For discussion
on 18 December 2013

PWSC(2013-14)28

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS
Government Offices – Intra-governmental services
69KA – New Broadcasting House of Radio Television Hong Kong

Members are invited to recommend to Finance Committee the upgrading of **69KA** to Category A at an estimated cost of $6,055.6 million in money-of-the-day prices for the construction of the New Broadcasting House of Radio Television Hong Kong in Area 85, Tseung Kwan O.

PROBLEM

Radio Television Hong Kong (RTHK) needs a New Broadcasting House (New BH) with modernised broadcasting and production facilities to fulfil the role as the public service broadcaster (PSB) of Hong Kong as enshrined in the Charter of RTHK which was drawn up in 2010 after extensive public consultation.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Commerce and Economic Development, proposes to upgrade **69KA** to Category A at an estimated cost of $6,055.6 million in money-of-the-day (MOD) prices for the construction of the New BH of RTHK.

/**PROJECT** …..

PROJECT SCOPE AND NATURE

3. We propose to construct the New BH at a site of around 30 600 square metre (m^2) in Area 85, Tseung Kwan O to re-provision and co-locate its existing facilities at the Broadcast Drive, the leased accommodation in InnoCentre, Kowloon Tong and scattered outpost storages in various Government buildings; and to enable RTHK to deliver the expanded scope of services set out in the Charter of RTHK. The proposed New BH of RTHK will consist of ten storeys, providing a total net operational floor area (NOFA)[1] of about 27 660 m^2.

4. The proposed scope of the project (**69KA**) comprises the provision of the following facilities –

(a) sound broadcasting facilities with NOFA of 2 470 m^2 which include the following key facilities –

(i) continuity studios for existing analogue service and for digital audio broadcasting (DAB) service;

(ii) small and large production studios;

(iii) self-operating studios; and

(iv) other facilities for equipment, servers, workshops and stores, etc.

(b) digital terrestrial television (DTT) broadcasting facilities with NOFA of 5 220 m^2 which include the following key facilities –

(i) five studios of varying sizes and capacities;

/(ii) …..

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[1] NOFA is the floor area actually allocated to the users of a building for carrying out the intended activities. Unlike the construction floor area which takes into account all areas within the building structure envelope, NOFA does not include areas for lift lobbies, stair halls, public/shared corridors, stairwells, escalators and lift shafts, pipe/services ducts, toilets, bathrooms and showers, refuse chutes and refuse rooms, balconies, verandas, open decks and flat roofs, car parking spaces, loading/unloading areas, mechanical plant rooms, etc.

(ii) DTT transmission system and related facilities, including master control room, presentation rooms, playout and scheduling room, transmission equipment room, uninterrupted power supply and battery room, etc; and

(iii) other facilities for production equipment, post-production, and stores, etc.

(c) News Centre with NOFA of 1 910 m^2 which includes the following key facilities –

(i) newsroom;

(ii) radio news production studios and self-operating studios;

(iii) large and medium television (TV) news studios; and

(iv) other facilities for server, equipment and stores, etc.

(d) miscellaneous areas for engineering and media asset management (MAM) with NOFA of 1 730 m^2 which include the following key facilities –

(i) engineering workshop;

(ii) mechanical workshop;

(iii) DTT maintenance workshop;

(iv) office accommodation for engineering staff and broadcast services contractor;

(v) other facilities for scenery runways, engineering equipment stores, outdoor broadcasting equipment stores, etc; and

(vi) facilities for MAM (for media archive).

(e) office accommodation for staff with NOFA of 8 090 m^2.

/(f) …..

(f) departmental common facilities with NOFA of 1 150 m^2 which include the following key facilities –

(i) Broadcasting History Display Room;

(ii) meeting/conference/interview rooms of varying size;

(iii) nursery room;

(iv) canteen; and

(v) other facilities (e.g. reception area, security control, storage, etc.).

(g) information technology (IT) and new media technical facilities with NOFA of 1 130 m^2.

(h) specialist facilities with NOFA of 5 960 m^2 which include the following key facilities –

(i) archive restoration and processing room;

(ii) libraries for records, reference materials, news, videos;

(iii) makeup rooms;

(iv) artist waiting room cum locker area;

(v) workshops for costume, hairdressing, props, carpentry, painting, foam-fabrication; and

(vi) stores for scenery, furniture, props, timber, paints, etc.

(i) 120 parking spaces for departmental vehicles, staff, guests and artists.

A site plan showing the proposed development is at Enclosure 1. The block plan, floor plans, sectional plans and perspective views (artist's impression) drawings of the proposed New BH are at Enclosures 2 to 12, and a comparison of the existing and planned accommodation arrangements is at Enclosure 13. Subject to funding approval of the Finance Committee in January 2014, we plan to start the construction works in the first quarter of 2014 for completion in the fourth quarter of 2017. We aim to commission the New BH in 2018.

JUSTIFICATION

5. RTHK's broadcasting facilities and programme production centres are mainly accommodated at its three premises along the Broadcast Drive, namely Broadcasting House (BH), Television House (TVH) and Educational Television Centre (ETC). It also has leased offices in the InnoCentre, Kowloon Tong, one town office in the Queensway Government Offices (QGO) and scattered outpost storages in various Government buildings.

6. In September 2009, the Government decided that RTHK should expand its scope of services to fulfill its mission as the PSB of Hong Kong. After confirming public support during a three-month public consultation lasting from October 2009 to January 2010, the expanded scope of services was incorporated into the RTHK Charter[2]. In this connection, apart from retaining the office at QGO as its town office for operational reason, RTHK is in need of new accommodation to –

(a) replace the existing premises which have become extremely crowded over the years with various obsolete and sub-standard facilities which failed to keep abreast with the rapid development of broadcasting technology; and

/(b) …..

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[2] In September 2009, the Government announced a decision on the way forward on public service broadcasting in Hong Kong, which is to task RTHK to serve as the PSB, with safeguards and appropriate resources provided to allow it to do so effectively. From October 2009 to January 2010, we conducted a three-month comprehensive public engagement exercise to seek public views in respect of proposals on how to enhance the role and functions of RTHK as a PSB, including briefing for the Panel, organising district forums and attending focus group discussions, etc. After the consultation, the Government promulgated in August 2010 the Charter of RTHK signed by the Chief Secretary for Administration, the Director of Broadcasting and the then Chairman of the Broadcasting Authority. The Charter, among other things, sets out the key programme areas and modes of service delivery of RTHK, including various new services such as the digital audio broadcasting, digital terrestrial television and community involvement in broadcasting. In the 2010-11 Policy Agenda published in October 2010, it was included as part of the on-going initiatives that the Government would implement progressively the plans for RTHK to serve as a PSB. In the 2011-12 Policy Agenda published in October 2011, the development of the New BH in Tseung Kwan O as RTHK's headquarters to support its development was one of the new initiatives.

(b) implement new services and projects to fulfilling its mission tasked by the Government as the PSB of Hong Kong.

Upon completion of the New BH, the existing premises (save for the town office in QGO) occupied will be released for other purposes.

Aging Buildings and Obsolete Facilities

7. The three existing RTHK buildings at the Broadcast Drive first came into operation in 1969 (BH), 1971 (TVH) and 1975 (ETC) respectively. Built about 40 years ago, the buildings can hardly meet the present building services standards, including those for fire safety, energy preservation, security and barrier-free access. The building service facilities therein are in extremely poor conditions with frequent breakdowns in air-conditioning systems, lift service and broadcasting facilities, etc. These old buildings require regular repair and maintenance, apart from the renovation and alterations that are often required because the current infrastructure and compartments of the buildings are not compatible with the present technological requirements and workflows. Renovations and alterations are however not always feasible because the out-dated designs of the buildings have made it extremely difficult for major alteration or refurbishment to be undertaken in an efficient and cost-effective manner to meet the present day requirements. Apart from resource and cost-effectiveness implications, the 24-hour operation of radio services and space constraints pose further hurdles for carrying out renovations and alternations.

Inadequate Space

8. The operational usable areas[3] of the three existing buildings, leased offices (except for the town office in QGO) and scattered outpost storages add up to around 15 600 m^2. They are inadequate for meeting the present and future accommodation requirement of RTHK. Taking staff accommodation as an example, the current shortfall is about 1 750 m^2. Many staff members are now working in poor and congested conditions. There are also inadequate work places for freelancers, interns and ad hoc manpower which RTHK has to engage from time to time to support special and ad hoc programme production. Despite the acquisition of out-post storages and temporary workshops at some Government premises, storage space

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[3] There is no record of NOFA for the existing three buildings as they were built a long time ago. Operational usable areas are a measurement comparable to NOFA. Operational usable areas are based on actual measurement of operationally usable areas, excluding common facility such as corridors, toilet facilities, pantries and lift lobbies.

is also inadequate for keeping various equipment and properties necessary for production (e.g. costume, set and props) as well as for providing archive space for the ever-growing volume of valuable media assets which are the collective memories of RTHK and Hong Kong. Rental of storage space does not provide a cost-effective solution. Besides, since RTHK has to operate at different premises, staff are often required to work in various locations for radio, television and new media production and technical operation. This causes unnecessary travelling and inconvenience and is not conducive to the optimal use of manpower and other resources.

9. In addition, with the development of digital technology and growing expectations of the community, RTHK has been working to offer enhanced services via the digital and new media platforms. To this end, RTHK has to strengthen its internet infrastructure to support reliable and enhanced webcasting and various multimedia services. However, this enhancement is limited by the availability of space.

New Services and Projects

10. To fulfill its role as the PSB of Hong Kong as tasked by the Government in September 2009, RTHK has been planning and implementing various new services and projects. However, RTHK cannot fully launch the services and projects unless there is a purpose-built New BH with infrastructure providing adequate space for new broadcasting facilities, extra production, additional manpower, and modern workflow efficiency to support the enhanced services. The main reasons are as follows –

(a) DAB – RTHK's five DAB channels were formally launched on 17 September 2012. Due to space constraints, makeshift arrangements have been made for broadcasting of DAB channels, including conversion of two existing production studios and establishment of two pairs of continuity studios in a temporary location. Such arrangements are however considered unsatisfactory. On top of attracting audience from the existing AM channels, RTHK has been enriching the programme contents of the DAB channels by producing new types of programme targeted at new audience groups. However, the development of this initiative is hindered by the inadequacy of studios and production facilities in the existing BH.

(b) DTT – As part of the PSB service package, RTHK will be providing DTT service with three TV channels. Since 1 July 2012, RTHK has been conducting signal tests for the TV channels and will start trial of DTT channel transmission with effect from January 2014. The DTT service, however, cannot be fully delivered from the existing RTHK premises owing to a lack of space for accommodating the necessary digital and broadcasting facilities. New technology cannot be used unless there is a revamp of the engineering infrastructure in purpose-built premises. Besides, there should be sufficient studios with modernised equipment to support the increase in programme production but this is not possible with limited space available on the existing RTHK.

(c) MAM – RTHK has embarked on a MAM project starting from 2011-12 to restore archive materials at risk, digitise the most valuable portion (about 25%) of RTHK archives, and provide specialised storage for the archive materials. The objective is to build up a digitised RTHK archive, which is necessary and essential not only for supporting programme production but also for preserving the public media assets of Hong Kong. While the works are being carried out in RTHK's temporary workshops on other government premises, it would be more operationally efficient if the permanent archive system can be established in the New BH, which will have the required infrastructure and space.

Overall space requirements of the New BH

11. The NOFA of the proposed New BH is about 27 660 m^2, out of which about 15 600 m^2 (i.e. total existing operational usable area) will be occupied by existing facilities/offices to be relocated from the buildings at the Broadcast Drive and outstation offices. For the remaining area of about 12 060 m^2, 11 860 m^2 is to make up for the existing shortfall in provision, facilitate upgrading of sub-standard facilities to present day standards and enable delivery of new services provided in the RTHK Charter, and 200 m^2 is to cater for future expansion requirements. Specifically –

/(a) …..

(a) the areas for the News Centre will be increased from 240 m^2 to 1 910 m^2 to make up for serious shortfall in the current provision for staff accommodation and necessary facilities and to cater for the provision of TV news in the future;

(b) the area for engineering and MAM will be increased from 290 m^2 to 1 730 m^2 to support the development of various new services, particularly the DTT and MAM; and

(c) the area for IT and new media technical facilities will be increased from 190 m^2 to 1 130 m^2 to meet the space requirement for upgrading IT facilities to the present day standards and enhancement of new media programme production.

In working out the above space requirements, we have exercised due diligence.

Increase in cost estimate

12. Regarding the current cost estimate for the New BH at $6,055.6 million (in MOD prices), as compared to the original estimate of $1,600 million (in 2009 prices), it must be emphasised that the cost estimate mentioned in 2009 was merely making reference to the results of the first preliminary project feasibility study conducted in 2000 without taking into account the requirements for the various new services to be undertaken by RTHK after it had been tasked to fulfill the role of the PSB for Hong Kong in September 2009. The study in 2000 was also conducted at a different and smaller site. As a matter of fact, in the Legislative Council Brief issued in September 2009, we mentioned clearly that the above-mentioned estimate was subject to the detailed architectural design and accommodation requirements of the project. Having regard to the new requirements expected of RTHK as enshrined in the Charter of RTHK promulgated in 2010, we completed a second technical feasibility study in 2011 and then proceeded with tender arrangements. The latest cost estimates is based on tender prices received with the provision of price adjustment.

13. A detailed explanation of changes in the project cost estimate between 2000 and 2013 is at Enclosure 14.

FINANCIAL IMPLICATIONS

14. We estimate the capital cost of the project to be $6,055.6 million in MOD prices (see paragraph 16 below), broken down as follows –

			$ million
(a)	Site works		28.7
(b)	Piling works[4]		246.4
(c)	Building works[5]		2,302.1
(d)	Building services works[6]		795.7
(e)	Drainage works		28.1
(f)	External works		44.1
(g)	Energy conservation, green and recycled features		81.2
(h)	Furniture and equipment[7]		929.6
(i)	Consultants' fees for		31.2
	(i) quantity surveying services	3.9	
	(ii) acoustic and vibration design	1.2	

/(iii) .....

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4 Piling works cover the construction of piles and all related testing and monitoring.

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

6 Building services works cover the electrical installations, ventilation and air-conditioning installations, fire services installations, lift and escalator and other specialist installations.

7. The estimated cost of furniture and equipment is based on an indicative list of items required. The estimated amount of broadcasting equipment, furniture, new media/production equipment and electronic system and their share of the total cost is $762.8 million (82%), $85.4 million (9%), $15.5 million (2%) and $65.9 million (7%) respectively.

			$ million	
	(iii)	electronic and telecommunication equipment installation design	15.9	
	(iv)	environmental and risk management	2.6	
	(v)	management of resident site staff	7.6	
(j)	Remuneration of resident site staff		64.0	
(k)	Contingencies		455.1	
		Sub-total	5,006.2	(in September 2013 prices)
(l)	Provision for price adjustment		1,049.4	
		Total	6,055.6	(in MOD prices)

15. We propose to engage consultants to undertake quantity surveying services, acoustic and vibration design, electronic and telecommunication equipment installation design, environmental and risk management and site supervision for the project. A detailed breakdown of the estimate for the consultants' fees and resident site staff costs by man-months is at Enclosure 15. The construction floor area (CFA) of this project is about 84 436 m^2. The estimated construction unit cost, represented by the building and the building services costs, is $36,688 per m^2 of CFA in September 2013 prices[8]. We consider this construction unit cost reasonable.

/16. …..

[8] This unit construction cost has included various specialist architectural, building services and structural designs which are unique to this project, such as special lighting platforms and other fixed facilities for studios, the associated broadcasting facilities, higher floor loading requirements, long-spanned structures, extra high storey heights, stringent sound and vibration insulation requirements, as well as enhanced reliability of building services, etc. If the costs of these specialist facilities are deducted, the estimated unit construction cost would be adjusted to $30,688 per m^2 of CFA in September 2013 prices. This is comparable to other recent government building projects such as the West Kowloon Law Courts (PWP No. **31LJ**), the unit construction cost of which is $30,672 per m^2 of CFA (adjusted to September 2013 prices).

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

Year	$ million (Sept 2013)	Price adjustment factor	$ million (MOD)
2013 – 14	36.0	1.00000	36.0
2014 – 15	406.0	1.06000	430.4
2015 – 16	741.0	1.12360	832.6
2016 – 17	2,031.0	1.19102	2,419.0
2017 – 18	1,084.0	1.26248	1,368.5
2018 – 19	460.0	1.32876	611.2
2019 – 20	126.0	1.39519	175.8
2020 – 21	81.0	1.46495	118.7
2021 – 22	41.2	1.53820	63.4
	5,006.2		6,055.6

17. 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 2013 to 2022. The project will be delivered through a design-and-build contract. We will award the contract on a lump-sum basis because we can clearly define the scope of the works in advance. The contract will provide for price adjustments.

18. We estimate the annual recurrent expenditure arising from this project to be $78.8 million.

PUBLIC CONSULTATION

19. We consulted the Sai Kung District Council (SKDC) on 3 May 2011 on the project. Members expressed support for the project.

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20. We also conducted a value management workshop on 24 September 2012 for multi-stakeholders to exchange views on the desired visitors' experience in the New BH. Forty-nine people from various disciplines, including Members of the SKDC, academics, members of the RTHK Programme Advisory Panel, media industry personnel and representatives from various government bureau/departments, attended the workshop. Views collected from the workshop had been incorporated in the project requirement as far as possible.

21. On 11 November 2013, we consulted the Legislative Council Panel on Information Technology and Broadcasting on the proposed project. While supporting in principle the submission of the proposal to the Public Works Subcommittee, Members requested supplementary information including the reasons for the increase in cost estimates to $6,055.6 million in MOD prices, a breakdown of the cost estimates of the facilities concerned, etc., which was provided on 10 December 2013.

ENVIRONMENTAL IMPLICATIONS

22. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). In mid-2012, we carried out a Preliminary Environmental Review (PER) for the project and agreed the findings with the Director of Environmental Protection (DEP). In addition, a Landfill Gas (LFG) Hazard assessment conducted as part of the PER concluded that with the implementation of the recommended LFG hazard protection measures and monitoring, the LFG hazards to the New BH would be controlled to within established guidelines. We will implement the mitigation measure recommended in the PER.

23. During construction, we will control noise, dust and site run-off nuisances to levels within established standards and guidelines through the implementation of mitigation measures as required. These include the use of silencers, mufflers, acoustic lining 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. Also, we have considered mitigation measures on noise control during the operational stage by providing silencers, enclosures and acoustic barriers, etc for the noisy plantrooms including generator rooms, air handling unit rooms, cooling tower plant and chiller plant.

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24. 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 to public fill reception facilities[9]. 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.

25. 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.

26. We estimate that the project will generate in total about 76 540 tonnes of construction waste. Of these, we will reuse about 4 750 tonnes (6.2%) of inert construction waste on site and deliver 60 100 tonnes (78.5%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 11 690 tonnes (15.3%) 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 about $3.1 million for this project (based on a unit cost of $27 per tonne for disposal at public fill reception facilities and $125 per tonne[10] at landfills).

/ENERGY …..

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[9] 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.

[10] 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 m^3), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

ENERGY CONSERVATION, GREEN AND RECYLED FEATURES

27. This project will adopt various forms of energy efficient features[11] and renewable energy technologies, in particular –

(a) water-cooled chillers with variable speed drive;

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

(c) automatic demand control of supply air;

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

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

(f) building energy management system; and

(g) photovoltaic system.

28. For green features, we will provide greening on rooftop and facades of the building, as well as landscape features in appropriate areas for environmental and amenity benefits. Besides, the design of this development would achieve the "Gold" grade under the current Hong Kong Building Environmental Assessment Method (BEAM Plus) for New Buildings recognised by the Hong Kong Green Building Council. The curtain wall adopted in this development would be in high performance Low-e coated glass, which is different from the conventional reflective coated glass. The Low-e coated glass not only has the properties of low reflectivity and high light transmittance, but also performs well in thermal insulation. Moreover, the outdoor lighting design would comply with the BEAM Plus requirement so as to ensure that it does not create light pollution to adjacent environment.

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[11] New BH design would be designed for compliance with the Code of Practice for Energy Efficiency of Building Services Installation, 2012 Edition issued by Electrical and Mechanical Services Department under Building Energy Efficiency Ordinance (Cap. 610). To minimise heat gain through the building envelope for achieving higher energy saving, the overall thermal transfer values of the building tower and of the podium for New BH shall not exceed $18W/m^2$ and $70W/m^2$ respectively which would achieve a higher performance than the statutory requirement of not exceeding $35W/m^2$ and $80W/m^2$ respectively.

29. For recycled features, we will adopt rainwater and condensate drain recycling system for make-up water of cooling towers and irrigating the greenery.

30. The total estimated additional cost for adoption of the above features is around $81.2 million (including $40.6 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 11.4% energy savings in the annual energy consumption with a payback period of about 5.6 years.

HERITAGE IMPLICATIONS

31. This project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interests and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

32. The project does not require any land acquisition.

BACKGROUND INFORMATION

33. We upgraded **69KA** to Category B in September 2011. We employed consultants and contractors to carry out topographical and tree survey, Traffic Impact Assessment (TIA), utility mapping, PER, landfill gas hazard and preliminary land contamination assessment in 2011 and to carry out site investigations, micro-climate and landfill odour study in 2012. We also engaged consultants to carry out studies on acoustic and vibration, and electronic and telecommunication equipment installations, as well as a quantity surveying consultant to prepare the tender documents in 2012. We charged the total cost of $8.8 million to 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 works and services.

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34. The proposed works will involve the removal/felling of 109 trees. All trees to be removed are not important trees[12]. We will incorporate planting proposals as part of the project, including estimated quantities of 33 numbers of trees and 36 000 numbers of shrubs, ground covers, grass and climbers.

35. We estimate that the proposed works will create about 2 280 jobs (2 130 for labourers and 150 for professional/technical staff) providing a total employment of 47 150 man-months.

Commerce and Economic Development Bureau
December 2013

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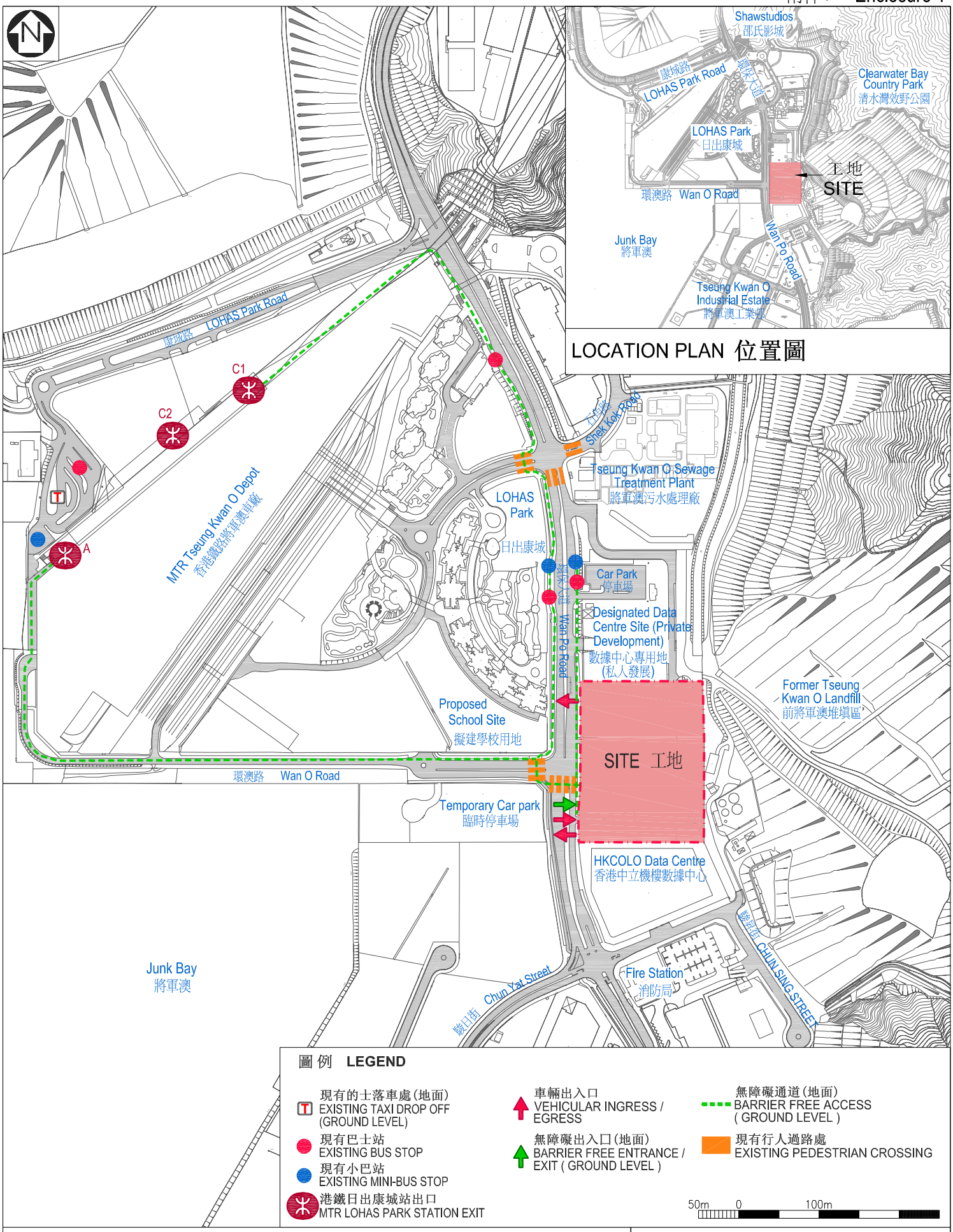
[12] An "important tree" refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –
(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery 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 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.

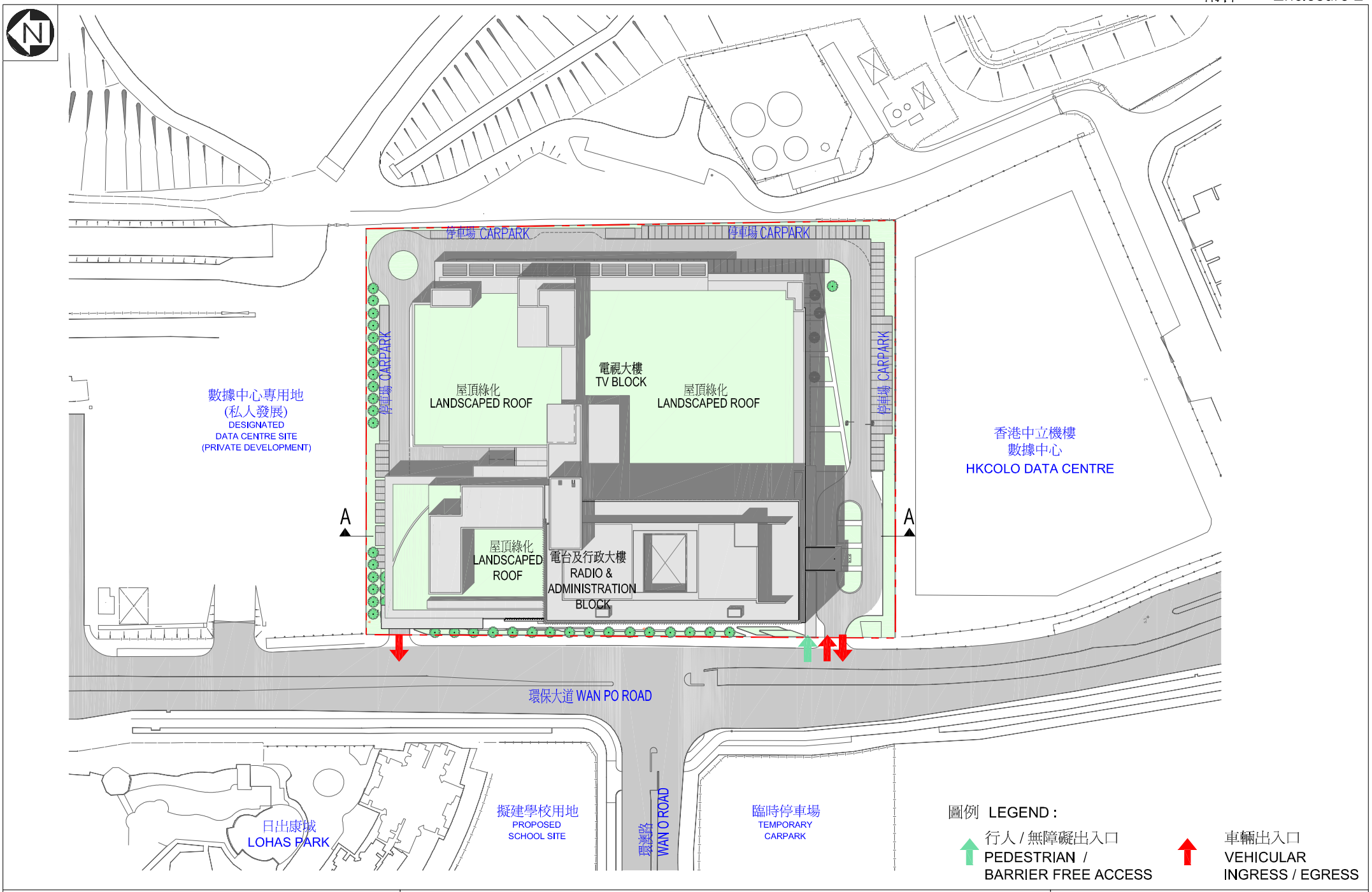
附件1 Enclosure 1



69KA
香港電台新廣播大樓
NEW BROADCASTING HOUSE
OF RADIO TELEVISION HONG KONG

SITE PLAN
工地平面圖

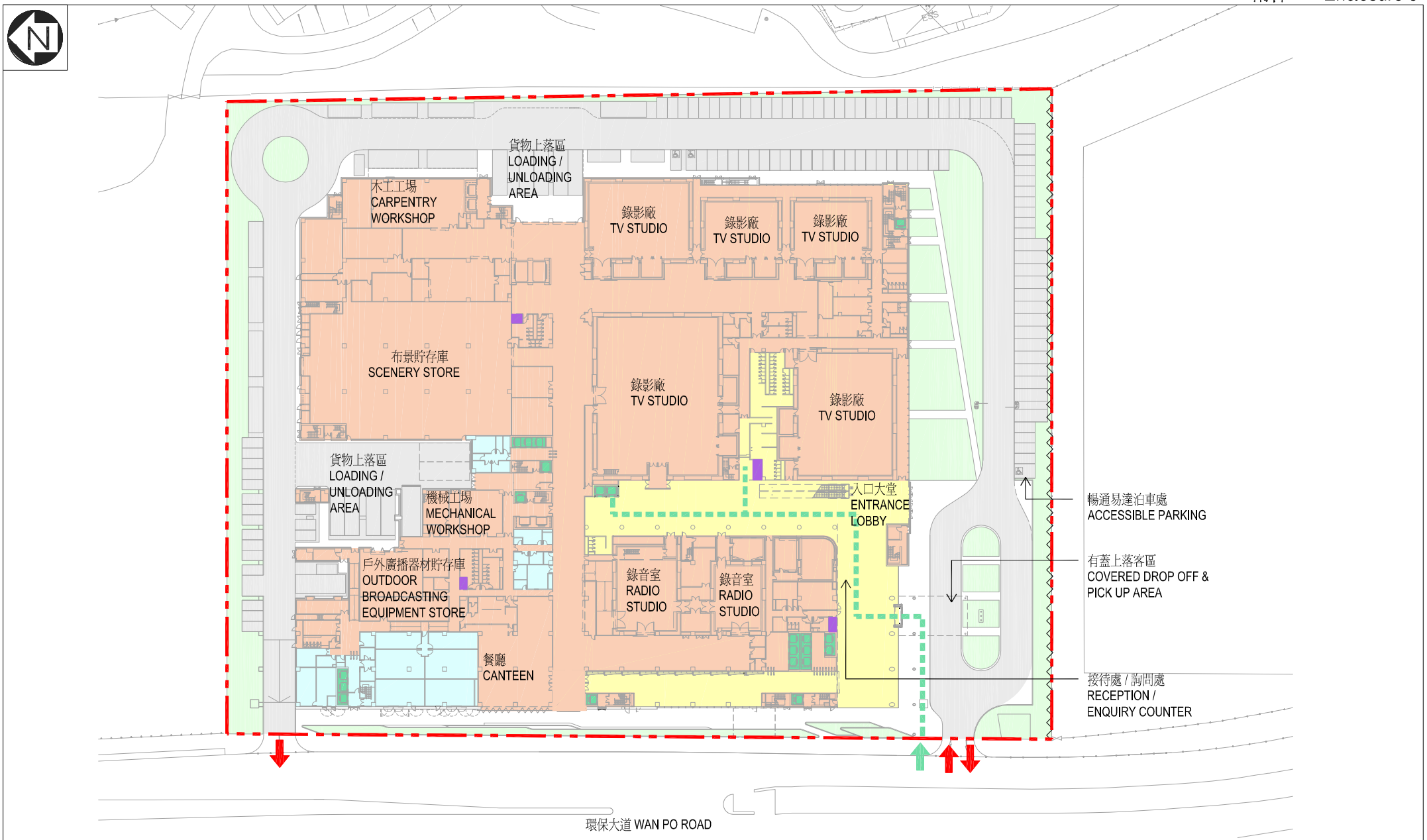
ARCHITECTURAL SERVICES DEPARTMENT 建築署



69KA
香港電台新廣播大樓
NEW BROADCASTING HOUSE
OF RADIO TELEVISION HONG KONG

樓宇位置圖
BLOCK PLAN

10m 0 20m



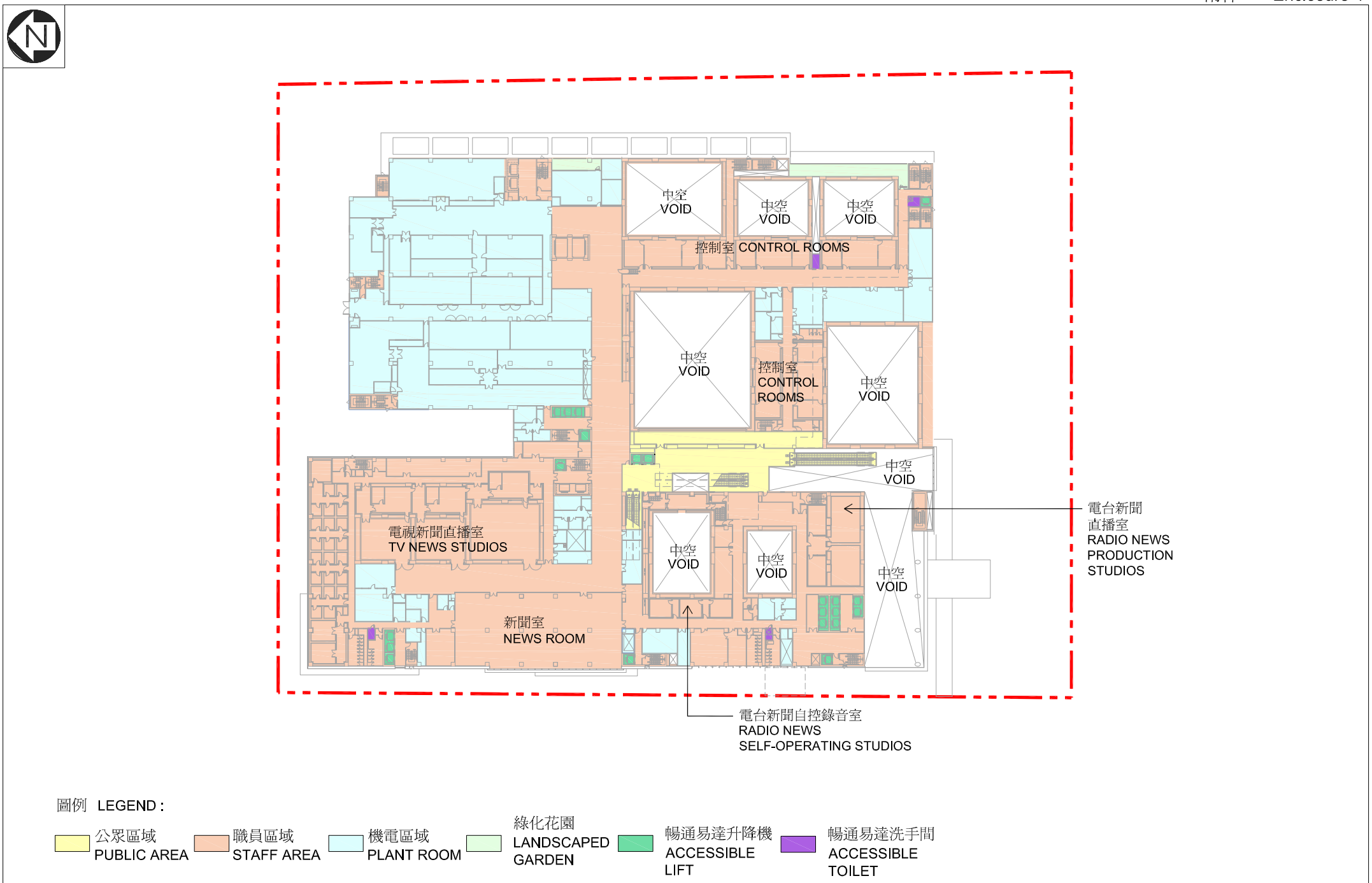
圖例 LEGEND :

- 公眾區域 PUBLIC AREA
- 職員區域 STAFF AREA
- 機電區域 PLANT ROOM
- 綠化花園 LANDSCAPED GARDEN
- 無障礙通道 BARRIER FREE ACCESS
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET
- 行人 / 無障礙出入口 PEDESTRIAN / BARRIER FREE ENTRANCE / EXIT
- 車輛出入口 VEHICULAR INGRESS / EGRESS

69KA
香港電台新廣播大樓
NEW BROADCASTING HOUSE
OF RADIO TELEVISION HONG KONG

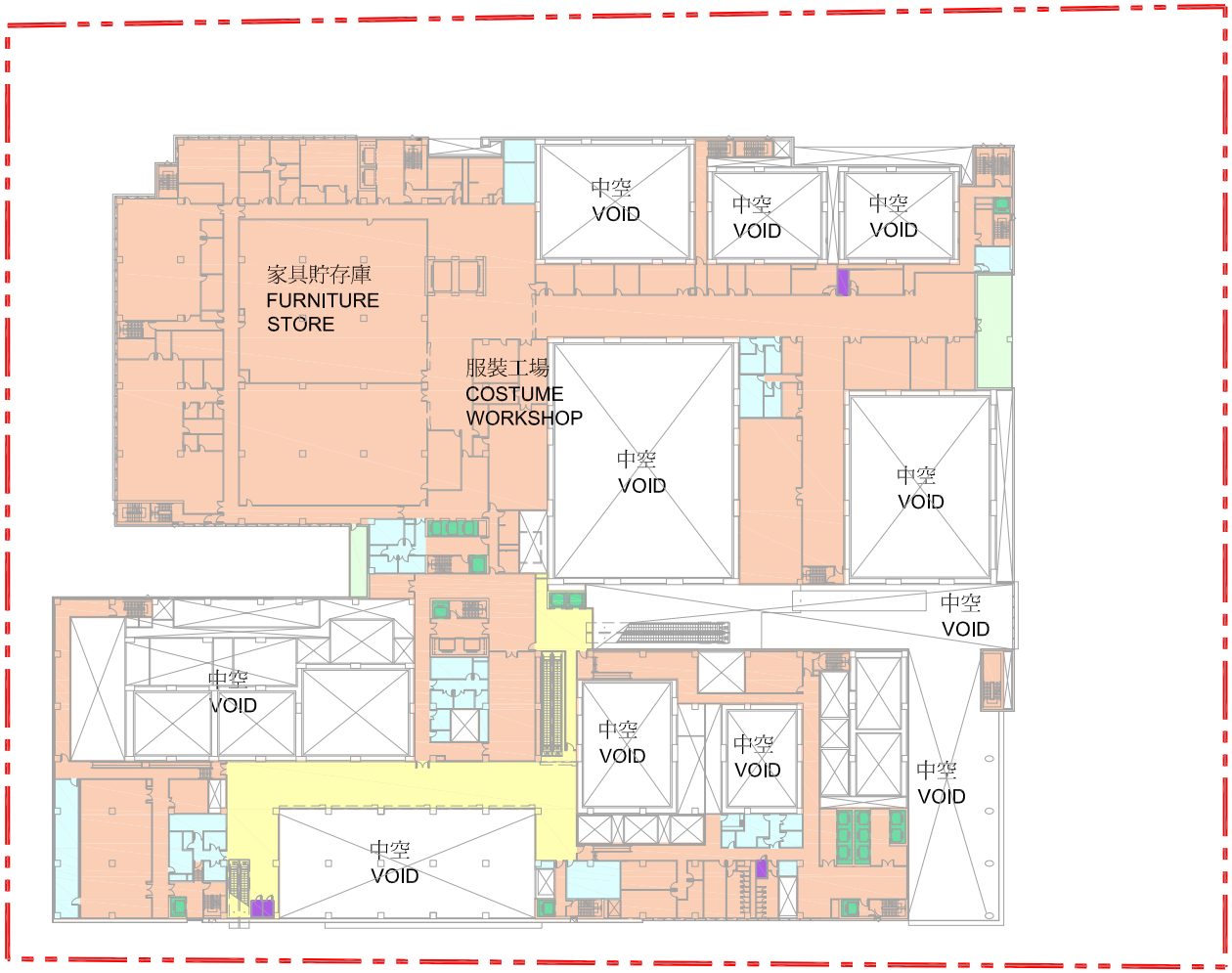
地面平面圖
GROUND FLOOR PLAN

10m 0 20m



69KA
香港電台新廣播大樓
NEW BROADCASTING HOUSE
OF RADIO TELEVISION HONG KONG

一樓平面圖
1st FLOOR PLAN



圖例 LEGEND :

- 公眾區域 PUBLIC AREA
- 職員區域 STAFF AREA
- 機電區域 PLANT ROOM
- 綠化花園 LANDSCAPED GARDEN
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET

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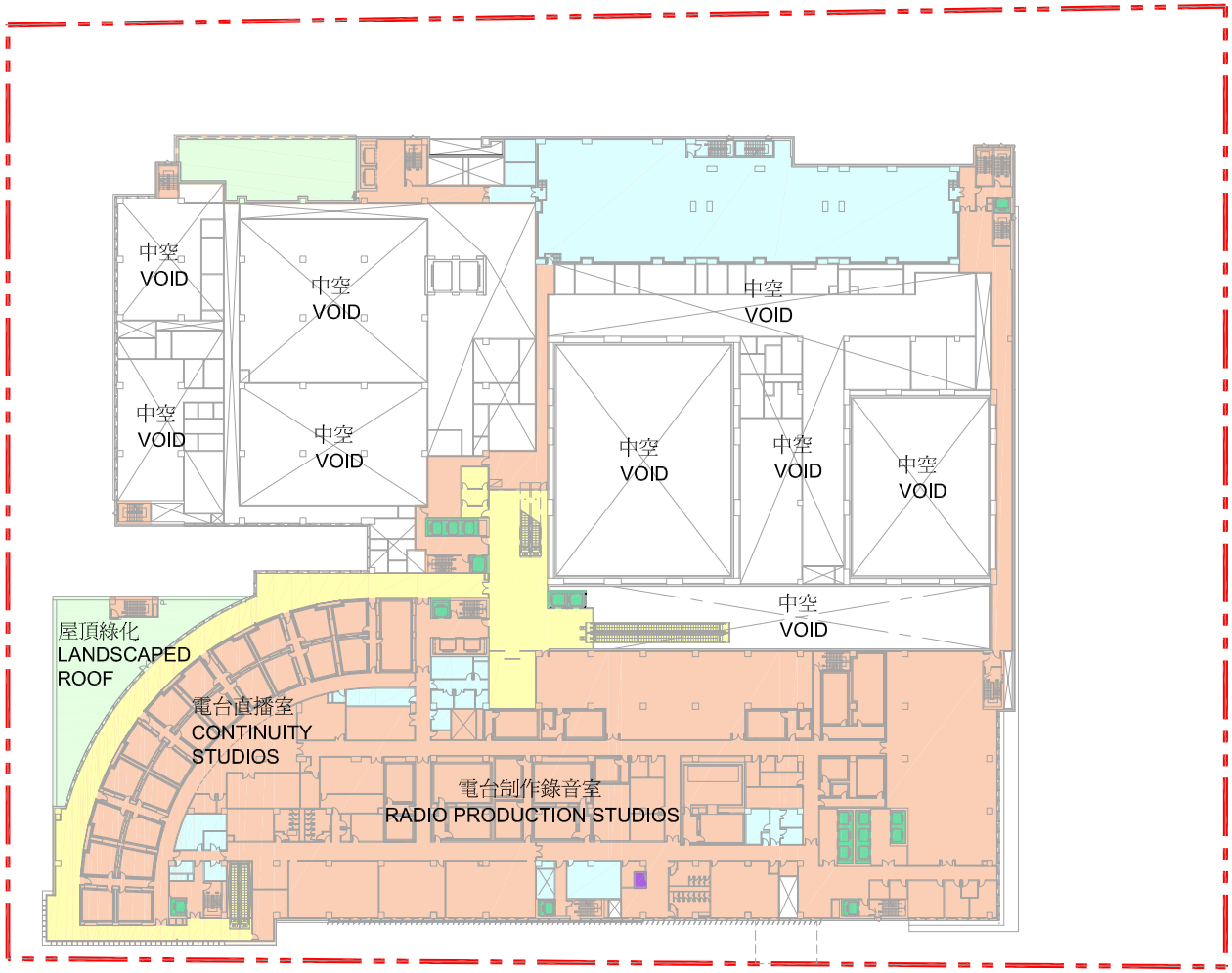
香港電台新廣播大樓
NEW BROADCASTING HOUSE
OF RADIO TELEVISION HONG KONG

二樓平面圖
2nd FLOOR PLAN

10m 0 20m



圖例 LEGEND :

- 公眾區域 PUBLIC AREA
- 職員區域 STAFF AREA
- 機電區域 PLANT ROOM
- 綠化花園 LANDSCAPED GARDEN
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NEW BROADCASTING HOUSE
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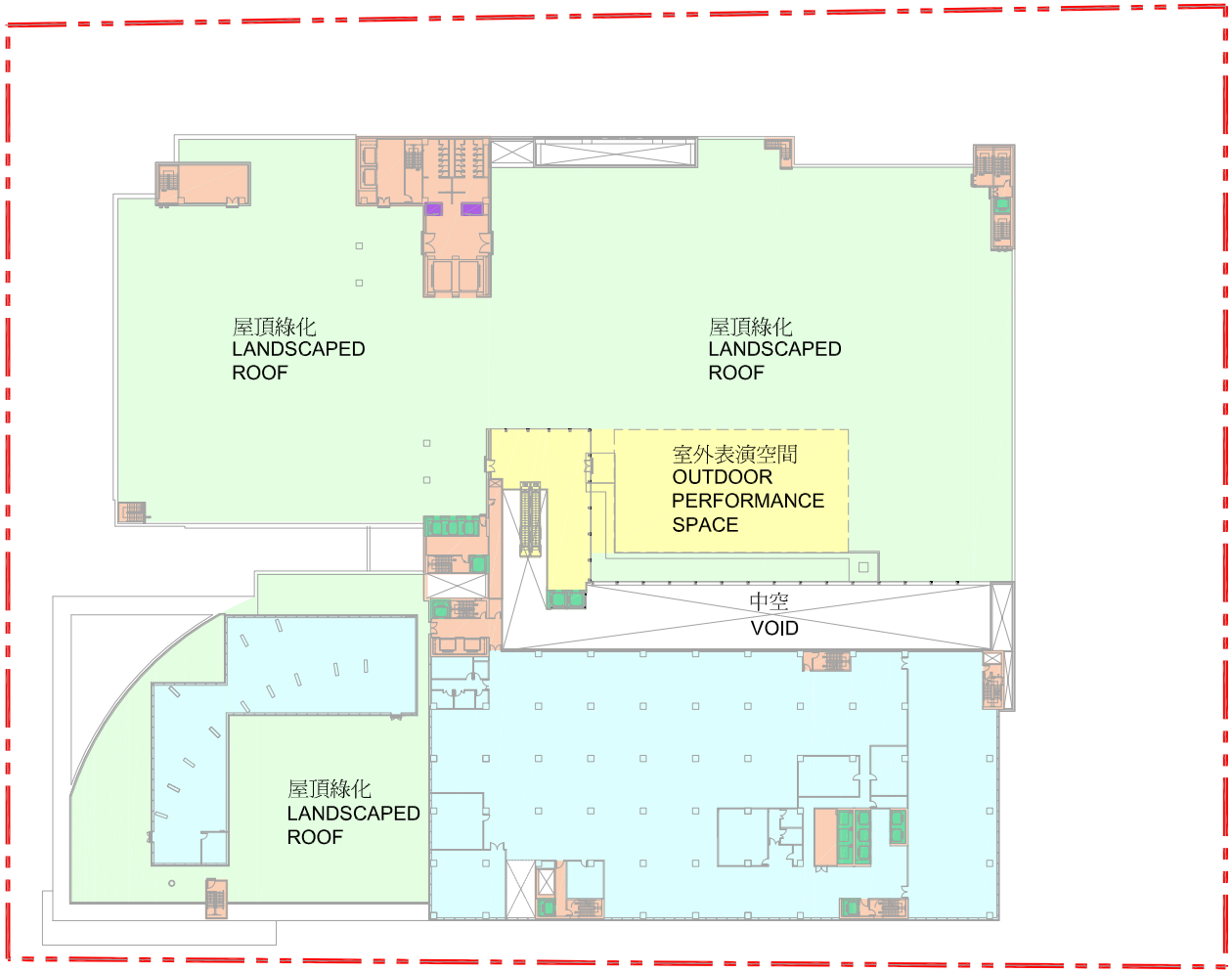
三樓平面圖
3rd FLOOR PLAN

10m 0 20m



圖例 LEGEND :

- 公眾區域 PUBLIC AREA
- 職員區域 STAFF AREA
- 機電區域 PLANT ROOM
- 綠化花園 LANDSCAPED GARDEN
- 暢通易達升降機 ACCESSIBLE LIFT
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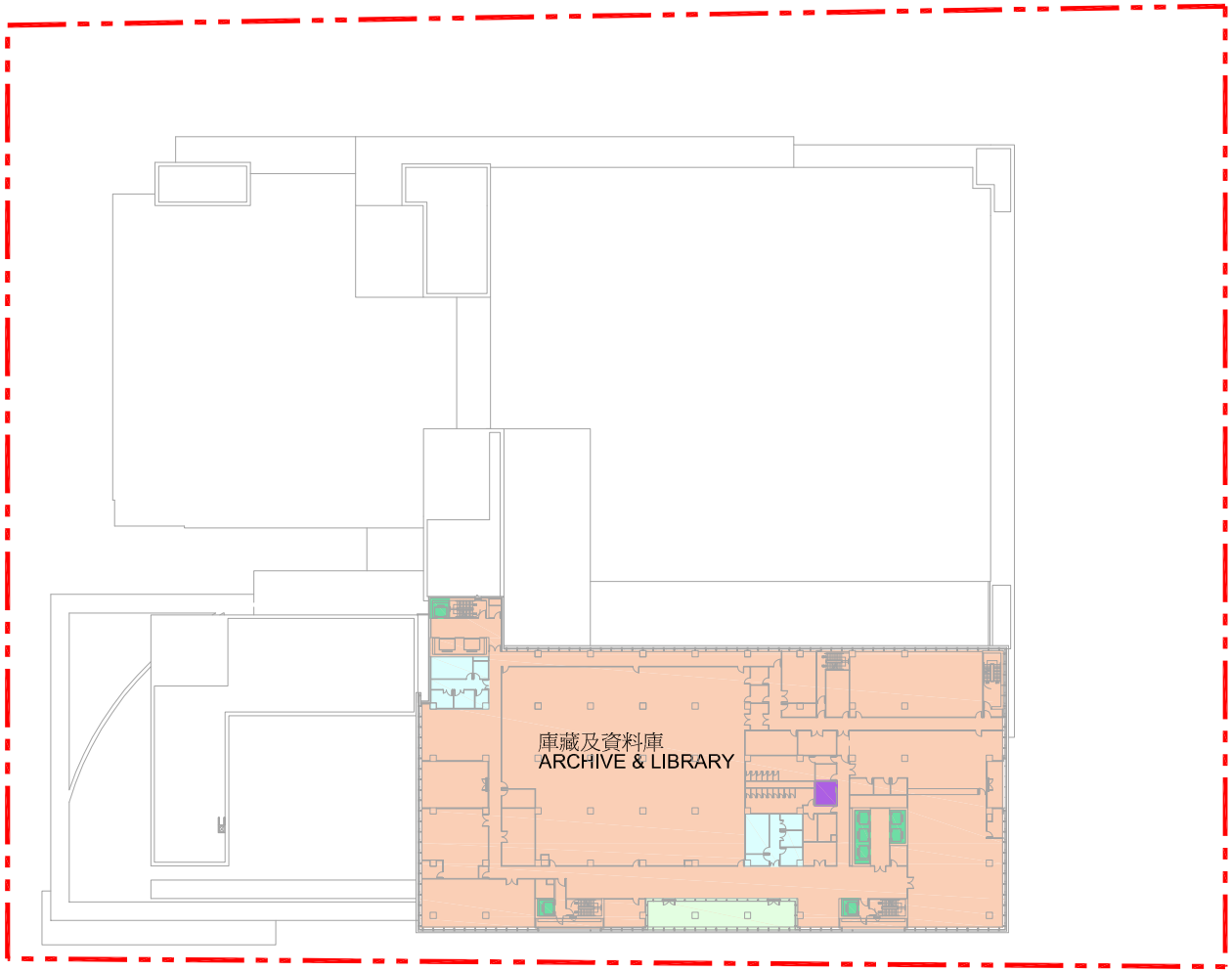
四樓平面圖
4th FLOOR PLAN

10m 0 20m



圖例 LEGEND :

- 職員區域 STAFF AREA
- 機電區域 PLANT ROOM
- 綠化花園 LANDSCAPED GARDEN
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET

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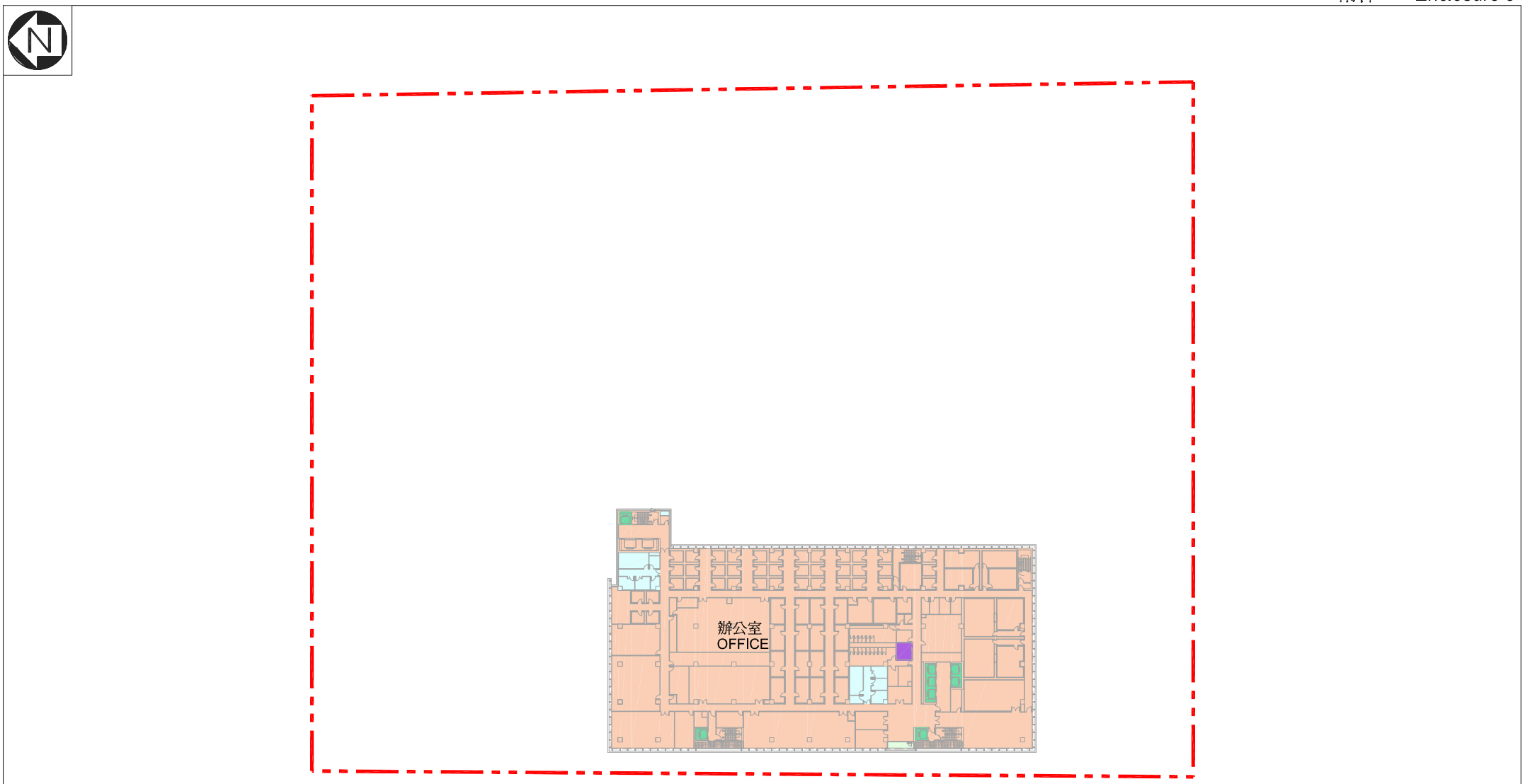
五樓平面圖
5th FLOOR PLAN

10m 0 20m



圖例 LEGEND :

- 職員區域 STAFF AREA
- 機電區域 PLANT ROOM
- 綠化花園 LANDSCAPED GARDEN
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET

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NEW BROADCASTING HOUSE
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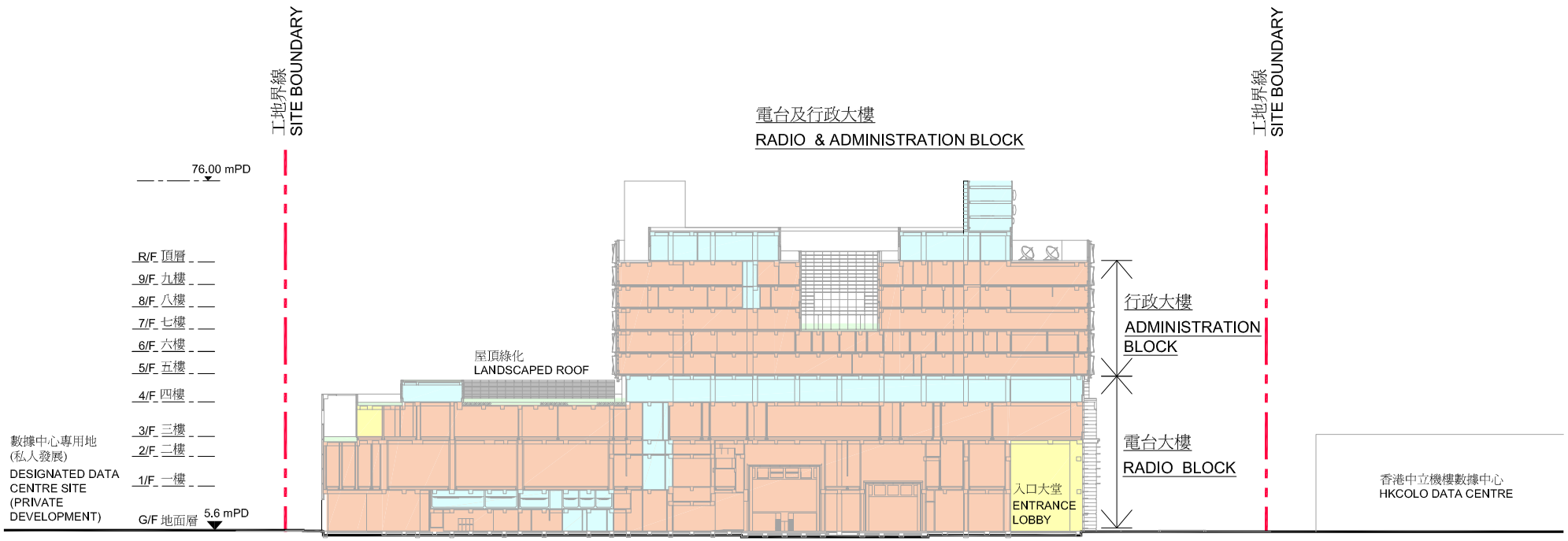
六至九樓平面圖
6th to 9th FLOOR PLAN

10m 0 20m



圖例 LEGEND :

公眾區域 PUBLIC AREA	職員區域 STAFF AREA	機電區域 PLANT ROOM	綠化花園 LANDSCAPED GARDEN

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香港電台新廣播大樓
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剖面圖
SECTION A

10m 0 20m

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香港電台新廣播大樓
NEW BROADCASTING HOUSE
OF RADIO TELEVISION HONG KONG

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

69KA
香港電台新廣播大樓
NEW BROADCASTING HOUSE
OF RADIO TELEVISION HONG KONG

從入口望向大樓的構思透視圖
PERSPECTIVE VIEW FROM ENTRANCE (ARTIST'S IMPRESSION)

Enclosure 13 to PWSC(2013-14)28

69KA – New Broadcasting House of Radio Television Hong Kong

Existing and Planned Accommodation Arrangements of Radio Television Hong Kong

Facilities	Existing	Planned		Increase
	Area[Note 1] (m^2) *[a]*	Area[Note 2] (m^2) *[b]*	% of total area	*[(b-a)/a x 100%]*
(a) Sound broadcasting facilities	1 430	2 470	9%	+73%
(b) Digital Terrestrial Television (DTT) broadcasting facilities	2 170	5 220	19%	+141%
(c) News Centre	240	1 910	7%	+696%
(d) Engineering and Media Asset Management (MAM)	290	1 730	6%	+497%
(e) Accommodation for staff	6 140	8 090	29%	+32% (Note 3)
(f) Departmental common facilities	780	1 150	4%	+47%
(g) Information Technology (IT) and New Media technical facilities	190	1 130	4%	+495%
(h) Specialist facilities	4 360	5 960	22%	+37%
Total	**15 600**	**27 660**	**100%**	**+77%**

Notes

1. There is no record of Net Operational Floor Area (NOFA) for the existing three buildings as they were built a long time ago. This refers to the floor areas of the existing premise based on actual measurement of operationally usable areas, excluding common facilities such as corridors, toilet facilities, pantries and lift lobbies. The measurement is comparable to NOFA. All operational usable areas of the three existing buildings, leased offices (except for the town office in Queensway Government Offices (QGO) which will be retained for operational reason) and scattered outpost storages are included.

2. NOFA is used for the New Broadcasting House. It is the floor area actually allocated to the users of a building for carrying out the intended activities. The town office in QGO is not included.

3. Additional areas are mainly required for making up shortage in office accommodation as the existing provision is below the standard provision.

Enclosure 14 to PWSC(2013-14)28

69KA – New Broadcasting House of Radio Television Hong Kong

Changes in Project Cost Estimate between 2000 and 2013

A comparison of the first Preliminary Project Feasibility Study (PPFS) estimate carried out in 2000 and the latest cost estimate (updated in 2013 as per the PWSC submission) –

	(A)	(B)	(B) – (A)
	PPFS (July 2000) (adjusted to September 2013 prices) See Notes	**Latest cost estimate (in September 2013 prices)**	**Difference**
	$ million		
(a) Site works	4.5	28.7	24.2
(b) Piling works	58.9	246.4	187.5
(c) Building works	940.3	2,302.1	1,361.8
(d) Building services works	433.7	795.7	362.0
(e) Drainage works	41.7	28.1) 72.2	30.5
(f) External works		44.1)	
(g) Footbridge	15.7	-	(15.7)
(h) Energy conservation, green and recycled features	-	81.2	81.2
(i) Furniture and equipment	550.9	929.6	378.7
(j) Consultants' fees	60.2	31.2	(29.0)
(k) Remuneration of resident site staff	-	64.0	64.0
(l) Contingencies	239.3	455.1	215.8
Sub-total	**2,345.2**	**5,006.2**	**2,661.0**
(m) Provision for price adjustment	-	1,049.4	-
	$ million (in money-of-the-day prices)		
Total	-	6,055.6	-

2. As regards (a), (b), (e) and (f) (**site works, piling works, drainage works and external works**), the total increase of $242.2 million is due to –

i) larger site area with an increase of 77% from 17 303 m^2 (TKO Area 86 site) to 30 600 m^2 (TKO Area 85 site), as well as the increased complexity and extent of the site works involved at the new site, e.g. site clearance, demolition of existing structure, site formation, excavation and removal of contaminated soil etc.; and

ii) piling system is changed from H-piles to large-diameter bored piles in order to reduce nuisance to neighbouring residents and to better suit the ground condition of the new site at TKO Area 85.

3. As regards (c) and (d) (**building works and building services works**), the total increase of $1,723.8 million is due to the following factors –

i) the PPFS scheme prepared in 2000 was at very preliminary technical feasibility stage with no detailed requirements available. The current design (as reflected in the latest cost estimate) has taken into account the latest broadcasting technology and has catered for the latest operational requirements of the users, such as detailed acoustic and functional requirements of each recording studio, more sophisticated and advanced building services, IT, fibre optic network requirements etc. which have been widely adopted in recent major overseas broadcasting house developments and international broadcasting standards;

ii) the building design (as reflected in the latest cost estimate) is substantially different from PPFS stage. In the current building design, each of TV block and Radio block will be equipped with separate fire services, electricity supply and telecommunication systems with enhanced reliability to ensure continuity of broadcasting services in case of emergency;

iii) incorporation of the latest requirements / prevailing practices such as security requirements, curtain wall system with lower solar heat transmission, water saving devices and more environmentally friendly materials;

iv) the cost of contractor's design and site supervision are included in the current design-and-build procurement mode;

v) the estimated construction floor area (CFA) of the PPFS scheme prepared in 2000 was 60 000 m^2, and the CFA of the current design (as reflected in the latest cost estimate) is 84 436 m^2. The increase in CFA is due to various reasons, including different layout configuration to suit the different site configuration and new functional requirements (e.g. requirement of independent operation of separate parts of the buildings, more circulation space, etc.). Besides, increased floor areas are required for incorporation of the latest requirements of barrier-free access, new fire codes, occupational safety and health, sustainability building design and gender mainstreaming considerations, as an integral part of the design; and

vi) various policy initiatives on construction safety, workers' welfare and green construction, such as enhancement on site safety, mandatory provident fund, site uniform, waste management, better noise control in construction activities, etc. have been incorporated.

4. As regards (g) (**Footbridge**), the reduction of $15.7 million is due to the deletion of the requirement for footbridge in the latest design requirement subsequent to the change of the site from Area 86 to Area 85.

5. As regards (h) (**Energy conservation, green and recycled features**), the total increase of $81.2 million is due to project environmental design features which were only introduced in recent years based on the latest government's green building policies. There was no such allowance in the 2000 PPFS scheme.

6. As regards (i) **(Furniture and equipment)**, the total increase of $378.7 million is due to inclusion of specialist equipment for implementation of new services such as Digital Terrestrial Television, Digital Audio Broadcasting, etc., as well as for replacement of aged equipment etc. which were previously not envisaged.

7. As regards (j) (**Consultants' fees**), the total reduction of $29.0 million is due to the change from in-house with specialist consultants to design-and-build procurement method. Paragraph 3 (iv) above refers.

8. As regards (k) (**Remuneration of resident site staff**), the total increase of $64.0 million is due to the change from in-house to out-sourced resident site staff.

9. As regards (l) (**Contingencies**), the total increase of $215.8 million is for all the additional works listed above.

10. As regards (m) (**Provision for price adjustment**), this is not included in the cost estimate prepared in 2000 (at constant prices) at feasibility study stage. It is the established practice that cost estimates of capital works projects are updated to money-of-the-day prices in funding applications to the Public Works Subcommittee and Finance Committee.

Notes

(a) The cost estimate of $1,496 million provided in the PPFS in 2000 was based on the Building Works Tender Price Index (BWTPI) of 989 at 4Q 1999. In the LegCo Paper in 2009, the ballpark cost for a new BH was based on the estimate given in the 2000 PPFS with the cost adjusted to 3Q 2009 price level (BWTPI at 1 111) at that time.

(b) A PPFS for the new BH project was carried out in 2000 for a site earmarked in Area 86, Tseung Kwan O. The project was then put in abeyance because of firstly the Government's stringent financial position during the SARS period and then the conduct of the review of the public service broadcasting. On its re-activation after 2009, a fresh Technical Feasibility Statement (TFS) was prepared in 2011 based on a new set of project design requirements for the current site in TKO Area 85. The cost estimate prepared in 2011 with a BWTPI of 1 249 (3Q 2010) was $4,412 million. With the price adjusted to September 2013 price level, the estimated cost of the project based on the TFS prepared in 2011 is $5,475 million. The current cost estimate of $5,006.2 million in September 2013 prices is about 8% lower than the TFS estimate.

Enclosure 15 to PWSC(2013-14)28

69KA – New Broadcasting House of Radio Television Hong Kong

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2013 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for					
	(i) quantity surveying services (Note 2)	Professional	–	–	–	2.1
		Technical	–	–	–	1.8
					Sub-total	3.9
	(ii) acoustic and vibration design (Note 2)	Professional	–	–	–	0.8
		Technical	–	–	–	0.4
					Sub-total	1.2
	(iii) electronic and telecommunication equipment installations design (Note 2)	Professional	–	–	–	10.0
		Technical	–	–	–	5.9
					Sub-total	15.9
	(iv) environmental and risk management	Professional	16	38	1.6	1.7
		Technical	24	14	1.6	0.9
					Sub-total	2.6
(b)	Resident site staff costs (Note 3)	Professional	250	38	1.6	26.9
		Technical	1 200	14	1.6	44.7
					Sub-total	71.6
	Comprising –					
	(i) Consultants' fees for management of resident site staff				7.6	
	(ii) Remuneration of resident site staff				64.0	
					Total	**95.2**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of resident site staff supplied by the consultants. (As at now, MPS salary point 38 = $67,370 per month and MPS salary point 14 = $23,285 per month.)

2. The consultants' staff cost for quantity surveying services, acoustic and vibration design, electronic and telecommunication equipment installations design are calculated in accordance with the existing consultancy agreements for the provision of quantity surveying services and other specialist consultancy services for **69KA.** The assignment will only be executed subject to the Finance Committee's approval to upgrade **69KA** to Category A.

3. We will only know the actual man-months and actual costs after completion of the construction works.