

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 703 – BUILDINGS

#### Recreation, Culture and Amenities – Sports facilities

#### 242RS – Tseung Kwan O Sports Ground

Members are invited to recommend to Finance Committee the approval of an increase in the approved project estimate for **242RS** from \$293.1 million by \$59.2 million to \$352.3 million in money-of-the-day prices.

### PROBLEM

The approved project estimate (APE) for **242RS** is insufficient for the construction works under the project.

### PROPOSAL

2. The Director of Architectural Services (D Arch S), with the support of the Secretary for Home Affairs, proposes to increase the APE for **242RS** from \$293.1 million by \$59.2 million to \$352.3 million in money-of-the-day (MOD) prices.

### PROJECT SCOPE AND NATURE

3. The approved project scope of **242RS** comprises the construction of Tseung Kwan O Sports Ground with the following facilities –

/(a) .....

**(a) Main Sports Ground**

- (i) track and field provisions conforming to the International Association of Athletics Federations (IAAF) standards, including an eight-lane 400-metre all-weather synthetic running track, a javelin-throw circle, high jump take-off runways and pits, long jump and triple jump runways and pits, pole-vault runway and landing area, steeple chase facilities, a hammer and discus cage, and a shot-put throwing area;
- (ii) an 11-a-side natural turf football pitch conforming to the Federation Internationale de Football Association standards; and
- (iii) a covered spectator stand with a seating capacity of about 3 500, including a VIP section of 250 seats, and space for the provision of a temporary removable spectator stand with 1 500 seats.

**(b) Secondary Sports Ground**

- (i) warm-up track and field facilities up to IAAF specifications, including a loop of at least 300-metre running track together with a 120-metre straight track and facilities for field events (i.e. long jump, triple jump, pole-vault, high jump, shot-put, discus and hammer throw, javelin-throw and steeple chase); and
- (ii) a 7-a-side natural turf football pitch surrounded by the warm-up loop of running track mentioned in item (b)(i) above.

**(c) Ancillary Facilities**

- (i) vehicle parking spaces for 60 private cars and 10 coaches, a lay-by for taxis and two bicycle parking areas;

/(ii) .....

- (ii) entrance plaza with landscaped areas, a ticketing office, a main entrance foyer and associated facilities;
- (iii) modifications (including the provision of lift) to the existing footbridge near the entrance plaza; and
- (iv) ancillary facilities including changing rooms, toilets, doping control, first-aid, weight-lifting and massage rooms, administration offices, control and security rooms, press and interview facilities, store rooms, maintenance and service yards, refuse collection chambers, electrical and mechanical plant rooms, and an administration block near the secondary sports ground to accommodate the necessary facilities for organisation of events and conferences as well as holding of training exercises.

———— A conceptual layout is at Enclosure 1.

## JUSTIFICATION

4. As mentioned in the submission made to this Subcommittee on 26 January 2005 for **242RS** vide PWSC(2004-05)54, the project will be delivered by a design-and-build (DB) contract. The selected DB contractor will be responsible for both the design and construction works. In September 2005, we received tender returns from three pre-qualified tenderers. According to the most advantageous tender, the total project cost of **242RS** amounts to \$362.9 million. This exceeds the APE of \$293.1 million by \$69.8 million.

### Higher-than-expected tender returns

5. While we have worked out the original estimate of **242RS** based on the preliminary conceptual layout as set out in Enclosure 1, tenderers for the project, which will be delivered in the DB mode, are free to propose their own

/design .....

design options within the parameters of the Employer's Requirements (i.e. requirements and specifications of the project) to compete for the tender. We have critically reviewed the tender returns and concluded that the recommended tender is the most advantageous. Our analysis also reveals that the higher-than-estimated construction and overhead costs<sup>1</sup> has led to the bid being in excess of the original budget. The higher-than-estimated costs submitted by the recommended tenderer may be attributable to factors described in paragraphs 6 to 8 below.

6. **242RS** is the first ever sports ground project we have embarked on using the DB approach. We have relatively little experience and are lacking in supporting cost data in making estimate for such scenario. There was under-estimation in the original budget.

7. There has been a rising trend of construction and overhead costs in the local market in the light of the booming construction activities in neighbouring markets. The Tender Price Index (TPI)<sup>2</sup> of the Architectural Services Department (ArchSD) during the period 2004-05 indicates an upward trend by 3.42% (private sector TPI as provided by the Quantity Surveying Consultant employed by ArchSD is slightly higher at 3.66%). With the improvement in the economy, it is reasonable that the tenderers would anticipate that the increasing trend in construction and overhead costs in the local market to be continued in subsequent years. Consequently, they might have adopted a more conservative pricing strategy in their tender returns as reflected in the bidding prices on overhead, etc.

8. Under DB delivery, the tenderer will base on ArchSD's original "conceptual" layout to come up his own design in accordance with the Employer's Requirements in the tender submission, where a technical score would be given against each tenderer's submission to attribute the tender recommendation. The design of the recommended tender not only meets the stipulated requirement and the requisite standard, but is also more innovative than our conceptual layout based upon which the original estimate was drawn up. While the proposed design will enhance the quality of the sports ground, it brings about higher cost. The design of the recommended tender has the following merits/special features -

/(a) .....

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<sup>1</sup> Overhead costs generally refer to design fee, site supervision and insurance costs in construction works.

<sup>2</sup> TPI is a quarterly index compiled primarily as an aid to adjust building cost data for estimating purposes.

- (a) Innovative design with proposed combination of main spectator building and the administration block, which will facilitate organization of major athletic events. Under our original conceptual layout, the main spectator building and the administration block are separate structures.
- (b) The employment of an experienced and renowned international sports consultant firm to provide expertise services to ensure that IAAF standards for holding international track and field competition are fully complied with. This would enhance the certainty for IAAF standards to be complied with and smoothen the certification process involved, thus strengthening the reliability of the project. Besides, the consultant will conduct an in-depth wind and solar micro-climate study for the holding of sports events at the sports ground, and devise quality crowd management, security and logistics plan and other design standards required for holding major sporting events. All these would enhance the future operation as well as the reputation of the sports ground.
- (c) The offer of crucial sports ground facilities (such as floodlight system, electronic timing system and public address system) with sound track record in major international sports events to ensure quality and reliability. As it result, it is anticipated that the time and cost for future system maintenance would be reduced.
- (d) The provision of a comprehensive and durable drainage system design for the storm and soil water system for the spectator building and sports ground area. This is very useful as any defects in drainage system identified after design and construction stage would substantially affect the delivery of the project or the operation of the future sports ground.

/(e) .....

- (e) The provision of a paved entrance plaza with good segregation of spectators, VIP, and athletes circulation for the purpose of holding major athletic events. The proposed openable boundary fence wall design is considered to be very effective in discharging mass crowd within a short period of time.

#### Other options

9. We have considered the option of re-tendering the project. In view of the tenderers' general anticipation of a rising trend in construction and overhead costs in the market, it is unlikely that the bids will be lower upon re-tendering. This will also delay the project commencement by more than half a year.

10. We have also explored the option of reducing the approved project scope to trim down the cost but do not consider it advisable. This is because the current scope, devised in consultation with the Hong Kong Amateur Athletic Association, already represents the necessary requirements for constructing a sports ground conforming to the IAAF standards and suitable for the holding of major international athletic events. Other options including outsourcing the project by employing consultant or deploying in-house resource within the ArchSD to undertake the design and construction supervision have also been explored but considered not acceptable mainly because of the implication of substantially delaying the completion date of the project. Also, there is no guarantee that the tender price will be lowered in those options.

#### Need for increase in APE

11. In light of the returned tenders which give a clearer indication of the project cost, and in view that this project is still at the pre-construction stage, DArch S considers it prudent to keep a suitable level of contingencies to cater for unforeseen incidences so as to ensure smooth progress of the project. He therefore proposes to retain \$16 million out of the project contingencies of \$25.7 million and deploy the balance of \$9.7 million, together with savings of \$900,000 under Consultant's Fee, to partially offset the \$69.8 million increase in the project cost. In the circumstances, it is necessary to increase the APE of **242RS** from \$293.1 million by \$59.2 million to \$352.3 million in MOD prices to meet the increased construction cost.

/ FINANCIAL .....

**FINANCIAL IMPLICATIONS**

12. We estimate the revised project estimate of **242RS** to be \$352.3 million in MOD prices, made up as follows –

	<b>\$ million</b>
(a) Site formation	1.6
(b) Piling	35.3
(c) Main sports ground facilities	28.0
(d) Secondary sports ground facilities	13.6
(e) Spectator stand (including the ancillary facilities below)	99.7
(f) Administration block	34.3
(g) Building services	66.5
(h) Drainage	9.4
(i) External works	36.5
(j) Soft landscaping works	5.0
(k) Furniture and equipment	3.2
(l) Consultant's fee for contract administration	3.2
(m) Contingencies	16.0
Total	352.3

We consider the revised project cost reasonable and value-for-money having regard to the more sophisticated design of the recommended tender. A comparison of the approved project estimate and the revised project estimate of **242RS** in MOD prices, together with the explanation for the proposed increase, is at Enclosure 2.

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

<b>Year</b>	<b>\$ million (MOD)</b>
2005 – 06	0.1
2006 – 07	54.7
2007 – 08	174.3
2008 – 09	91.2
2009 – 10	26.4
2010 – 11	5.6
Total	352.3

14. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2005 to 2011. The contract will provide for price adjustments because the contract period will exceed 21 months.

15. Since there is no change in the project scope, the proposed increase in APE will not give rise to any additional recurrent expenditure.

## **PUBLIC CONSULTATION**

16. We had consulted the Sai Kung District Council, the Hong Kong Amateur Athletic Association and the Home Affairs (HA) Panel on the development proposal before the Finance Committee approved the upgrading of the project to Category A in February 2005.



17. We circulated a paper to the HA Panel on 4 January 2006 to explain the proposed increase in APE. When the proposal was submitted to the Public Works Subcommittee (PWSC) for consideration on 11 January 2006, PWSC Members advised that the case should be discussed at the HA Panel. Subsequently, we consulted the HA Panel on 23 January 2006 and further elaborated on the factors attributable to the increase in the tender price. Members raised no objection to the Administration submitting the proposal for consideration at PWSC's meeting on 15 February 2006. Additional information requested by the Members at the meeting will be provided in a supplementary paper to be issued to all Members of the HA Panel shortly.

### **ENVIRONMENTAL IMPLICATIONS**

18. The proposed increase in APE does not have any additional environmental impact.

### **LAND ACQUISITION**

19. The proposed increase in APE does not require any land acquisition.

### **BACKGROUND INFORMATION**

20. In February 2005, the Finance Committee approved the upgrading of **242RS** to Category A at an estimated cost of \$293.1 million in MOD prices. We invited tenders for the DB contract from the pre-qualified tenderers in June 2005. Subject to Members' approval of the proposed increase in APE, we plan to start the construction works in April 2006 at the latest for completion in April 2009.


21. We estimate that the proposed works at an estimated cost of \$352.3 million will create about 230 jobs (200 for labourers and another 30 for professional/technical staff) providing a total employment of 4 850 man-months.

22. The proposed development will provide Tseung Kwan O new town with a much needed sports ground; and at the same time upgrade Hong Kong's athletic venues facilities with a new sports ground equipped with facilities up to international standards for holding large-scale athletics competitions, including the track and field events of the 2009 East Asian Games. All funding proposals relating to the 2009 East Asian Games will have no effect on the planning for other community recreation, culture and sports facilities. A summary of the need for the development of the **242RS** is at Enclosure 3 for Members' reference.

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Home Affairs Bureau  
February 2006



title 242 RS <b>將軍澳運動場</b> TSEUNG KWAN O SPORTS GROUND	drawn by TF LAM	date OCT 2004	drawing no. AB/5586/XA101	scale 1:4000
	approved P FUNG	date OCT 2004	 ARCHITECTURAL SERVICES DEPARTMENT	
	office PROJECT MANAGEMENT BRANCH			

**242RS – Tseung Kwan O Sports Ground**

A comparison of the approved and revised project estimates in MOD prices is as follows –

	(A) Approved project estimate	(B) Revised project estimate	(B) – (A) Difference between the approved and revised project estimates
	\$ million	\$ million	\$ million
(a) Site formation	1.6	1.6	-
(b) Piling	30.1	35.3	5.2
(c) Main sports ground facilities	22.6	28.0	5.4
(d) Secondary sports ground facilities	10.7	13.6	2.9
(e) Spectator stand (including the ancillary facilities below)	81.6	99.7	18.1
(f) Administration block	28.9	34.3	5.4
(g) Building services	49.8	66.5	16.7
(h) Drainage	7.0	9.4	2.4
(i) External works	22.8	36.5	13.7
(j) Soft landscaping works	5.0	5.0	-
(k) Furniture and equipment	3.2	3.2	-
(l) Consultant's fee for contract administration	4.1	3.2	(0.9)
(m) Contingencies	25.7	16.0	(9.7)
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Total	293.1	352.3	59.2
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As regards item (b) (Piling), the net increase of \$5.2M is due to the additional piling works required for the larger footprint of the more innovative spectator building design proposed by the tenderer. In addition, due to structural constraints associated with the existing footbridge on the connection works, the recommended tenderer has proposed, for technical reasons and to meet site constraints, different piling for spectator stand and footbridge connection, which has resulted in additional overhead costs of piling.

2. As regards items (c) to (f) (Building), the net increase of \$31.8 million is mainly due to the larger construction floor area for the main spectator building resulting from the recommended tenderer's innovative design and the proposed combination of main spectator building with the administration block. This would provide a well defined as well as segregation of circulation for spectators, management staff and athletes which would be conducive to efficient operation for holding international athletic events. This is different from our original concept of separate spectator stand and administrative building. In addition, a renowned international sports consultant firm has been employed to provide expertise services to ensure that the IAAF standards for holding international track and field competitions would be fully complied with.

3. As regards item (g) (Building services), the net increase of \$16.7 million is mainly due to the following reasons -

- (i) The floodlighting system proposed by the recommended tenderer, while complying with the technical requirements of the tender, have reliable track records of being used in major international sports venues to ensure that the quality of floodlighting would be in full compliance with the IAAF and FIFA standards and for television broadcasting. The floodlights would have built-in design to reduce glare effect thus minimizing potential nuisance to adjacent buildings.
- (ii) Internationally recognized and reliable electronic timing system in full compliance with technical requirements being used in major international sports events was offered by the recommended tenderer.



- (iii) The sports field public address system would use computer simulation of sound effect to minimize noise nuisance to the adjacent buildings.
  
- 4. As regards item (h) (Drainage), the net increase of \$2.4 million is mainly due to the recommended tenderer's offer to provide a comprehensive and durable drainage system design for the storm and soil water system of the spectator building and sports ground area.
  
- 5. As regards item (i) (External works), the net increase of \$13.7 million is due to the inclusion of a paved entrance plaza with a fully openable boundary fence wall in the tenderer's submitted proposal. We consider the proposal appropriate and worthwhile on security and safety grounds as it will not only enable an effective segregation and smooth circulation of spectators, VIPs and athletes, but also offer a more effective means to discharge the crowds within a short time for holding large scale athletic events.
  
- 6. As regards item (l) (Consultant's fee), the net decrease of \$900,000 is because the consultancy fee for quantity surveying and electronic installations awarded in early 2005 is lower than the original estimate.
  
- 7. As regards item (m) (Contingencies), the net decrease of \$9.7 million is due to the draw-down of the contingencies to partially offset the \$69.8 million increase in the project cost (\$900,000 of which will be offset by savings under Consultant's Fee).

## **Need for the Development of Tseung Kwan O Sports Ground**

### **Need of the New Sports Ground**

Tseung Kwan O (TKO) is a fast developing new town with a population of 341 800 in 2006 which will increase by about 12% to about 383 500 in 2013. As a reference, the Hong Kong Planning Standards and Guidelines suggest that a sports ground should be provided for a population of 200 000 to 250 000. Although there is currently the Sai Kung Tang Siu Kin Sports Ground in the Sai Kung district, it is located in Sai Kung town, geographically separated from TKO. Therefore, there is a need to provide a sports ground in TKO. This also ties in with the planning objective of developing TKO new town into a self-contained community.

2. The population profile in TKO is relatively young. According to the latest 2001 Population Census, there is a significant percentage of children and young adult in TKO. About 52% of TKO's population are below 34 years of age. This forms a strong potential user base for the proposed sports facilities. There are also 47 secondary and primary schools in TKO which could make use of the sports ground for organising athletic meets and other sports activities. The sports ground will be well served by public transportation including the Mass Transit Railway. It could be readily used by others outside the TKO area.

3. Currently, the Leisure and Cultural Services Department (LCSD) manages a total of 52 natural turf football pitches in Hong Kong. They are very popular with an average usage rate of almost 100%. At present, there are only one artificial turf football pitch and one hard-surfaced football pitch in Po Tsui Park and one hard-surfaced football pitch in Po Hong Park. Both parks are located at the northern part of TKO with very high usage rate (Po Hong Park: 88.2% peak-hour usage for hard-surfaced pitch in 2005; Po Tsui Park: 92.8% and 84.6% peak-hour usage for artificial turf and hard-surfaced pitch respectively in 2005). We expect that the proposed natural turf football pitches of the new sports ground (an in-field 11-a-side natural turf football pitch in the main sports ground and a 7-a-side natural turf football pitch in the secondary sports ground), which is located at the southern

part of the densely populated TKO new town, will be heavily patronized for football activities.

### **Usage of the Sports Ground**

4. The proposed scope of the Tseung Kwan O Sports Ground (TKOSG) includes a secondary sports ground and other necessary event organisation and athletic facilities designed and built to the International Association of Athletics Federations (IAAF) standards suitable for holding international/regional track and field competitions including the athletic events of the 2009 East Asian Games (EAG). Apart from serving as the venue for large-scale international athletics competitions, the TKOSG will also enable the Hong Kong Amateur Athletic Association to organise sports clinics on athletics on a regular basis with a view to raising the sports standard of athletics in Hong Kong. The TKOSG will become the regular base of training for track and field events in Hong Kong. Local major cross-district and inter-school sports/athletic events will be able to use this venue.

5. In normal periods when there are no large-scale athletic events which will make use of both the main and secondary sports grounds, each of the facilities can operate independently and can be used simultaneously by different parties. The provision of the track and field facilities in the secondary sports ground will therefore provide additional opportunities for sports associations, schools, etc to conduct athletics programmes/training when the main sports ground is being used for athletic meets or football matches. The function rooms of the sports ground will also be used for local recreation and sports programmes such as yoga, social dances, table-tennis, tai-chi and judo, etc.

### **Public Consultation**

6. On 13 August 2002, the LCSD consulted the Culture, Recreation and Sports Committee of Sai Kung District Council on the proposed development of a district-based sports ground. Members supported the proposal. In April 2004, the Sai Kung District Council was informed of the proposed upgrading of the TKOSG. Members strongly supported the proposed upgrading of the project scope. On 10 August 2004, the Culture, Recreation and Sports Committee of Sai Kung District Council was further consulted on details of the upgrading proposal, and Members rendered strong support to the project.



7. On 23 November 2004, the LCSD and Architectural Services Department updated Sai Kung District Council on the latest planning progress of the project and consulted Members on the proposed Design & Build mode of implementation, together with a conceptual layout (which would serve as a reference for inviting tenders). The Sai Kung District Council rendered strong and full support to the project proposal, noting that the detailed design would only be available at a later date from the successful bidder after the contract has been awarded. They also urged the Government to implement the project early to prepare for the organisation of the 2009 EAG.

8. The LCSD also consulted the Hong Kong Amateur Athletic Association, the organiser of major athletic events in Hong Kong, which also strongly supported the proposed development of the TKOSG, and advised that the proposed scope of the sports ground would be suitable for holding international athletics competitions including the track and field events of the 2009 EAG. Besides, the TKOSG would also be suitable for holding other international and regional competitions such as the Asian Athletics Championships, Asian Junior Athletics Championships, IAAF World Outdoor Meetings, IAAF World Athletics Series, Asian Grand Prix Series and Asian All-Stars Athletics Championships, etc.

9. The sports ground will become a much welcomed sports facility in the TKO new town. Enabling the sports community to organise major athletics events such as the EAG and Asian Championships as well as providing a base for athletic training, the completion of the TKOSG would be a major improvement to Hong Kong's athletic venues and a significant step forward in the promotion of sports in Hong Kong.