

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Recreation, Culture and Amenities – Sports facilities

269RS – Sports centre in Area 4, Tsing Yi

Members are invited to recommend to Finance Committee the upgrading of **269RS** to Category A at an estimated cost of \$774.8 million in money-of-the-day prices for the construction of a sports centre in Area 4, Tsing Yi.

PROBLEM

There are not enough sports facilities in Kwai Tsing district to meet the needs of local community.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Home Affairs, proposes to upgrade **269RS** to Category A at an estimated cost of \$774.8 million in money-of-the-day (MOD) prices for the construction of a sports centre in Area 4, Tsing Yi.

PROJECT SCOPE AND NATURE

3. The project site occupies an area of around 6 700 square meters (m²) at Chung Mei Road in Area 4, Tsing Yi. The scope of works under **269RS** includes—

- (a) a multi-purpose arena that can be used as two basketball courts or two volleyball courts or eight badminton courts, with a 800-seat spectator stand;
- (b) an indoor heated swimming pool (25 m x 15 m) with six lanes;
- (c) a multi-purpose dance room, which can be partitioned into two smaller rooms;
- (d) a multi-purpose activity room, which can be partitioned into two smaller rooms;
- (e) a children's play room;
- (f) an outdoor climbing wall;
- (g) a public fee-paying carpark; and
- (h) ancillary facilities, including toilet and changing facilities, filtration plant rooms, first aid rooms, storage facilities, management and booking offices, control rooms, meeting rooms, staff rooms and baby care facilities.

A site plan, artist's impressions, layout plans, a sectional plan and a barrier-free access plan for the project are at Enclosures 1 to 10. Subject to the funding approval of the Finance Committee, we plan to commence construction in November 2013 for completion in January 2017.

JUSTIFICATION

4. The Hong Kong Planning Standards and Guidelines (HKPSG) suggest a provision of a minimum of eight public indoor sports centres for Kwai Tsing district given its projected population of 496 400 by 2021. There are currently seven such centres in the district and their average utilisation rate has been about 78% over the past three years. There is a strong demand for sports facilities from schools and the local community. The proposed project will help meet this demand, as well as provide a new venue for schools to organise sports training and competitions and for organising programmes to encourage greater public participation in sport. With three housing estates (Cheung Hong Estate, Ching Wah Court and Ching Shing Court), four secondary schools and six primary schools nearby, the sports centre is expected to be well-utilised by local residents and students.

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5. Swimming is one of the most popular sports in Hong Kong. In 2012, total attendance at public swimming pools was over 10.4 million. There is an increasing demand for year-round swimming facilities, such as indoor heated swimming pools. At present, there are three swimming pool complexes in Kwai Tsing District but none of them has an indoor heated pool. To address local demand for indoor swimming facilities and to encourage year-round swimming, an indoor heated swimming pool is included in the project scope.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be \$774.8 million in MOD prices (please see paragraph 7 below), broken down as follows –

	\$ million	
(a) Site works	6.3	
(b) Piling	18.5	
(c) Building	338.1	
(d) Building services	150.8	
(e) Drainage	7.7	
(f) External works	20.5	
(g) Additional energy conservation measures	14.4	
(h) Furniture and equipment ¹	13.9	
(i) Consultants' fees for contract administration for the geotechnical engineering and environmental works	1.2	
(j) Contingencies	55.8	
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Sub-total	627.2	(in September 2012 prices)
(k) Provision for price adjustment	147.6	
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Total	774.8	(in MOD prices)
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¹ The estimated cost is based on an indicative list of furniture and equipment required.

We propose to engage consultants to undertake contract administration for the geotechnical engineering works and environmental works of the project. A breakdown of the estimate for consultants’ fees is at Enclosure 11. The construction floor area (CFA) of **269RS** is about 16 070 m². The estimated construction unit cost, represented by the building and building services costs, is \$30,423 per m² of CFA in September 2012 prices. We consider this comparable to that of similar projects undertaken by the Government.

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

Year	\$ million (Sept 2012)	Price adjustment factor	\$ million (MOD)
2013 – 2014	12.0	1.06225	12.7
2014 – 2015	120.0	1.12599	135.1
2015 – 2016	210.0	1.19354	250.6
2016 – 2017	150.0	1.26516	189.8
2017 – 2018	80.0	1.34107	107.3
2018 – 2019	36.0	1.41147	50.8
2019 – 2020	19.2	1.48205	28.5
	627.2		774.8

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 2013 to 2020. Subject to funding approval, 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.

9. We estimate the annual recurrent expenditure arising from this project to be \$27.4 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 District Facilities Management Committee of the Kwai Tsing District Council on the scope of the project and the conceptual layout on 24 June 2008 and 21 December 2010 respectively. Members supported the proposed project and requested its early implementation.

11. We circulated an information paper to the Legislative Council Panel on Home Affairs on 18 February 2013. Members did not raise any objection to the submission of the funding proposal to the Public Works Subcommittee.

ENVIRONMENTAL IMPLICATIONS

12. 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.

13. 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.

14. 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 facilities². 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.

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² 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.

15. 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.

16. We estimate that the project will generate in total about 23 040 tonnes of construction waste. Of these, we will reuse about 4 920 tonnes (21.4%) of inert construction waste on site and deliver 14 780 tonnes (64.1%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 3 340 tonnes (14.5%) 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 \$0.82 million for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne³ at landfills).

HERITAGE IMPLICATIONS

17. 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

18. The proposed works do not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

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

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³ This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90 per m³), nor the cost to provide new landfills (which is likely to be more expensive), when the existing ones are filled.

- (a) water-cooled chiller (evaporative cooling tower using fresh water);
- (b) automatic demand control of chiller 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) heat pump for pool hot water heating; and
- (g) solar hot water system.

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

21. For recycled features, we will adopt rainwater recycling system for landscape irrigation.

22. The total estimated additional cost for adoption of the above energy conservation measures is around \$14.4 million (including \$2.6 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 10.1% energy savings in the annual energy consumption with a payback period of about 3.9 years.

BACKGROUND INFORMATION

23. We upgraded **269RS** to Category B in November 2007. We employed contractors to carry out topographical survey and site investigation. We engaged consultants to carry out geotechnical assessment, environmental assessment and fire engineering study. The total cost of the services by the contractors and consultants of \$1.4 million was funded under the block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The contractors and consultants have completed all the above consultancy services and works. We have completed the detailed design and tender documents with in-house resources.

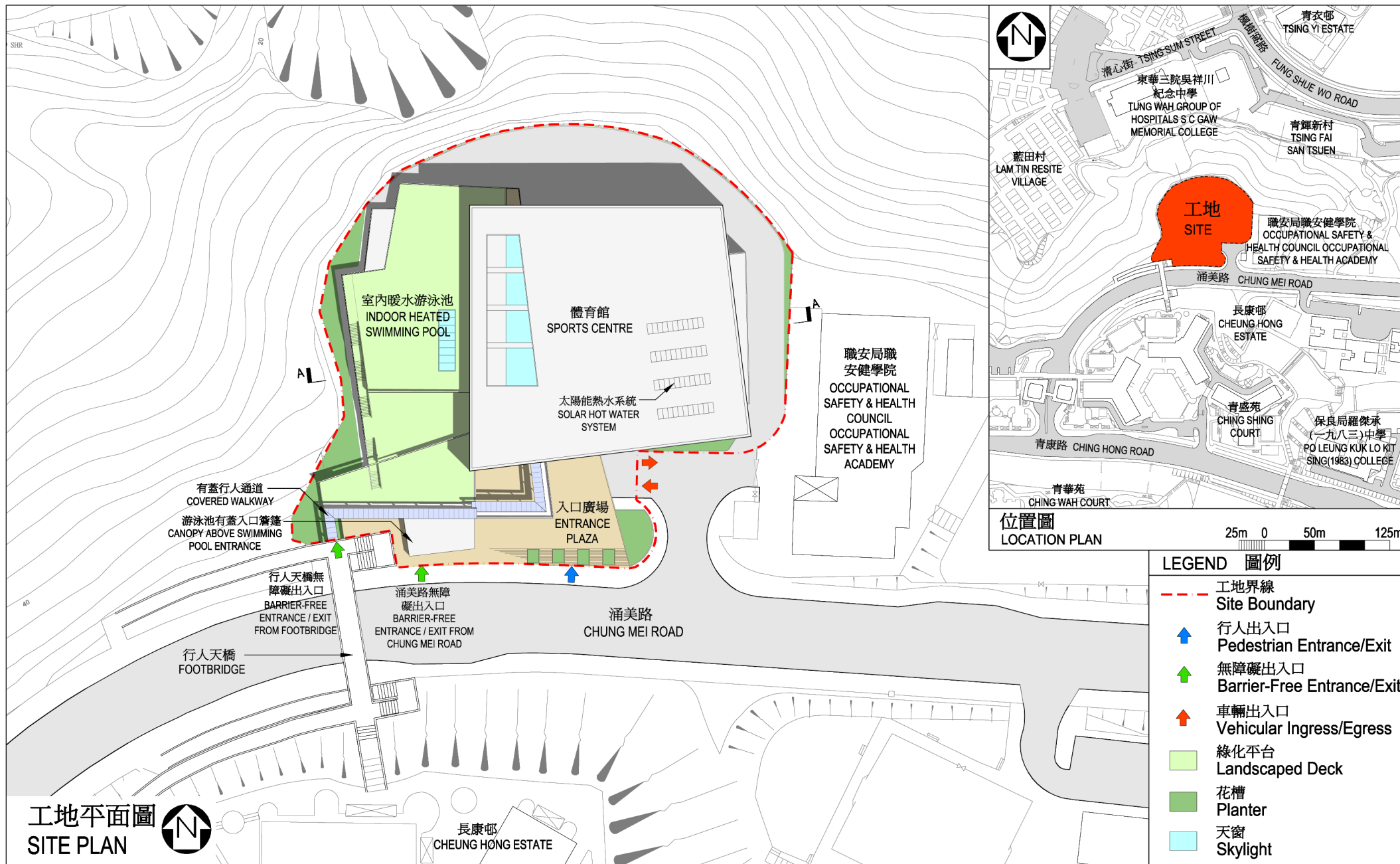
24. Of the 38 trees within the project boundary, 7 trees will be preserved. The proposed works will involve the removal of 31 trees as they are invasive species or grown on slope/concrete edge with inclined roots which are not suitable for transplanting. All trees to be removed are not important trees⁴. We will incorporate planting proposals as part of the project, including the planting of about 63 trees, 2 500 shrubs, and 4 000 groundcovers.

25. We estimate that the proposed works will create about 210 jobs (195 for labourers and another 15 for professional/technical staff) providing a total employment of 6 080 man-months.

Home Affairs Bureau
April 2013

⁴ “Important trees” refers 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 trees, trees 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 the 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 a trunk diameter equal to or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with a height/canopy spread equal to or exceeding 25 m.



工地平面圖
SITE PLAN



Project Title 項目名稱
269RS
青衣第4區體育館
SPORTS CENTRE IN AREA 4, TSING YI

LEGEND 圖例

- - - 工地界線
Site Boundary
- ↑ 行人出入口
Pedestrian Entrance/Exit
- ↑ 無障礙出入口
Barrier-Free Entrance/Exit
- ↑ 車輛出入口
Vehicular Ingress/Egress
- 綠化平台
Landscaped Deck
- 花槽
Planter
- 天窗
Skylight



ARCHITECTURAL
SERVICES
DEPARTMENT 建築署



Project Title 項目名稱
 269RS
 青衣第4區體育館
 SPORTS CENTRE IN AREA 4, TSING YI









ARCHITECTURAL SERVICES DEPARTMENT 建築署



Project Title 項目名稱
 269RS
 青衣第4區體育館
 SPORTS CENTRE IN AREA 4, TSING YI



ARCHITECTURAL SERVICES DEPARTMENT 建築署

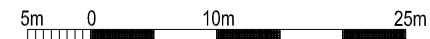
LEGEND 圖例	
	無障礙出入口 Barrier-Free Entrance/Exit
	無障礙通道 Barrier-Free Access
	體育館範圍 Sports Centre Area
	機房 Plant Rooms
	綠化平台 Landscaped Deck
	天台 Roof







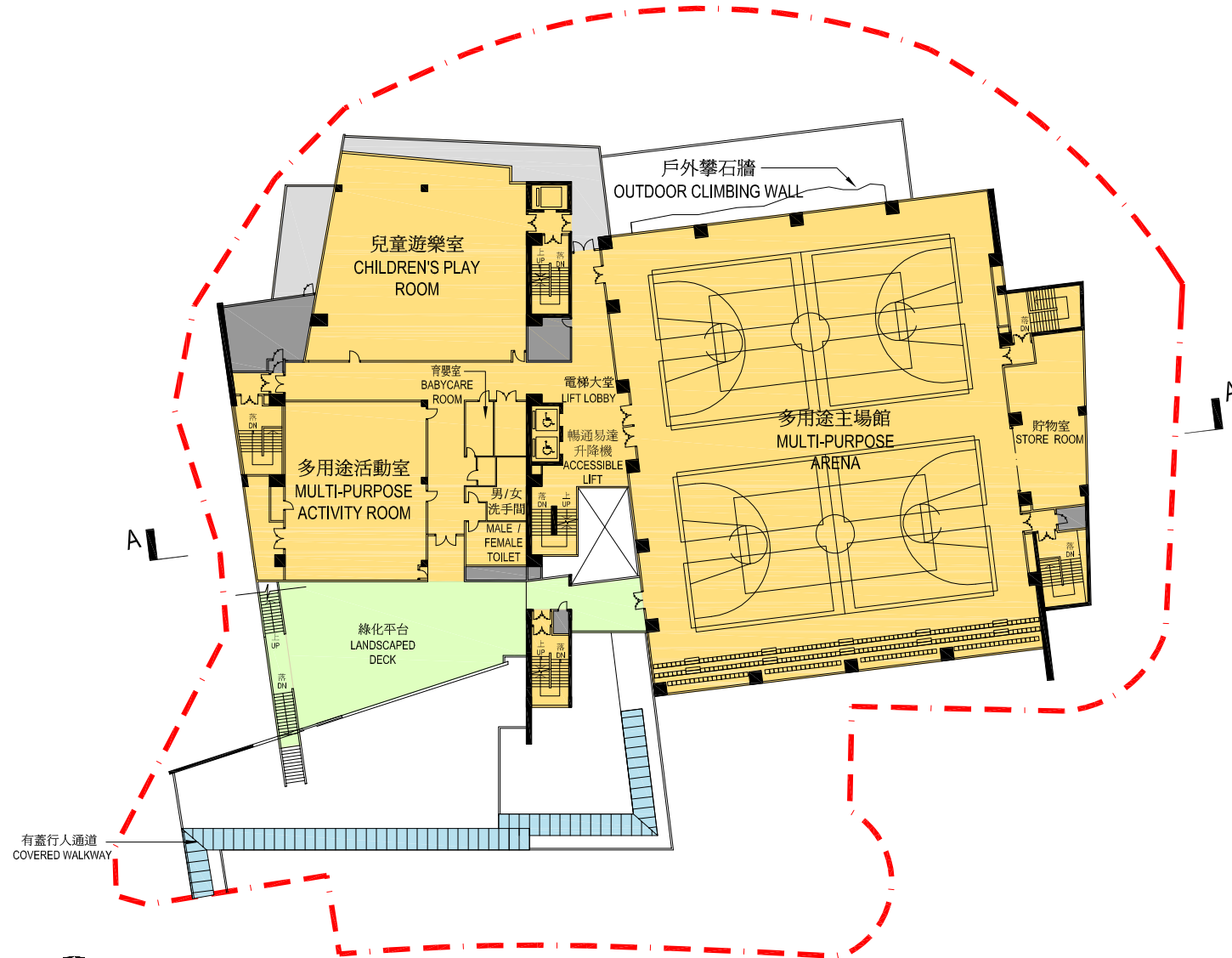
二樓平面圖
2nd FLOOR PLAN



Project Title 項目名稱
269RS
青衣第4區體育館
SPORTS CENTRE IN AREA 4, TSING YI



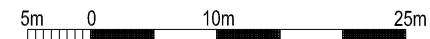
LEGEND 圖例	
	體育館範圍 Sports Centre Area
	機房 Plant Rooms
	綠化平台 Landscaped Deck
	天台 Roof



三樓平面圖
3rd FLOOR PLAN

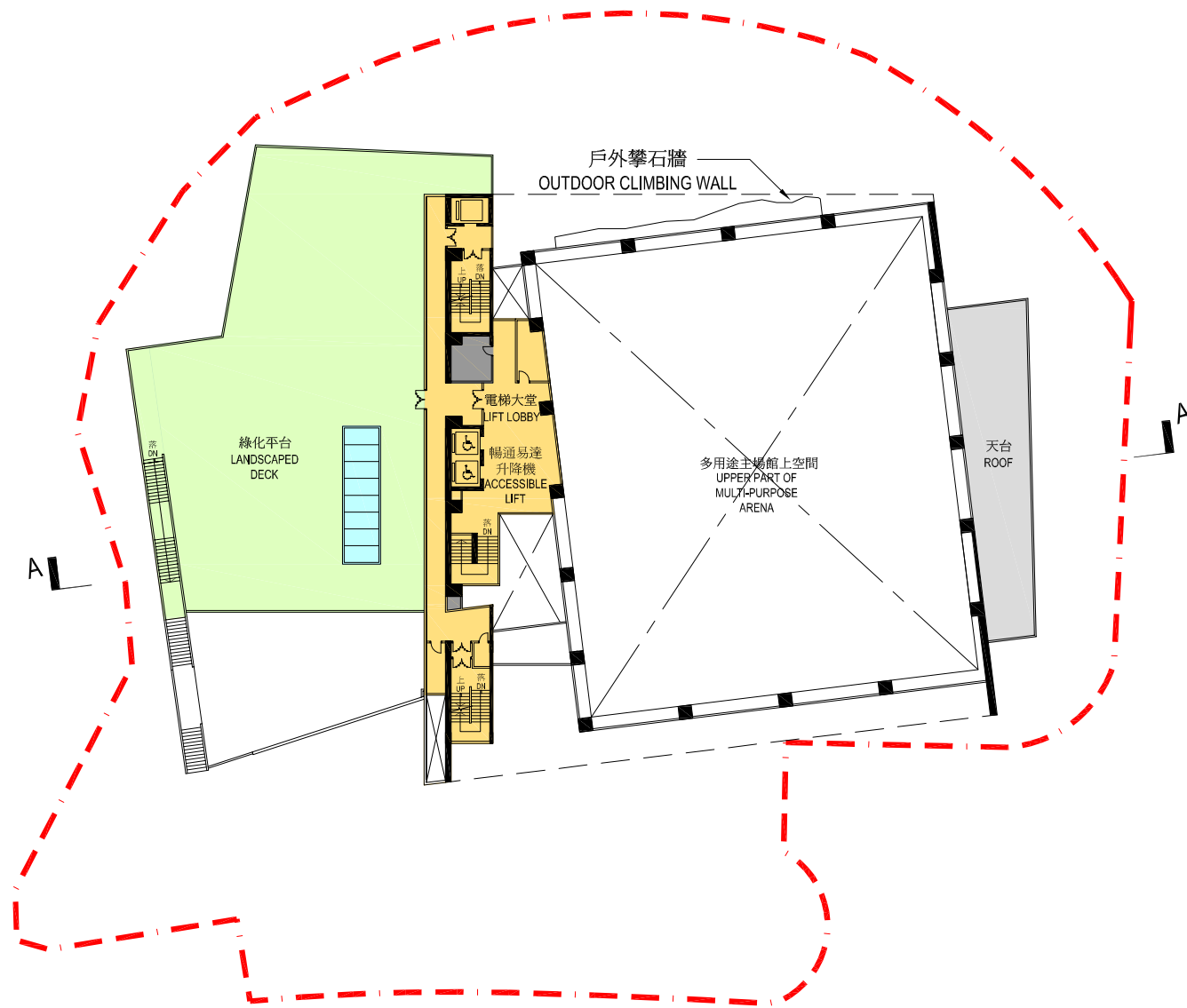


Project Title 項目名稱
269RS
青衣第4區體育館
SPORTS CENTRE IN AREA 4, TSING YI



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SERVICES
DEPARTMENT 建築署

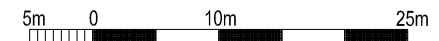
LEGEND 圖例	
	體育館範圍 Sports Centre Area
	機房 Plant Rooms
	綠化平台 Landscaped Deck
	天窗 Skylight
	天台 Roof







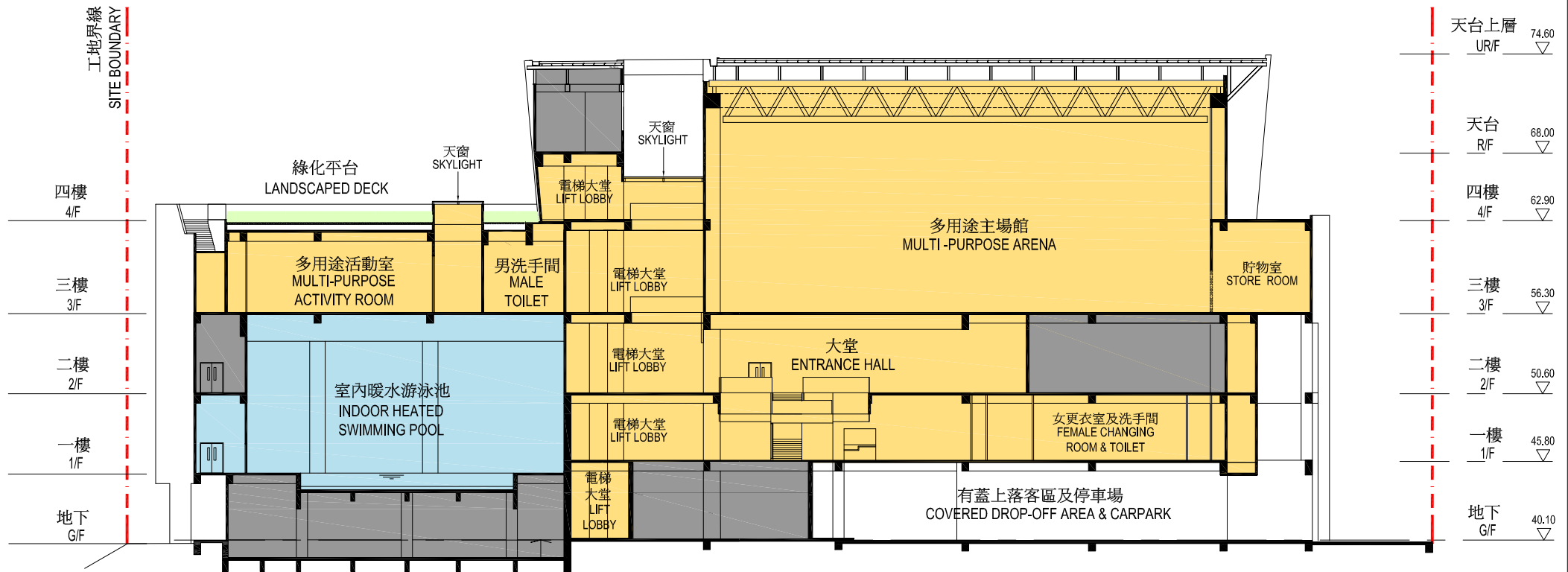
四樓平面圖
4th FLOOR PLAN



Project Title 項目名稱
269RS
青衣第4區體育館
SPORTS CENTRE IN AREA 4, TSING YI



LEGEND	圖例
	體育館範圍 Sports Centre Area
	游泳池範圍 Swimming Pool Area
	機房 Plant Rooms
	綠化平台 Landscaped Deck



A-A 剖面圖
SECTION A-A

Project Title 項目名稱
269RS
青衣第4區體育館
SPORTS CENTRE IN AREA 4, TSING YI





從南面望向大樓的構思透視圖
PERSPECTIVE VIEW FROM SOUTHERN DIRECTION (ARTIST'S IMPRESSION)

Project Title 項目名稱
269RS
青衣第4區體育館
SPORTS CENTRE IN AREA 4, TSING YI



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從西北面望向大樓的構思透視圖
PERSPECTIVE VIEW FROM NORTHWESTERN DIRECTION (ARTIST'S IMPRESSION)

Project Title 項目名稱

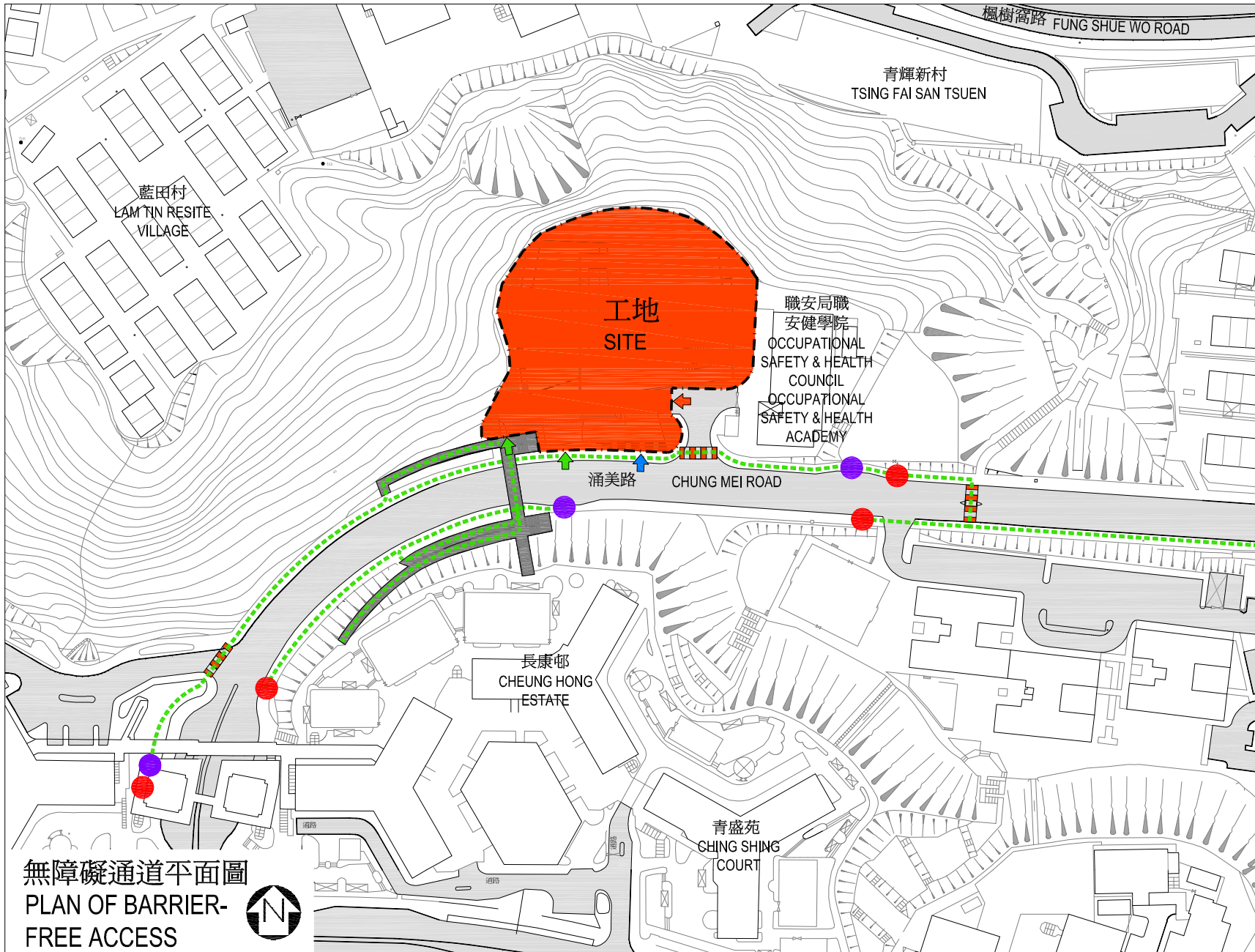
269RS

青衣第4區體育館

SPORTS CENTRE IN AREA 4, TSING YI



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SERVICES
DEPARTMENT 建築署



LEGEND 圖例

- 工地界線
Site Boundary
- ↑ 無障礙出入口
Barrier-Free Entrance/Exit
- 無障礙通道
Barrier-Free Access
- ↑ 車輛出入口
Vehicular Ingress/Egress
- ↑ 行人出入口
Pedestrian Entrance/Exit
- 現有有蓋行人天橋
Existing Covered Footbridge
- ▨ 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

無障礙通道平面圖
PLAN OF BARRIER-FREE ACCESS



Project Title 項目名稱
269RS
青衣第4區體育館
SPORTS CENTRE IN AREA 4, TSING YI



Enclosure 11 to PWSC(2013-14)1

269RS – Sports centre in Area 4, Tsing Yi

**Breakdown of the estimates for consultants' fees
(in September 2012 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 works (Note 1)	Professional	–	–	0.3
		Technical	–	–	0.1
				Sub-total	0.4
				Total	1.2

* MPS = Master Pay Scale

Note

1. The consultants' staff cost for contract administration of geotechnical engineering works and environmental works is calculated in accordance with the existing geotechnical engineering and environmental works consultancy agreement for **269RS**. The assignment will only be executed subject to Finance Committee's approval to upgrade **269RS** to Category A.