

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Recreation, Culture and Amenities – Open spaces

313RO – International Wetland Park and visitor centre in Tin Shui Wai – phase 2 works

Members are invited to recommend to Finance Committee the upgrading of **313RO** to Category A at an estimated cost of \$461.5 million in money-of-the-day prices for the phase 2 works of the International Wetland Park and visitor centre in Tin Shui Wai.

PROBLEM

There is a need to enhance and diversify the attractiveness of Hong Kong as a tourist destination.

PROPOSAL

2. The Director of Architectural Services (D Arch S), with the support of the Secretary for Economic Services, proposes to upgrade **313RO** to Category A at an estimated cost of \$461.5 million in money-of-the-day (MOD) prices to carry out the phase 2 works of the International Wetland Park and visitor centre (the Park) in Tin Shui Wai (TSW).

/PROJECT

PROJECT SCOPE AND NATURE

3. The scope of the phase 2 works comprises the construction of the following facilities -

- (a) an indoor visitor centre with a gross floor area of about 10 200 square metres¹ including an atrium and three galleries accommodating permanent and temporary theme exhibitions, an audio visual theatre, a shop, a cafe, meeting room, activity room, a resource centre, ancillary areas and other areas for fire emergency exit and circulation; and
- (b) footpaths, footbridges, viewing facilities, exhibition ponds, external display area, offices, stores, workshops, classrooms, planting, plant nursery and about 15 coach parking spaces and 45 car parking spaces. Additional parking spaces for 12 coaches will be made available in the plant nursery area to cater for the needs on peak days, where required.

———— A summary of the major visitor facilities of phase 2 of the Park is at Enclosure 1.

———— 4. A site plan is at Enclosure 2. We plan to start the phase 2 works in August 2002 for completion by October 2005.

JUSTIFICATION

5. Tourism is one of Hong Kong's key economic drivers. The Government is firmly committed to maintain, enhance and diversify tourist facilities in order to sustain the long-term development of the tourism industry in Hong Kong.

6. As part of the TSW new town development, a 64-hectare ecological mitigation area (EMA) is being constructed by the Territory Development Department in the north-eastern part of TSW to compensate for the loss of natural habitats due to urban development and to act as a buffer between the densely

/populated

¹ The latest design of the indoor visitor centre has included areas for fire emergency exit and circulation of around 4 200 square metres. These were not covered in paragraph 3 (b)(i) of PWSC(1999-2000)61 (i.e. 6 000 square metres). The total gross floor area is therefore about 10 200 square metres.

populated TSW New Town and the internationally renowned Ramsar Site, especially the famous Mai Po Marshes. The EMA is a piece of constructed wetland which, by itself, is not intended for tourist and recreational activities such as sight-seeing tours. We propose to take the opportunity to develop this area into a purpose-built international wetland park with a visitor centre. It will be the first major eco-tourism initiative to diversify the range of tourist attractions in Hong Kong.

7. The Mai Po Marshes are located in the core area of the Mai Po Inner Deep Bay Ramsar Site, entry to which is restricted under the Wild Animals Protection Ordinance (Cap. 170). At present, the World Wide Fund for Nature Hong Kong organizes guided tours for local students and the general public under permits issued by Agriculture, Fisheries and Conservation Department. Owing to the ecological sensitivity of the Mai Po Marshes, the number of visitors has been restricted to some 40 000 a year to reduce the possibility of adverse environmental impacts. Most tours are fully booked months in advance. The proposed Park, being located close to the Mai Po Marshes, will provide a complementary facility which can meet the demand for visits to Hong Kong's wetlands without exacerbating the impact of increased human presence on the ecologically sensitive areas. It will help publicize the richness and diversity of Hong Kong's wetland ecosystems and highlight the need to conserve them, thus demonstrating the commitment of Hong Kong to wetland conservation and sustainable development. The project will also provide an education and recreation facility for use by local residents and overseas visitors.

8. While enhancing the attractiveness of the Park as a tourist destination, environmental concern will remain a key priority. The design of the project will take into account prevailing environmental factors to preserve the ecological mitigation function of the EMA and further enhance and increase the conservation value of the site. In short, the Park will not only provide a recreation and tourism facility but at the same time will serve conservation and education purposes.

9. The facilities of the Park aim to ensure a quality experience for visitors. For example, the atrium will give a spectacular view of the EMA. The indoor interpretative facilities and exhibits in the galleries will be designed to provide visitors with interactive, educational and inspirational experience to appreciate the importance of wetland ecosystems. The outdoor facilities will be designed to enrich visitors' experience through exploring wetlands and observing associated wild life. These include view hides for bird-watching, and exhibits of stream course habitat and agriculture crops.

/FINANCIAL

FINANCIAL IMPLICATIONS

10. We estimate the total capital cost of the project to be \$461.5 million in MOD prices (see paragraph 11 below), made up as follows -

	\$ million	
(a) Piling	24.0	
(b) Building	90.0	
(c) Building services	46.0	
(d) Drainage and external works	105.8	
(e) Exhibition works	150.0	
(f) Furniture and equipment ²	6.0	
(g) Consultants' fees for	10.7	
(i) Contract administration and site supervision for landscape works	1.7	
(ii) Contract administration and site supervision for exhibition works	9.0	
(h) Contingencies	36.5	
Sub-total	469.0	(in September 2001 prices)
(i) Provision for price adjustment	(7.5)	
Total	461.5	(in MOD prices)

/A

A breakdown of the estimate for consultants' fees by man-months is at

² Based on an indicative list of required furniture and equipment items and their estimated market prices.

Enclosure 3. The construction floor area (CFA) of **313RO** is about 11 393 square metres. The estimated construction unit cost of the project, represented by building and building services costs, is \$11,937 per square metre of CFA in September 2001 prices. D Arch S considers the estimated construction unit cost comparable to that for other similar projects built by the Government.

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

Year	\$ million (Sept 2001)	Price adjustment factor	\$ million (MOD)
2002 – 03	10.0	0.98625	9.9
2003 – 04	50.0	0.98378	49.2
2004 – 05	150.0	0.98378	147.6
2005 – 06	160.0	0.98378	157.4
2006 – 07	99.0	0.98378	97.4
	469.0		461.5

12. We derived the MOD estimates on the basis of Government's latest forecast of trend labour and construction prices for the period 2002 to 2007. We will tender the piling, superstructure works and exhibition works under separate fixed-price lump-sum contracts as the contract periods will be less than 21 months and we can clearly define the scope of works in advance, leaving little room for uncertainty.

13. We estimate the additional annual recurrent expenditure of the project to be \$33 million.

/PUBLIC

PUBLIC CONSULTATION

14. We consulted the Tourism Strategy Group on 23 October 2001. The Group supported the project and offered comments on some detailed design and marketing issues. These will be addressed during the stages of detailed design and development of the marketing plan for the project. The Town Planning and Development Committee (TPDC) of the Yuen Long District Council, and the Wetland Advisory Committee (WAC) had been consulted at different stages of the development of the project, and had been in support of the development of the Park in general. They were consulted on 14 November 2001 and 8 January 2002 respectively on the phase 2 works, and were generally in support.

15. We also briefed Members of the Legislative Council Panel on Economic Services on the proposed project on 25 February 2002. Members noted the proposal, and expressed general interest in questions concerning the balance between promoting visitation to the Park and conservation. It had been explained to the Panel that the design of the project has taken into account prevailing environmental factors to preserve the ecological mitigation function of the EMA. Some Members also expressed concern about the adequacy of coach parking space provision. In this regard, 12 additional coach parking spaces will be made available in the plant nursery area as necessary to cater for high visitation during peak days. We have also arranged for a site visit on 12 April 2002 for Members of the Legislative Council to further brief them on the phase 2 works.

ENVIRONMENTAL IMPLICATIONS

16. The Director of Territory Development completed an Environmental Impact Assessment (EIA) in March 1997 to assess the environmental impacts of the construction and operation of the TSW Further Development including the construction of the wetland (i.e. EMA). The EIA concluded that the EMA is an essential mitigation measure to compensate for the habitat loss due to the TSW Further Development. It will benefit the environment. The Advisory Council on the Environment endorsed the findings and recommendations of the EIA report on 21 April 1997.

17. The Park is a Schedule 2 designated project under the Environmental Impact Assessment Ordinance (Amendment to Schedule 2) Order 1999. The Park is however exempted by virtue of the provision of section 4.3(b) of the EIA Ordinance (as construction works of the Park commenced within six months of the addition of the project to Schedule 2). D Arch S conducted a Preliminary Environmental Review (PER) for the phase 1 and phase 2 works in

July 1999. The PER concluded that the detailed design and operation of the facilities would be compatible with the Conservation Strategy and Management Plan developed for the Mai Po Inner Deep Bay Ramsar Site. The Director of Environmental Protection vetted the PER and agreed that no further EIA would be necessary. During construction, we will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contracts. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.

18. At the planning and design stages, we have considered measures to reduce the generation of construction and demolition (C&D) materials. D Arch S has introduced more prefabricated building elements into project designs to reduce temporary formwork and construction waste. These include dry-wall partitioning and proprietary fittings and fixtures. D Arch S will use suitable excavated materials for filling within the site to minimise off-site disposal. In addition, we will require the contractor to use metal site hoardings and signboards so that these materials can be recycled or reused in other projects.

19. D Arch S will require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. D Arch S will ensure that the day-to-day operations on site comply with the approved WMP. As the Territory Development Department will have completed site formation to the required levels, no public fill is expected to be generated from construction activities on site. D Arch S will control the disposal of C&D waste to designated landfills through a trip-ticket system and will record the disposal, reuse and recycling of C&D waste for monitoring purposes. We estimate that the project will generate about 4 300 cubic metres (m³) of C&D materials. Of these, we will reuse about 4 000 m³ (93%) on site and dispose of 300 m³ (7%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$37,500 for this project (based on a notional unit cost³ of \$125/m³).

/LAND

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

LAND ACQUISITION

20. The project does not require land acquisition.

BACKGROUND INFORMATION

21. We upgraded **313RO** to Category B in October 1999. Finance Committee approved the upgrading of part of **313RO** in November 1999 to Category A as **314RO**, entitled “International Wetland Park and visitor centre in Tin Shui Wai – phase 1 works and pre-contract consultancy for phase 2 works”, at an estimated cost of \$56.7 million in MOD prices. The single-storey exhibition pavilion (230 square metres in gross floor area) in phase 1 was completed and opened to the public in December 2000. As at end February 2002, around 114 000 visitors had visited the phase 1 facilities. We have engaged consultants to carry out the pre-contract consultancy for the phase 2 works. Tender documentation for the phase 2 works is now being prepared. D Arch S will undertake contract administration and site supervision for the phase 2 works, excluding landscape works and exhibition works, with in-house staff resources.

22. We estimate that the proposed works under **313RO** will create some 615 jobs with a total of 9 300 man-months comprising ten professional staff, 25 technical staff and 580 labourers.

Tourism Commission
Economic Services Bureau
March 2002

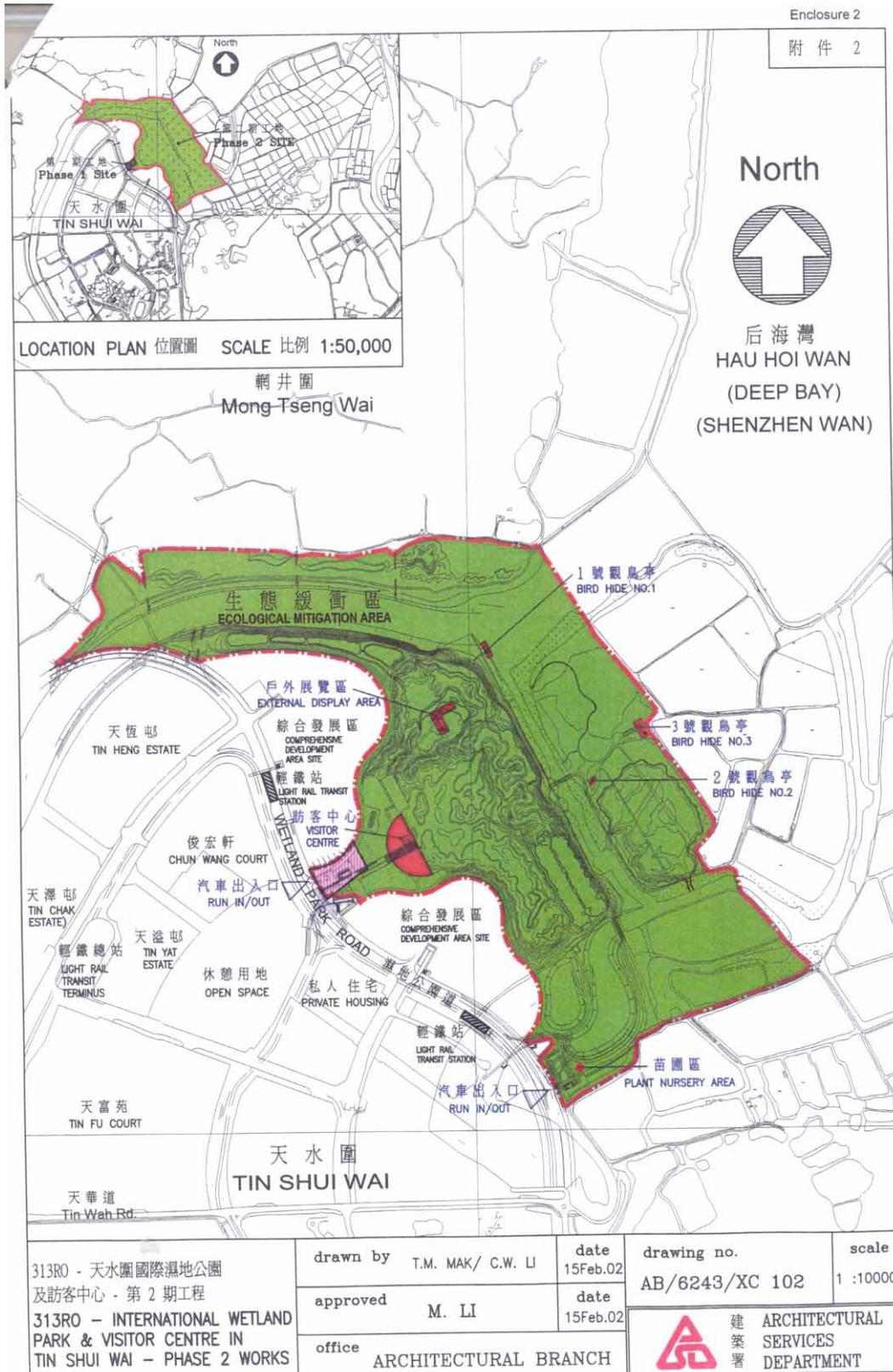
Major visitor facilities of phase 2 of the Park

(a) Indoor visitor centre

Visitor facility	Size in gross floor area (m²)	Visitor capacity (no. of persons)	Functions
Atrium	1 080	500	<ul style="list-style-type: none"> • Gateway to the three galleries • Give a spectacular view of the exterior wetlands
Three exhibition galleries	800 1 200 900	500 each	<ul style="list-style-type: none"> • Themed-exhibition galleries on <ul style="list-style-type: none"> * human culture and wetlands * relationship between human and wetlands * world wetlands (with both permanent and temporary exhibits)
Audio-visual theatre	340	250	<ul style="list-style-type: none"> • Venue for film shows on world wetlands or art performance, seminar and conference
Souvenir shop	320	150	<ul style="list-style-type: none"> • Retail of souvenir
Cafe	580	250	<ul style="list-style-type: none"> • Catering Service
Meeting room	60	50	<ul style="list-style-type: none"> • Venue for seminar and lecture
Activity room	70	50	<ul style="list-style-type: none"> • Provide hands-on experience on wetland experiments
Resource centre	95	50	<ul style="list-style-type: none"> • Provide information on wetland conservation

(b) Outdoor park

Visitor facility	Size in gross floor area (m²)	Visitor capacity (no. of persons)	Functions
Footpaths and footbridges	-	-	<ul style="list-style-type: none"> • A network of walkways connecting the visitor centre with the outdoor area
Bird hides	220	240	<ul style="list-style-type: none"> • For bird-watching
Exhibition ponds	21 000	200	<ul style="list-style-type: none"> • Provide real wetland exploration experience with field researches, demonstrations, and displays
External display area	9 000	200	<ul style="list-style-type: none"> • Display exhibits of stream course habitat and crops with on site interpretation service
Workshops	240	-	<ul style="list-style-type: none"> • Back-up workshop for repair, maintenance and temporary storage of exhibits
Planting	600 000	-	<ul style="list-style-type: none"> • Constructed wetland with a variety of plant species
Plant nursery	3 700	-	<ul style="list-style-type: none"> • For nursery of terrestrial and aquatic plants



**313RO – International Wetland Park and visitor centre in Tin Shui Wai –
phase 2 works**

Breakdown of estimate for consultants' fees

Consultants' staff cost		Estimated man- months	Average MPS* salary point	Multiplier	Estimated Fee (\$million)
(a) Contract administration and site supervision for landscape works	Professional	9	38	2.4	1.3
	Technical	9	14	2.4	0.4
				Sub-total	1.7
(b) Contract administration and site supervision for exhibition works	Professional	60	38	2.4	8.7
	Technical	6	14	2.4	0.3
				Sub-total	9.0
				Total	10.7

*MPS = Master Pay Scale

Notes

- (1) A multiplier of 2.4 is applied to the average MPS point to estimate the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. (At 1 April 2001, MPS point 38 is \$60,395 per month and MPS point 14 is \$19,510 per month.)
- (2) The consultants' fees for the contract administration and site supervision for landscape works and exhibition works formed an optional part of the lump-sum price quoted by the consultants selected to carry out the pre-contract consultancy as mentioned in paragraph 21 of the paper. Subject to Members' approval to upgrade **313RO** to Category A, the Director of Architectural Services will direct the necessary works to be carried out.