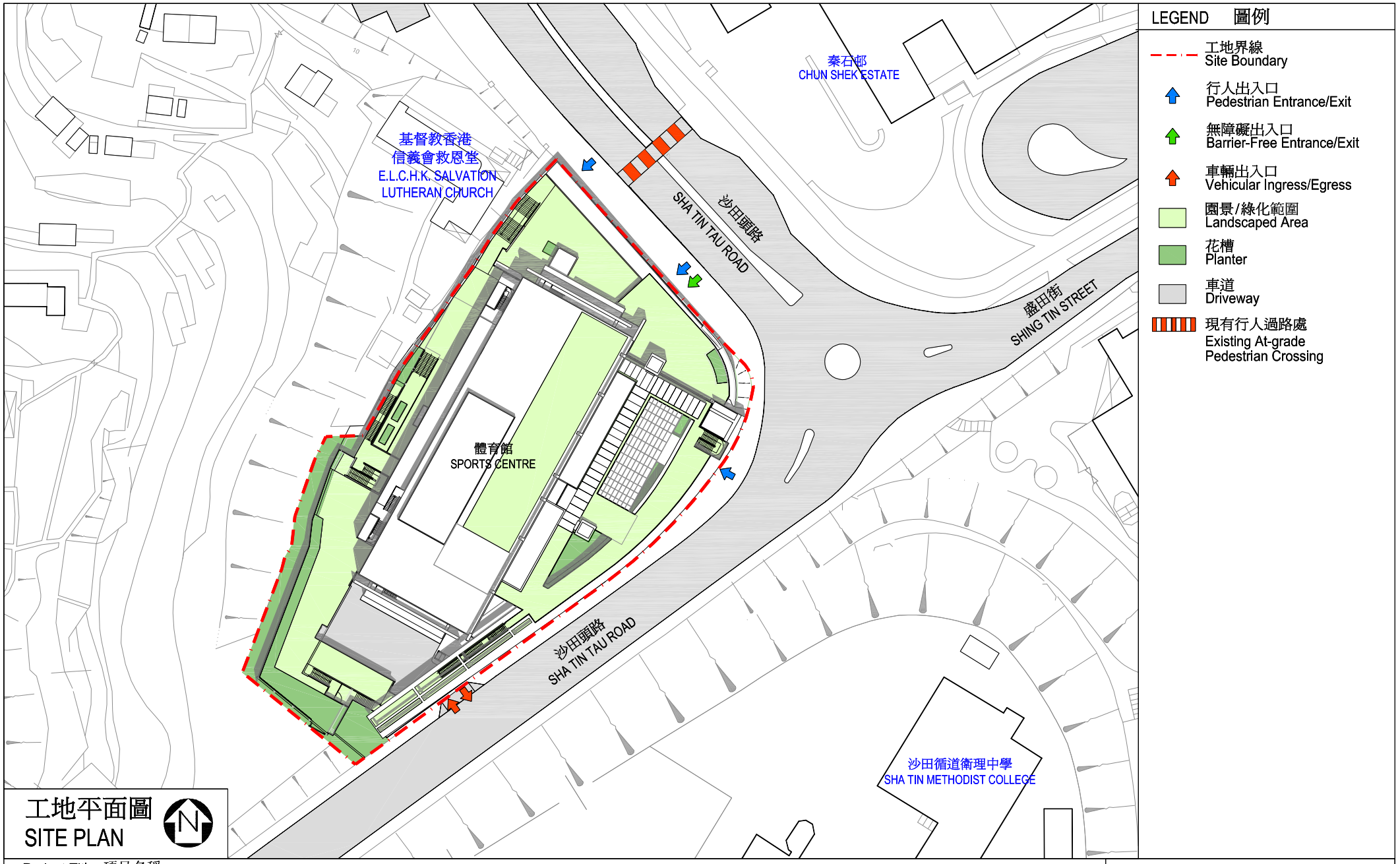
沙田第24D區體育館

SPORTS CENTRE IN AREA 24D, SHA TIN

50m 0 50m 100 m 200m

ARCHITECTURAL SERVICES DEPARTMENT 建築署

附件 2　　Enclosure 2



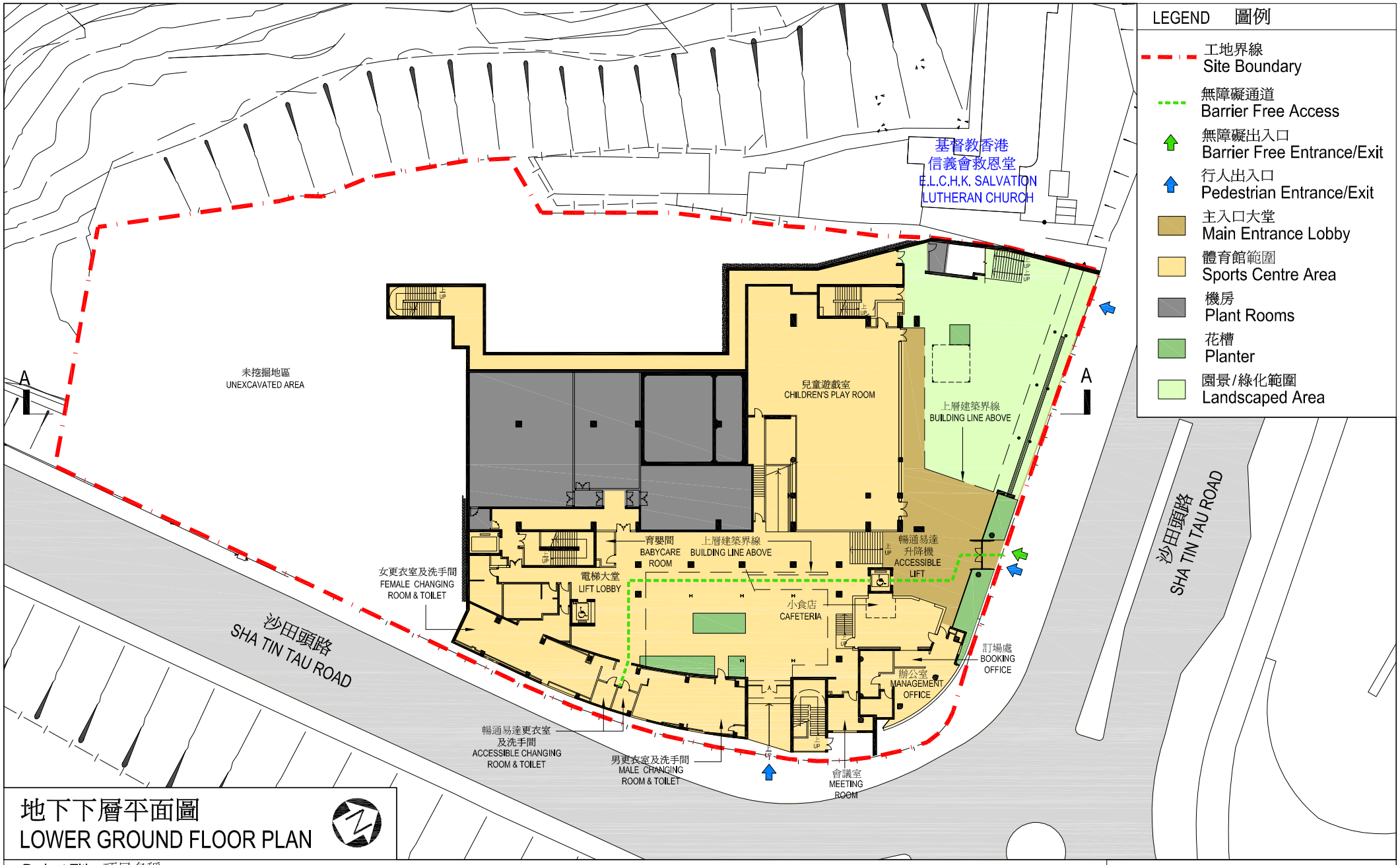
Project Title 項目名稱

273RS

沙田第24D區體育館

SPORTS CENTRE IN AREA 24D, SHA TIN

ARCHITECTURAL SERVICES DEPARTMENT 建築署



地下下層平面圖
LOWER GROUND FLOOR PLAN

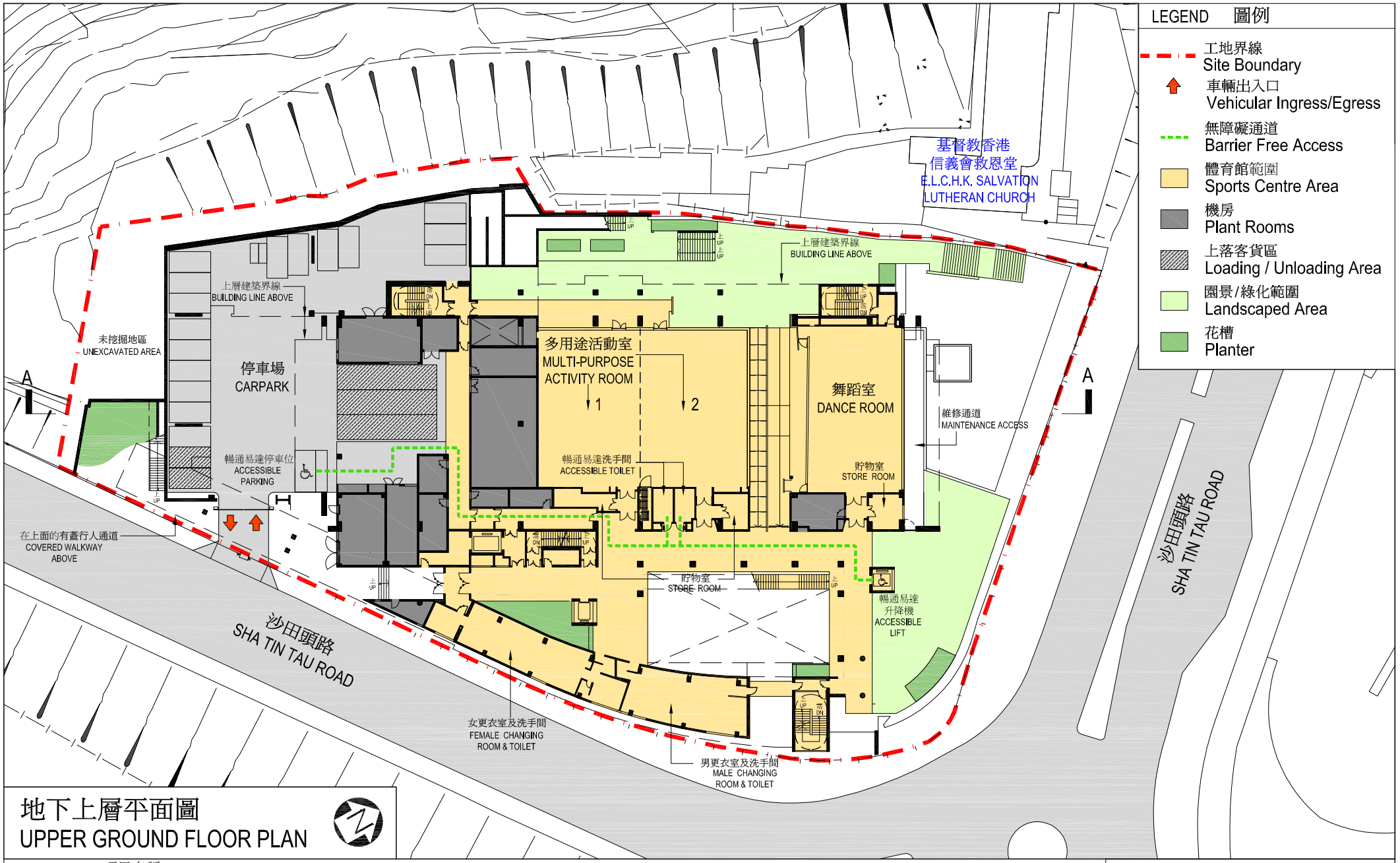
Project Title 項目名稱

273RS

沙田第24D區體育館

SPORTS CENTRE IN AREA 24D, SHA TIN

ARCHITECTURAL SERVICES DEPARTMENT 建築署



地下上層平面圖
UPPER GROUND FLOOR PLAN

Project Title 項目名稱

273RS

沙田第24D區體育館

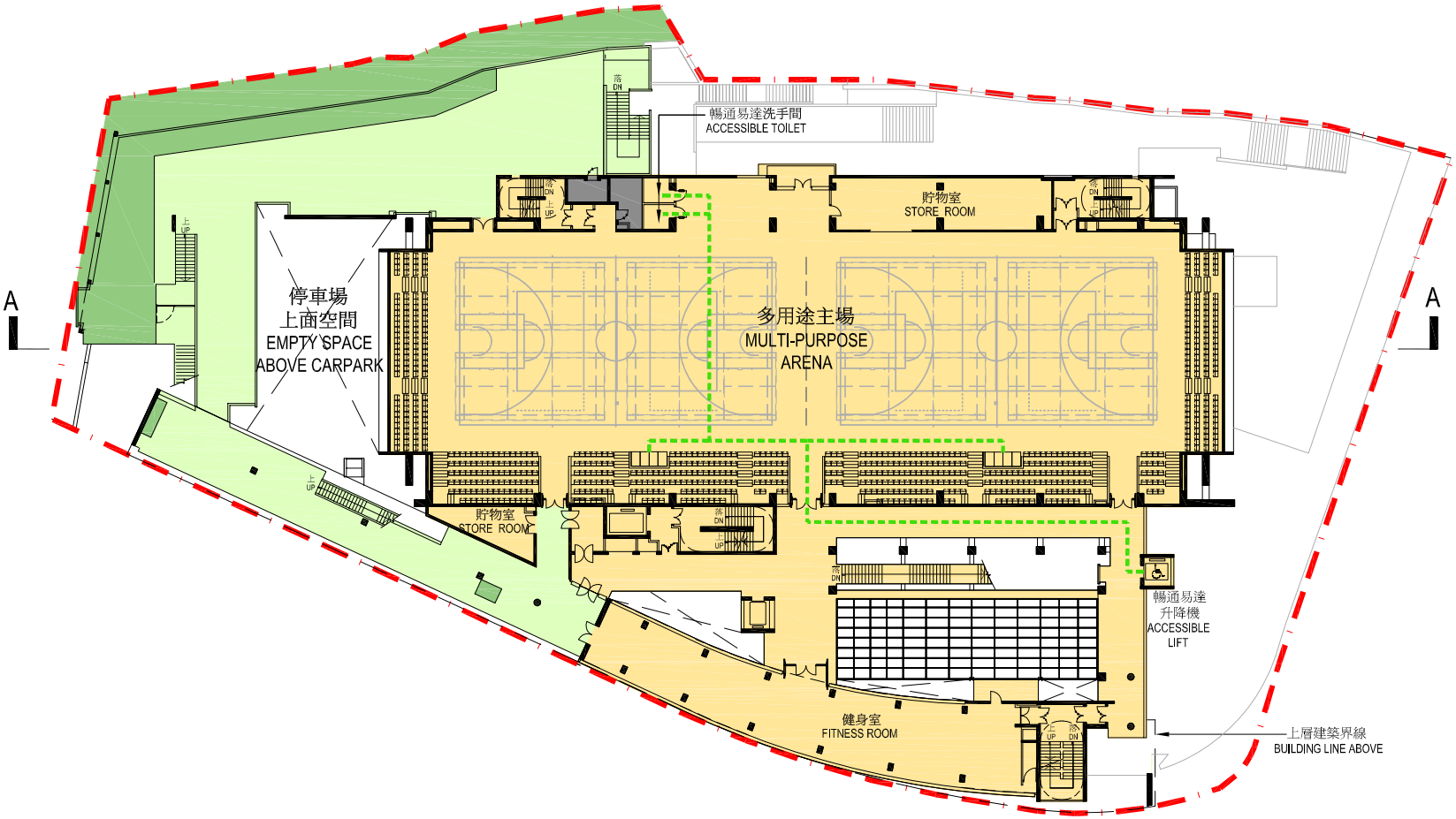
SPORTS CENTRE IN AREA 24D, SHA TIN

5m 0 10m 25m

ARCHITECTURAL SERVICES DEPARTMENT 建築署

LEGEND 圖例

- 工地界線 Site Boundary
- 無障礙通道 Barrier Free Access
- 體育館範圍 Sports Centre Area
- 機房 Plant Rooms
- 園景/綠化範圍 Landscaped Area
- 花槽 Planter



一樓平面圖
FIRST FLOOR PLAN

Project Title 項目名稱

273RS

沙田第24D區體育館

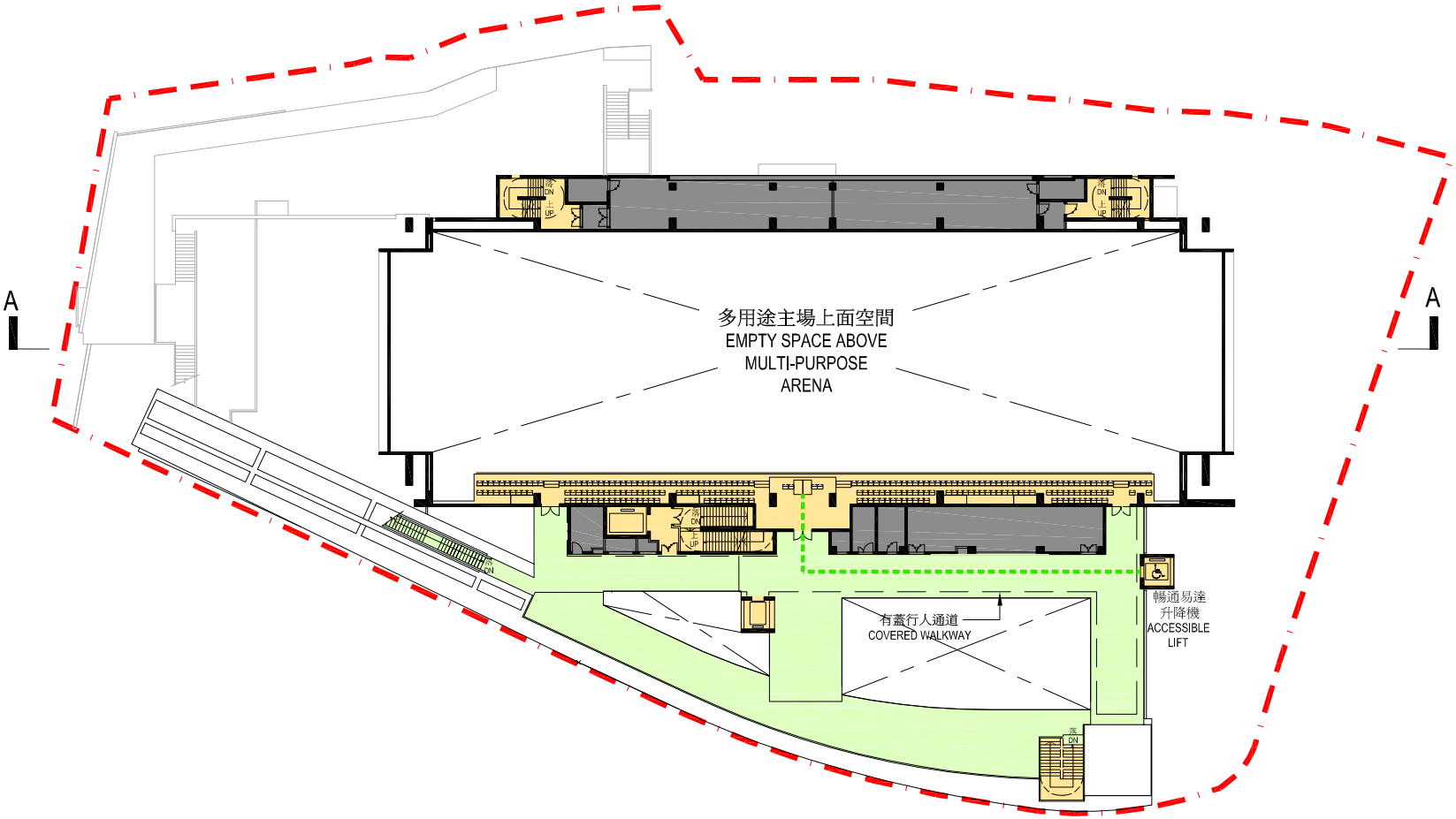
SPORTS CENTRE IN AREA 24D, SHA TIN

5m 0 10m 25m

ARCHITECTURAL SERVICES DEPARTMENT 建築署

LEGEND 圖例

- 工地界線 Site Boundary
- 無障礙通道 Barrier Free Access
- 體育館範圍 Sports Centre Area
- 機房 Plant Rooms
- 園景/綠化範圍 Landscaped Area



二樓平面圖
SECOND FLOOR PLAN

Project Title 項目名稱

273RS

沙田第24D區體育館

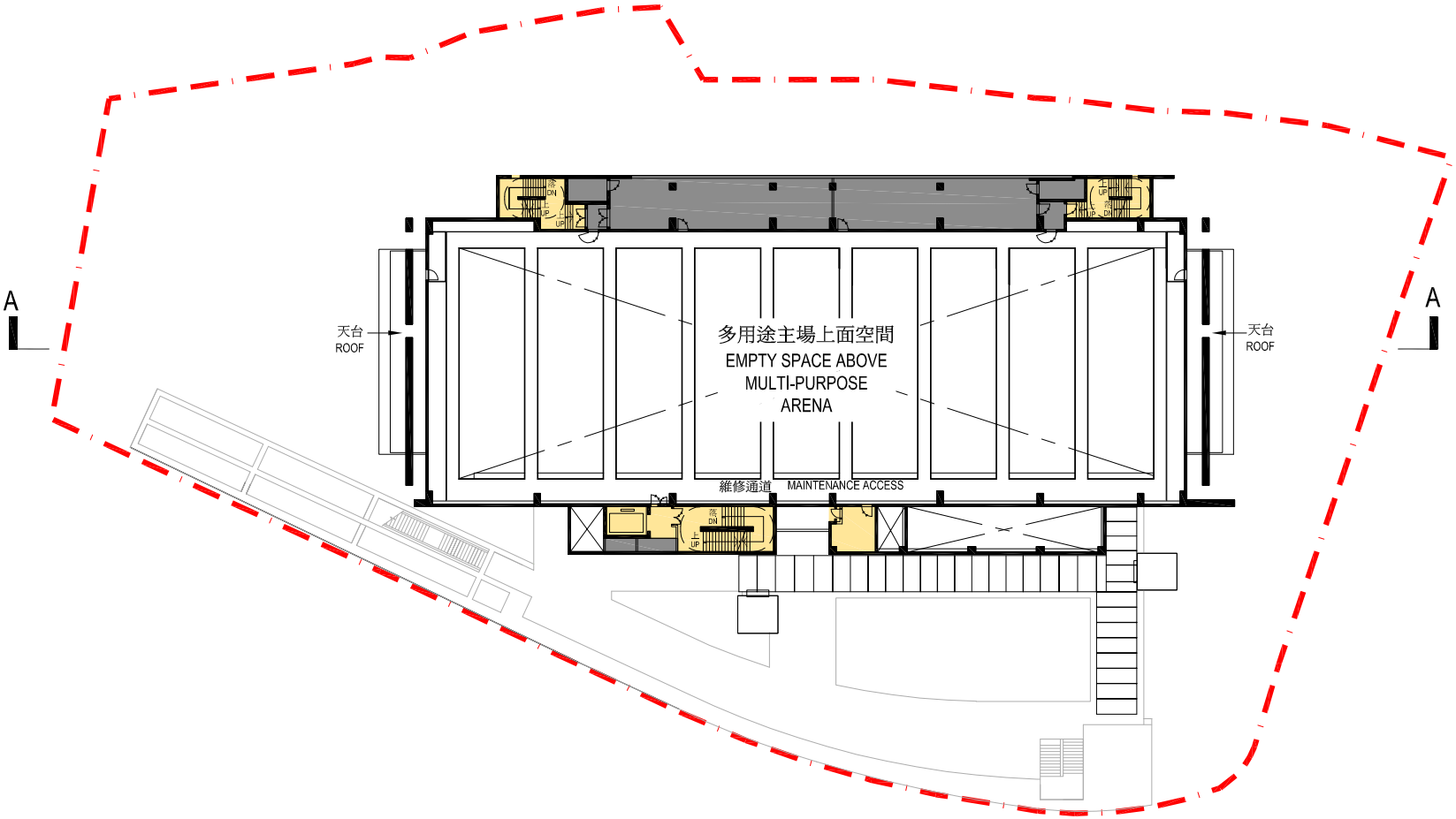
SPORTS CENTRE IN AREA 24D, SHA TIN

5m 0 10m 25m

ARCHITECTURAL SERVICES DEPARTMENT 建築署

LEGEND　圖例

- 工地界線 Site Boundary
- 體育館範圍 Sports Centre Area
- 機房 Plant Rooms



三樓平面圖
THIRD FLOOR PLAN

Project Title 項目名稱

273RS

沙田第24D區體育館

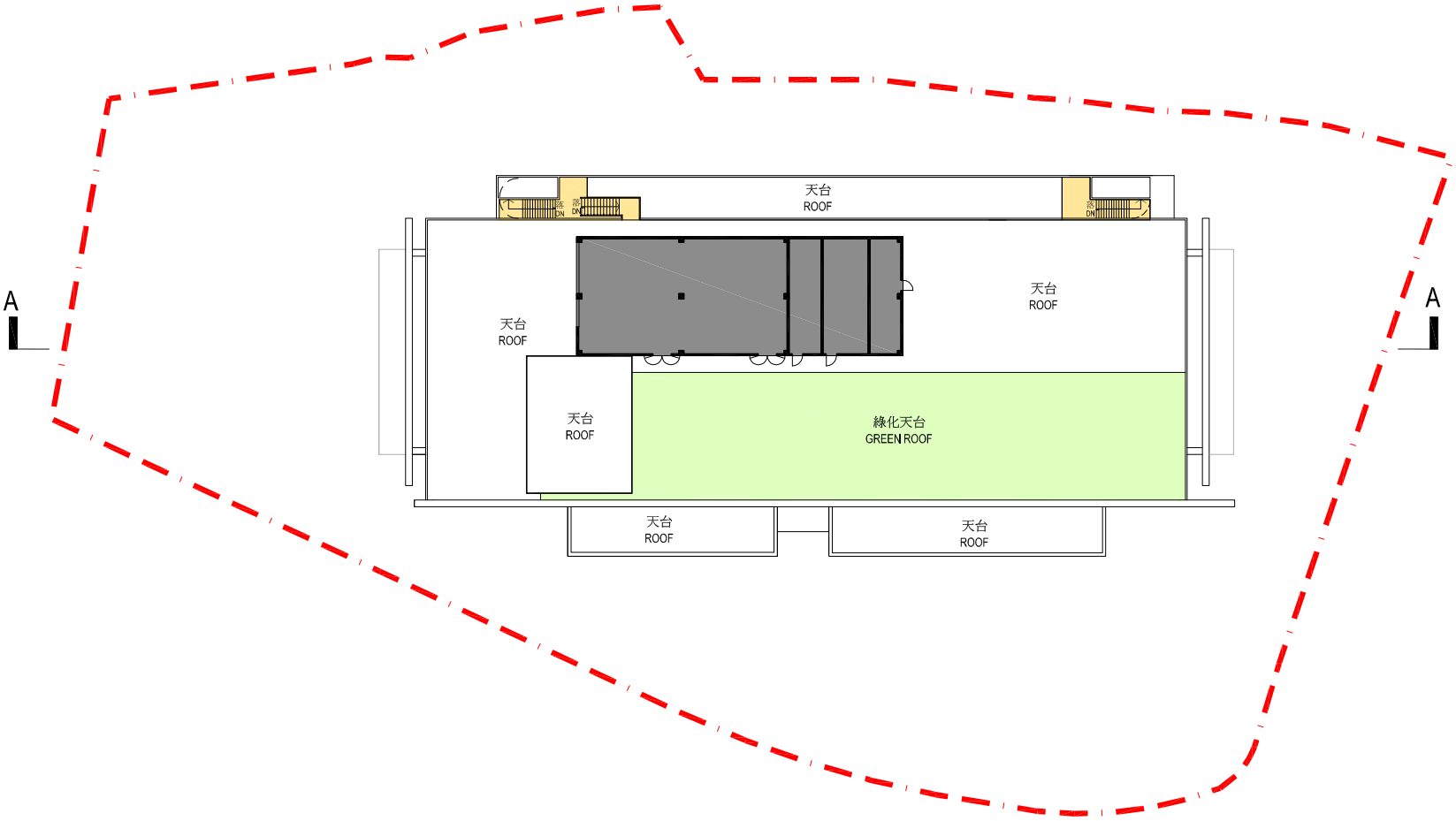
SPORTS CENTRE IN AREA 24D, SHA TIN

5m　0　10m　25m

ARCHITECTURAL SERVICES DEPARTMENT　建築署

LEGEND 圖例

- 工地界線 Site Boundary
- 體育館範圍 Sports Centre Area
- 機房 Plant Rooms
- 園景/綠化範圍 Landscaped Area



天台平面圖
ROOF FLOOR PLAN

Project Title 項目名稱

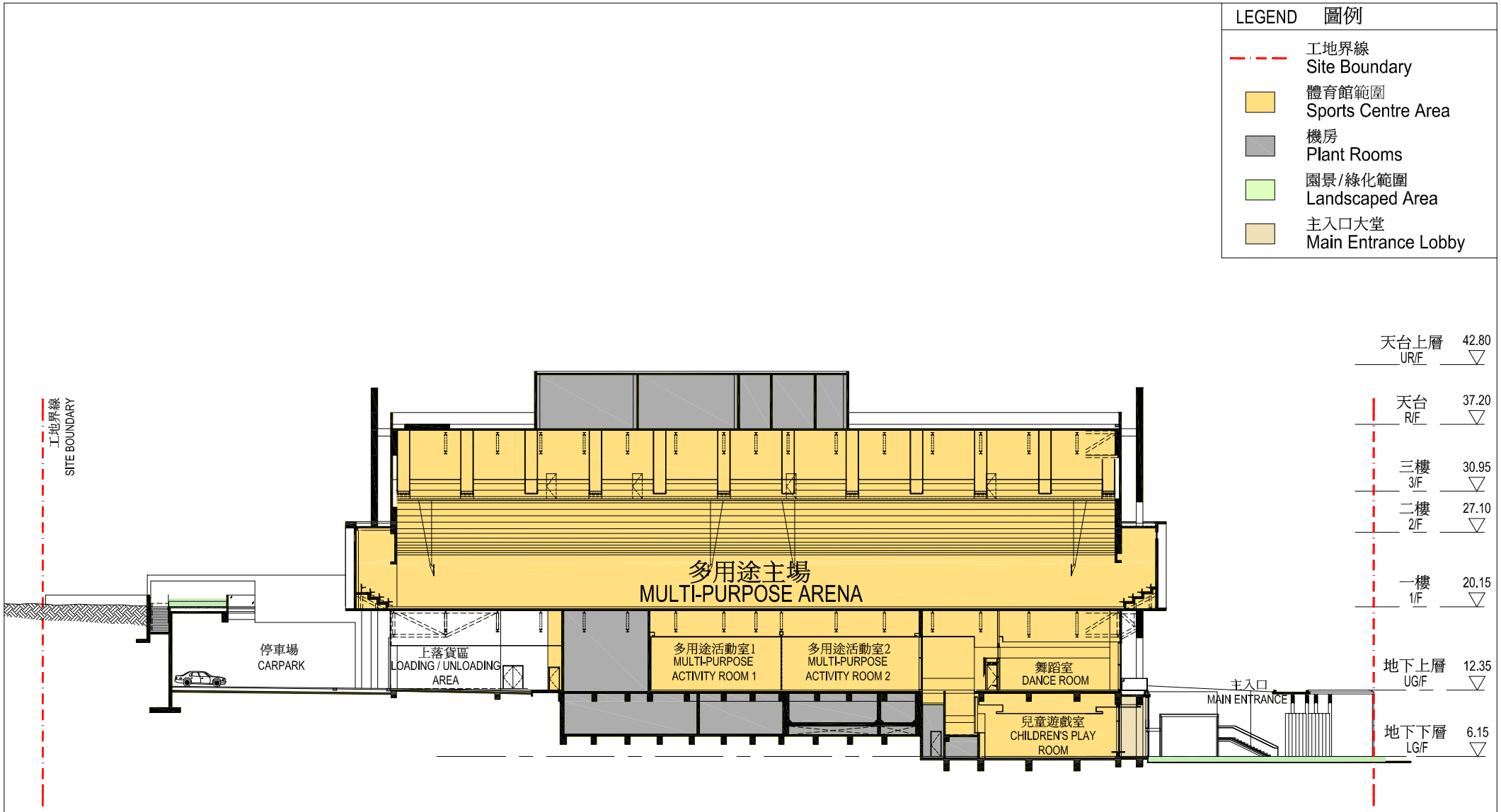
273RS

沙田第24D區體育館

SPORTS CENTRE IN AREA 24D, SHA TIN

5m 0 10m 25m

ARCHITECTURAL SERVICES DEPARTMENT 建築署

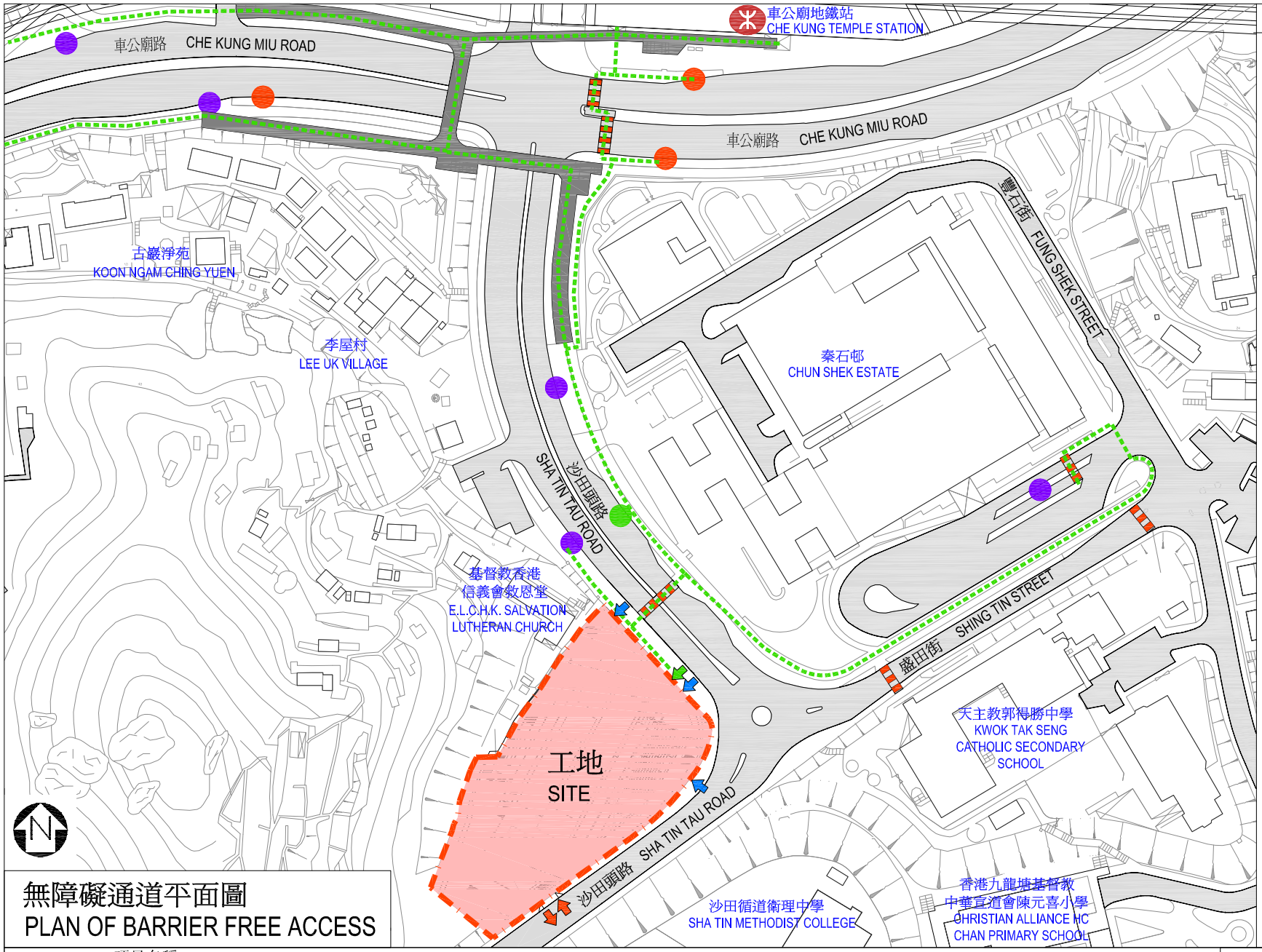


A-A 剖面圖
SECTION A-A

Project Title
273RS
沙田第24D區體育館
SPORTS CENTRE IN AREA 24D, SHA TIN

5m 0 10m 25m

ARCHITECTURAL SERVICES DEPARTMENT 建築署



LEGEND 圖例

- 工地界線 Site Boundary
- 無障礙出入口 Barrier-Free Entrance/Exit
- 行人出入口 Pedestrian Entrance/Exit
- 無障礙通道 Barrier Free Access
- 車輛出入口 Vehicular Ingress/Egress
- 現有行人隧道 Existing Subway
- 現有行人過路處 Existing At-grade Pedestrian Crossing
- 現有巴士站 Existing Bus Stop
- 現有小巴站 Existing Minibus Stop
- 現有的士站 Existing Taxi Stand
- 現有地鐵站 Existing MTR Station

無障礙通道平面圖
PLAN OF BARRIER FREE ACCESS

Project Title 項目名稱

273RS

沙田第24D區體育館

SPORTS CENTRE IN AREA 24D, SHA TIN

20m 0 40m 100m

ARCHITECTURAL SERVICES DEPARTMENT 建築署

從北面望向大樓的構思圖
PERSPECTIVE VIEW FROM NORTHERN DIRECTION (ARTIST'S IMPRESSION)

Project Title 項目名稱
273RS
沙田第24D區體育館
SPORTS CENTRE IN AREA 24D, SHA TIN

ARCHITECTURAL SERVICES DEPARTMENT 建築署

Enclosure 12 to PWSC(2014-15)42

273RS – Sports centre in Area 24D, Sha Tin

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2014 prices)

			Estimated man-months	Average MPS* salary point	Multiplier	Estimated fee ($ million)
(a)	Consultants' fees for geotechnical engineering works (Note 1)	Professional	–	–	–	0.6
		Technical	–	–	–	0.2
					Sub-total	0.8
(b)	Consultants' fees for environmental assessment (Note 1)	Professional	–	–	–	0.3
		Technical	–	–	–	0.1
					Sub-total	0.4
					Total	**1.2**

* MPS = Master Pay Scale

Notes

1. The consultants' fees for geotechnical engineering works and environmental assessment are calculated in accordance with the existing geotechnical engineering and environmental assessment consultancy agreements for **273RS**. The construction phase of the assignment will only be executed subject to Finance Committee's funding approval to upgrade **273RS** to Category A.