For discussion **PWSC(2009-10)85**
on 20 January 2010

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS
Recreation, Culture and Amenities – Mixed amenity packages
54RG – Town park, indoor velodrome-cum-sports centre in Area 45, Tseung Kwan O

Members are invited to recommend to Finance Committee the upgrading of **54RG** to Category A at an estimated cost of $1,129.7 million in money-of-the-day prices for the development of a town park, indoor velodrome-cum-sports centre in Area 45, Tseung Kwan O.

PROBLEM

There are insufficient recreational and sports facilities in the Tseung Kwan O District to meet the needs of the community.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Home Affairs, proposes to upgrade **54RG** to Category A at an estimated cost of $1,129.7 million in money-of-the-day (MOD) prices for the development of a town park, indoor velodrome-cum-sports centre in Area 45, Tseung Kwan O.

/Project…..

PROJECT SCOPE AND NATURE

3. The project site occupies an area of 6.9 hectares (ha). The scope of **54RG** includes—

(i) Town Park

(a) a garden with a large lawn;

(b) a large artificial lake;

(c) a model boat pool;

(d) an open-air amphitheatre;

(e) a skateboard park;

(f) a jogging track with fitness training facilities;

(g) a children's play area;

(h) a fitness corner for the elderly;

(i) an outdoor climbing wall;

(j) a service building and other ancillary facilities;

(ii) Indoor Velodrome-cum-Sports Centre

(k) a 250-metre long cycling track with supporting facilities meeting international competition standards;

(l) flexible spectator stand facilities, including about 2 000 permanent seats and 1 000 portable seats;

(m) a multi-purpose area in the centre of the track that can be used as a venue for basketball, volleyball, badminton, gymnastics and other sports training or events;

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(n) other facilities, including a fitness room, two multi-purpose activity rooms, a weight-lifting room, a dance room and a children's playroom; and

(o) meeting rooms, a restaurant, a sports goods shop and other ancillary facilities.

A location plan and conceptual layout of the proposed facilities is at Enclosure 1, and an artist's impression of the part of the project that includes the velodrome is at Enclosure 2. We plan to start construction in March 2010 for completion in April 2013.

JUSTIFICATION

Town Park

4. There is a need to provide more public open space to meet the demand for leisure facilities in Tseung Kwan O. Tseung Kwan O is a densely populated and fast developing new town with a population of about 360 000, which is expected to increase to 417 000 by 2016. The Hong Kong Planning Standards and Guidelines (HKPSG) suggest a provision of 71.8 ha of public open space for the current population. At present, there are about 60.5 ha of public open space in Tseung Kwan O of which 19.8 ha is managed by the Leisure and Cultural Services Department (LCSD) and 40.7 ha by the Housing Department. A further 10.9 ha of public open space are under construction or planning, including the district open space in Area 37 (**3421RO**), the district open space, sports centre and library in Area 74 (**3050RG**), the district open space in Area 56, the sitting-out area in Area 77 and this project. The proposed project will help alleviate the current shortfall of leisure space in Tseung Kwan O.

Indoor Velodrome-cum-Sports Centre

5. Cycling has for many years been one of the elite sports supported by the Hong Kong Sports Institute (HKSI), and Hong Kong cyclists have achieved promising results in national and international competitions. However, the potential for Hong Kong cyclists to achieve good results is affected by the lack of dedicated facilities locally. The HKSI has an outdoor velodrome, which was built in the 1980s and is not in a suitable condition for top-level training and competition. To accommodate the HKSI redevelopment project, the outdoor velodrome is now being demolished and a temporary replacement outdoor velodrome is under construction in Ma On Shan to provide an interim venue for cycling training.

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6. Due to the lack of an indoor cycling track in Hong Kong, our elite cyclists have to undergo training in the Mainland and other countries frequently. This arrangement is costly and disruptive to our athletes' preparation for competitions, especially as the timing and duration of training is subject to the availability of the facilities outside Hong Kong. To help our athletes realise their full potential, it is necessary to build an indoor velodrome that meets international standards.

7. In addition to providing a venue for top-level cycling training and international competition, an indoor velodrome can also serve as a multi-purpose facility suitable for other indoor sports.

8. According to the HKPSG, Tseung Kwan O should have six indoor sports centres by 2016. At present, there are three such centres in Tseung Kwan O and another two sports centres are under construction or planning, including the Tseung Kwan O Complex in Area 44 (**3190SC**) and the district open space, sports centre and library in Area 74 (**3050RG**). The average utilisation rate of the main arenas of the existing sports centres is at a relatively high level of 83%. The proposed project will help meet the increasing demand for indoor sports facilities in Tseung Kwan O.

9. The site for the proposed project is in a densely populated residential area close to public and private residential developments[1]. There are some 50 secondary and primary schools in Tseung Kwan O and there is strong demand from the local community and the Sai Kung District Council (SKDC) for more public sports and recreational facilities in the area. It is expected that the proposed project will be welcomed by local residents and will become a popular venue.

FINANCIAL IMPLICATIONS

10. We estimate the capital cost of the project to be $1,129.7 million in MOD prices (please see paragraph 11 below), broken down as follows –

/**$ million**….

[1] Examples include Kwong Ming Court, Po Ming Court, Sheung Tak Estate, Beverly Garden, Tseung Kwan O Plaza, Grandiose, La Cite Noble, Maritime Bay, Yuk Ming Court, Wo Ming Court, East Point City, Residence Oasis, Nan Fung Plaza, On Ning Garden and Chung Ming Court.

			$ million	
(a)	Site works		34.4	
(b)	Piling		35.6	
(c)	Building		465.3	
(d)	Building services		139.5	
(e)	Drainage		22.0	
(f)	External works		156.8	
(g)	Soft landscape		6.1	
(h)	Additional energy conservation measures		19.5	
(i)	Consultants' fees for –		44.4	
	(i) contract administration	43.5		
	(ii) management of resident site staff	0.9		
(j)	Remuneration of resident site staff		15.7	
(k)	Furniture and equipment[2]		29.1	
(l)	Contingencies		91.6	
	Sub-total		1,060.0	(in September 2009 prices)
(m)	Provision for price adjustment		69.7	
	Total		1,129.7	(in MOD prices)

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[2] The estimated cost of furniture and equipment is based on an indicative list of items required, including recreation and sports equipment, office furniture, public address systems, etc.

We propose to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees by man-months is at Enclosure 3. The construction floor area (CFA) of the **54RG** is about 32 993 m^2. The estimated construction unit cost, represented by the building and the building services costs, is $18,331 per m^2 of CFA in September 2009 prices. We consider this comparable to similar projects built by the Government.

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

Year	$ million (Sept 2009)	Price adjustment factor	$ million (MOD)
2010 – 11	91.0	1.02000	92.8
2011 – 12	228.0	1.04040	237.2
2012 – 13	358.0	1.06121	379.9
2013 – 14	260.0	1.08243	281.4
2014 – 15	78.0	1.11220	86.8
2015 – 16	45.0	1.14557	51.6
	1,060.0		1,129.7

12. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period 2010 to 2016. 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.

13. We estimate that the annual recurrent expenditure arising from this project would be $38.4 million. The capital and recurrent cost of the indoor velodrome-cum-sports centre would be partly recovered from the relevant users on a subsidised fees basis, and would be taken into account in setting the new fee and in conducting future fee review exercises where appropriate.

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PUBLIC CONSULTATION

14. The LCSD consulted the District Facilities Management Committee of SKDC on the scope of the proposed project and the conceptual layout on 1 February 2007 and 3 June 2008 respectively and the full SKDC on the conceptual layout on 18 November 2008. Members supported the project and requested its early implementation.

15. We also consulted residents in the vicinity of the project site on the proposed project in public consultation sessions on 20 June 2008 and 24 November 2008. About 150 local residents attended the consultation sessions and were generally supportive of the proposal. To address concerns about the possible noise that might arise from the operation of the amphitheatre and skateboard park, we have relocated these two facilities to the corner of the town park which is furthest away from adjoining residential developments in our proposal and have made other suitable modifications to the proposal (e.g. provision of lightweight cover to the amphitheatre, creating level difference between the amphitheatre and the skateboard park and the surrounding areas, and provision of a purposely designed public announcement system for the amphitheatre) We also undertook to manage the facilities in such a way as to minimise any noise impact on nearby residents. We have consulted the Hong Kong Cycling Association on the proposed project. They strongly support the project and look forward to its early implementation.

16. We circulated an information paper to the Legislative Council Panel on Home Affairs on 11 December 2009. Members did not raise any objection to the submission of the funding proposal to the Public Works Subcommittee.

ENVIRONMENTAL IMPLICATIONS

17. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The project has very little potential of giving rise to adverse environmental impact.

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18. 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 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.

19. We have considered measures in the planning and design stages 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 on site (e.g. use of excavated materials for filling within the 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[3]. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

20. 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.

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[3] 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.

21. We estimate that the project will generate in total about 82 130 tonnes of construction waste. Of these, we will reuse about 21 400 tonnes (26.1%) of inert construction waste on site and deliver 54 400 tonnes (66.2%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 6 330 tonnes (7.7%) 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 $2.3 million for this project (based on a unit cost of $27 per tonne for disposal at public fill reception facilities and $125 per tonne[4] at landfills).

ENERGY CONSERVATION MEASURES

22. The project has adopted various forms of energy efficient features, including –

(a) water cooled chillers (evaporative cooling tower);

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

(c) automatic condenser tube cleaning equipment;

(d) demand control of fresh air supply;

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

(f) heat pump for domestic hot water and dehumidification;

(g) T5 energy efficient fluorescent tubes with electronic ballast and lighting control by occupancy sensor;

(h) light-emitting diode type exit signs and feature lights; and

(i) automatic on/off switching of lighting and ventilation fan inside lifts.

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[4] 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.

23. For renewable energy technologies, we will install a photovoltaic system, a solar hot water system and solar park lighting for environmental benefits.

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

25. For greening feature, we will provide a green roof for the covered carpark.

26. The total estimated additional cost for adoption of the energy conservation measures is around $19.5 million (including $5.7 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 9.2% energy savings in the annual energy consumption of the indoor velodrome-cum-sports centre and town park with a payback period of about 5.8 years.

HERITAGE IMPLICATIONS

27. 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

28. The project does not require any land acquisition.

/**BACKGROUND**…..

BACKGROUND INFORMATION

29. We upgraded **54RG** to Category B in September 2007. We engaged an architectural consultant in April 2008 to undertake the detailed design, site investigation and preliminary environmental review (PER). We engaged a quantity surveying consultant in July 2008 to prepare tender documents. The total cost of the above consultancy services and works is about $19.4 million. We have charged this amount to block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The architectural consultant has completed the site investigation, detailed design and PER and the quantity surveying consultant has finalised the tender documents.

30. The proposed works will involve the removal of 59 trees, including 26 trees to be felled and 33 trees to be transplanted to other landscaped areas. All trees to be removed are not important trees[5]. We will incorporate planting proposals as part of the project, including about 1 200 trees and 190 000 shrubs, groundcover, climbers and water plants.

31. We estimate that the proposed works will create about 462 jobs (407 for labourers and another 55 for professional/technical staff) providing a total employment of 15 800 man-months.

Home Affairs Bureau
January 2010

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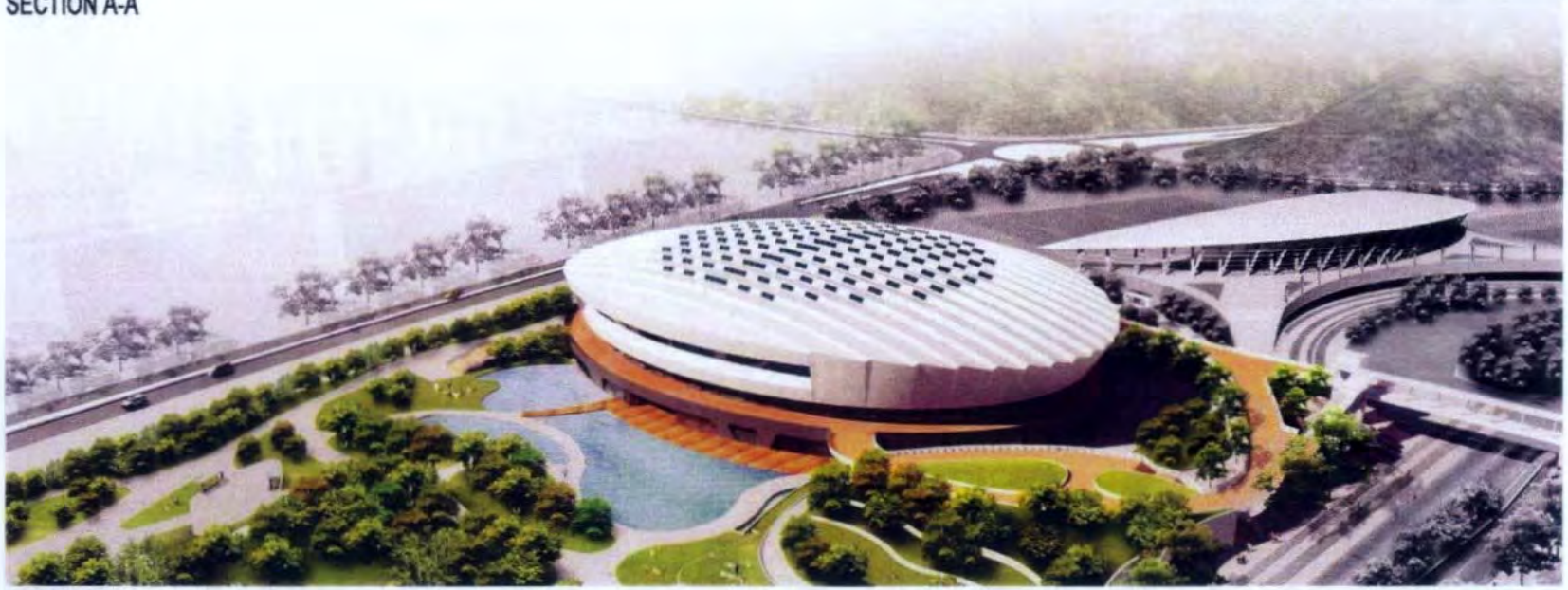
[5] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –
(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage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

054RG 將軍澳第45區市鎮公園，室內單車場及體育館 TOWN PARK, INDOOR VELODROME-CUM-SPORTS CENTRE IN AREA 45, TSEUNG KWAN O	drawn by LAM K. H.	date 4-11-2009	drawing no. AB/7250/XA001	scale 1:3000
	approved JANETTE CHAN	date 4-11-2009		
	office PROJECT MANAGEMENT BRANCH		ARCHITECTURAL SERVICES DEPARTMENT	

剖面圖 A-A
SECTION A-A

SCALE 1:1000 0 5 10 20 30 40 50 (m)



西面鳥瞰圖
AERIAL VIEW FROM WESTERN DIRECTION (ARTIST'S IMPRESSION)

054RG 將軍澳第45區市鎮公園, 室內單車場及體育館 TOWN PARK, INDOOR VELODROME-CUM-SPORTS CENTRE IN AREA 45, TSEUNG KWAN O	drawn by LAM K. H.	date 4-11-2009	drawing no. AB/7250/XA002	scale NA
	approved JANETTE CHAN	date 4-11-2009	ARCHITECTURAL SERVICES DEPARTMENT	
	office PROJECT MANAGEMENT BRANCH			

附件2 ENCLOSURE 2

54RG – Town park, indoor velodrome-cum-sports centre in Area 45, Tseung Kwan O

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2009 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	–	–	–	34.2
		Technical	–	–	–	9.3
					Sub-total	43.5
(b)	Resident site staff costs (Note 3)	Professional	29	38	1.6	2.7
		Technical	438	14	1.6	13.9
					Sub-total	16.6
	Comprising —					
	(i) Consultants' fees for management of resident site staff					0.9
	(ii) Remuneration of resident site staff					15.7
					Total	60.1

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of resident site staff supplied by the consultants. (As at now, MPS point 38 = $57,280 per month and MPS point 14 = $19,835 per month.)

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **54RG**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **54RG** to Category A.

3. The consultants' staff cost for site supervision is based on the estimate prepared by the Director of Architectural Services. We will only know the actual man-months and actual costs after completion of the construction works.