For discussion **PWSC(2013-14)19**
on 11 June 2013

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 704 – DRAINAGE
Civil Engineering – Drainage and erosion protection
159CD – Reconstruction and rehabilitation of Kai Tak Nullah from Tung Kwong Road to Prince Edward Road East

Members are invited to recommend to the Finance Committee –

(a) the upgrading of part of **159CD**, entitled "Reconstruction and rehabilitation of Kai Tak Nullah from Tung Kwong Road to Prince Edward Road East – main works", to Category A at an estimated cost of $1,244.3 million in money-of-the-day prices; and

(b) the retention of the remainder of **159CD** in Category B.

PROBLEM

There have been severe flooding incidents during heavy rainstorms along Choi Hung Road. There is also strong public aspiration for improving the entire Kai Tak Nullah in terms of visual and landscape treatment for public enjoyment.

/**PROPOSAL** …..

PROPOSAL

2. The Director of Drainage Services, with the support of the Secretary for Development, proposes to upgrade part of **159CD** to Category A at an estimated cost of $1,244.3 million in money-of-the-day (MOD) prices for the reconstruction and rehabilitation of Kai Tak Nullah from Tung Kwong Road to Prince Edward Road East.

PROJECT SCOPE AND NATURE

3. The part of **159CD** which we propose to upgrade to Category A (the proposed works) comprises –

(a) the reconstruction and rehabilitation of a section of Kai Tak Nullah of about 500 metres (m) long from Tung Kwong Road to Prince Edward Road East;

(b) utilities diversion including the reprovisioning of an affected existing dry weather flow interceptor[1] (DWFI); and

(c) ancillary works including landscaping works, environmental mitigation measures, and related monitoring and audit works.

The site plan and the artist's impression of the reconstructed and rehabilitated nullah are at Enclosures 1 and 2 respectively.

4. Subject to funding approval of the Finance Committee, we plan to commence the proposed works in December 2013 for completion by December 2017.

5. We will retain the remainder of **159CD** in Category B, which comprises the construction of a proposed curvilinear footbridge across Kai Tak Nullah linking Tung Wui Estate, Yuk Kwan Street and Prince Edward Road East. The need and the implementation programme of this proposed footbridge are being reviewed. Funding for the remainder of **159CD** will be sought separately subject to the review of the need and further public consultation for the proposed footbridge. Indicative location of the proposed footbridge is also shown in Enclosure 1.

/JUSTIFICATION …..

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[1] During dry seasons, a DWFI prevents water pollution by intercepting and diverting the polluted dry weather flow in a stormwater system to the sewerage for treatment and disposal; whereas in heavy rainstorm during wet seasons, the flow would largely bypass the DWFI for discharge via the stormwater system.

JUSTIFICATION

6. Kai Tak Nullah is one of the major drainage channels in East Kowloon. It originates from Po Kong Village Road at Wong Tai Sin, flows along Choi Hung Road and Tung Kwong Road adjacent to Tung Tau Estate and Tung Wui Estate, runs underneath Prince Edward Road East before traversing the Kai Tak Development (KTD) area and finally discharges into Victoria Harbour. It was built in tandem with the former Kai Tak Airport some decades ago and is inadequate to meet the current flood protection standard. Flooding incidents have occurred along Choi Hung Road and severely affected the traffic of Wong Tai Sin and its adjacent districts during heavy rainstorms. We need to carry out the proposed works including deepening of the nullah and removal of obstructions within the nullah to improve its drainage capacity and mitigate flooding risk to the surrounding areas. In addition, we need to reprovision an existing DWFI along the nullah which will be affected by the proposed works.

7. To engage the public on the planning of Kai Tak Nullah, we conducted a two-stage public engagement exercise on "Building our Kai Tak River" in December 2010 and June 2011. According to the outcome of the exercise, there is strong public aspiration for revitalising Kai Tak Nullah into an attractive green river and townscape feature to enhance its visual quality and image, in addition to its prime objective for flood protection purpose. We plan to reconstruct and rehabilitate the entire length of the nullah into a green river corridor through the urban areas, namely Kai Tak River, and will introduce aesthetic, greening, landscaping and ecological elements[2] at the sides and bottom of the nullah.

8. The reconstruction and rehabilitation works of Kai Tak Nullah are being carried out in stages. Construction at the upstream section of the nullah from Po Kong Village Road to Tung Kwong Road, and at the downstream section under Prince Edward Road East and within the KTD area are underway[3]. We plan to reconstruct and rehabilitate the remaining midstream section of the nullah from Tung Kwong Road to Prince Edward Road East to dovetail with the implementation programmes of the above reconstruction and rehabilitation works projects for Kai Tak Nullah, such that the entire Kai Tak Nullah can be timely upgraded to meet the current standard against flooding and for early enjoyment by the public.

/FINANCIAL …..

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[2] The ecological elements mainly include the proposed fish shelters and boulders on nullah bed.

[3] The Drainage Services Department commenced the improvement works underneath Prince Edward Road East and at the upstream section under **162CD** "Reconstruction and rehabilitation of Kai Tak Nullah from Po Kong Village Road to Tung Kwong Road – stage 1" and **140CD** "Reconstruction and rehabilitation of Kai Tak Nullah from Po Kong Village Road to Tung Kwong Road – remaining works" in August 2010 and October 2011 for completion in end 2013 and mid 2017 respectively. The Civil Engineering and Development Department commenced the improvement works at the downstream section within the KTD area under **167CD** "Kai Tak development – reconstruction and upgrading of Kai Tak Nullah" in January 2013 for completion in early 2018.

FINANCIAL IMPLICATIONS

9. We estimate the cost of the proposed works to be $1,244.3 million in MOD prices (please see paragraph 10 below), broken down as follows –

			$ million	
(a)	Reconstruction and rehabilitation of nullah		678.0	
(b)	Utilities diversion including reprovisioning of the affected existing DWFI		28.8	
(c)	Ancillary works including landscaping works		66.4	
(d)	Environmental mitigation measures and related monitoring and audit works		26.2	
(e)	Consultants' fees for		8.3	
	(i) contract administration	4.6		
	(ii) management of resident site staff	3.7		
(f)	Remuneration of resident site staff		79.2	
(g)	Contingencies		84.4	
		Sub-total	971.3	(in September 2012 prices)
(h)	Provision for price adjustment		273.0	
		Total	1,244.3	(in MOD prices)

A breakdown of the estimates for the consultants' fees and resident site staff costs by man-months is at Enclosure 3.

/10. …..

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

Year	$ million (Sept 2012)	Price adjustment factor	$ million (MOD)
2013 – 2014	8.7	1.06225	9.2
2014 – 2015	161.3	1.12599	181.6
2015 – 2016	198.4	1.19354	236.8
2016 – 2017	185.9	1.26516	235.2
2017 – 2018	180.5	1.34107	242.1
2018 – 2019	158.1	1.41147	223.2
2019 – 2020	78.4	1.48205	116.2
	971.3		1,244.3

11. We have derived the MOD estimate on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period 2013 to 2020. Subject to funding approval, we will deliver the proposed works under a standard re-measurement contract because of the uncertainties arising from the underground utilities and ground condition and hence the quantities of works to be involved. The contract will provide for price adjustments.

12. We estimate the additional annual recurrent expenditure arising from the proposed works to be about $0.7 million.

PUBLIC CONSULTATION

13. According to the outcome of the two-stage public engagement exercise on "Building our Kai Tak River" in December 2010 and June 2011, a curvilinear footbridge linking Tung Wui Estate, Yuk Kwan Street and Prince Edward Road East was proposed to enhance the connectivity of the adjoining areas to the nullah. However, we learnt in late 2012 that the management of Lee Kau Yan Memorial School (LKYMS) was considering changing the long-term land use of the existing LKYMS site, which might provide an alternative to enhance the connectivity of the adjoining areas to the nullah. The benefits of constructing the proposed footbridge will largely be diminished if such change eventually takes place. We therefore consulted the Traffic and Transport Committee of the Wong Tai Sin District Council (WTSDC) on 29 January 2013 on the need and the implementation programme of the proposed footbridge. Members agreed that it would be appropriate to defer the implementation programme of the proposed footbridge and requested us to review its need in due course taking into account the possible land use change in the area.

14. We consulted the WTSDC on 12 March 2013. Members generally supported the proposed works.

15. We consulted the Legislative Council Panel on Development on 28 May 2013 on the proposed works. Members supported the proposed works.

ENVIRONMENTAL IMPLICATIONS

16. The proposed works are not designated projects under the Environmental Impact Assessment Ordinance (Cap. 499). We have completed the Preliminary Environmental Review (PER), which concluded that the proposed works will not cause any long-term adverse environmental impacts. We have included $26.2 million (in September 2012 prices) in the project estimate for implementing suitable measures recommended by the PER to mitigate short-term environmental impacts, and related environmental monitoring and audit programme during construction.

/17. …..

17. At the planning and design stages, we have considered ways to optimise the size and extent of the proposed underground drainage works to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities[4]. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further minimise the generation of construction waste.

18. During construction, we will control noise, dust and site run-off nuisances to levels within established standards and guidelines through implementation of mitigation measures in the relevant contract. These measures include the use of temporary noise barriers, quieter construction equipment, frequent cleaning and watering of the site etc. We will carry out regular site inspections to ensure that these recommended mitigation measures and good site practices are properly implemented.

19. At the construction stage, 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.

20. We estimate that the project will generate in total about 30 882 tonnes of construction waste. Of these, we will reuse about 10 506 tonnes (34%) of inert construction waste on site and deliver 20 070 tonnes (65%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 306 tonnes (1%) 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 $580,000 for this project (based on a unit cost of $27 per tonne for disposal at public fill reception facilities and $125 per tonne[5] at landfills).

/HERITAGE …..

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[4] 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.

[5] 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.

HERITAGE IMPLICATIONS

21. The proposed works 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

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

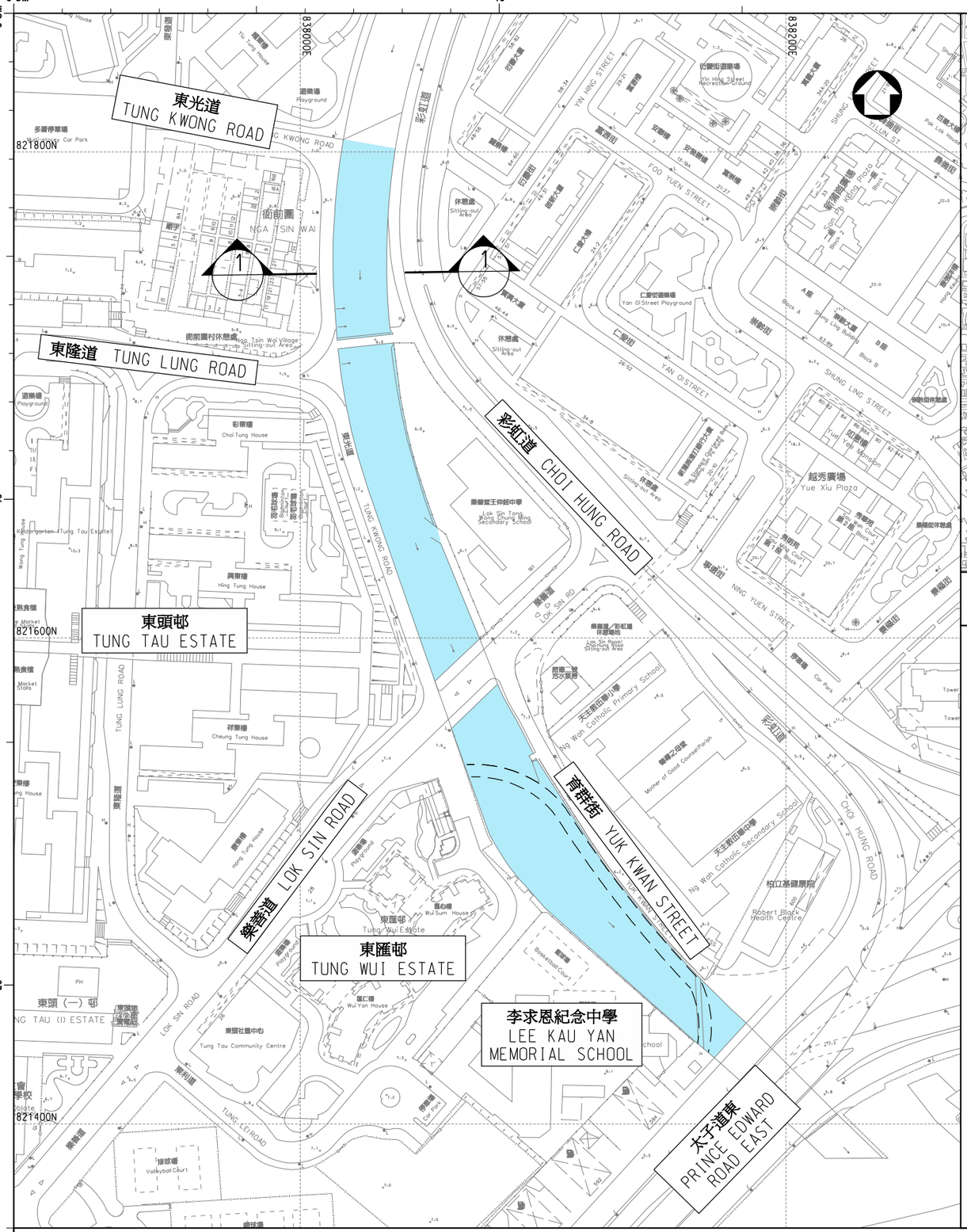
BACKGROUND INFORMATION

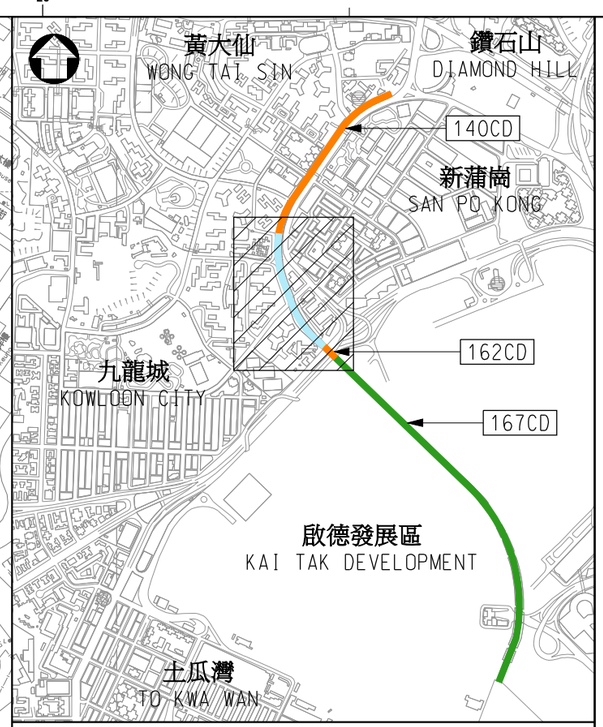
23. In July 2009, we upgraded **159CD** to Category B. In January 2010, we engaged consultants to carry out preliminary design, surveys, site investigations, testing, impact assessments, public engagement and detailed design for the proposed works at an estimated cost of $12.8 million in MOD prices. We charged this amount to block allocation Subhead **4100DX** "Drainage works, studies and investigations for items in Category D of the Public Works Programme". We have substantially completed the detailed design of the proposed works in May 2013 mentioned in paragraph 3 above.

24. The proposed works will not involve any tree removal proposals. We will incorporate planting proposals along both sides of the nullah as part of the project with a view to revitalising the nullah into a green river.

25. We estimate that the proposed works will create about 280 jobs (230 for labourers and 50 for professional/technical staff) providing a total employment of 12 200 man-months.

Development Bureau
June 2013





索引圖 KEY PLAN

比例 SCALE 1 : 20000

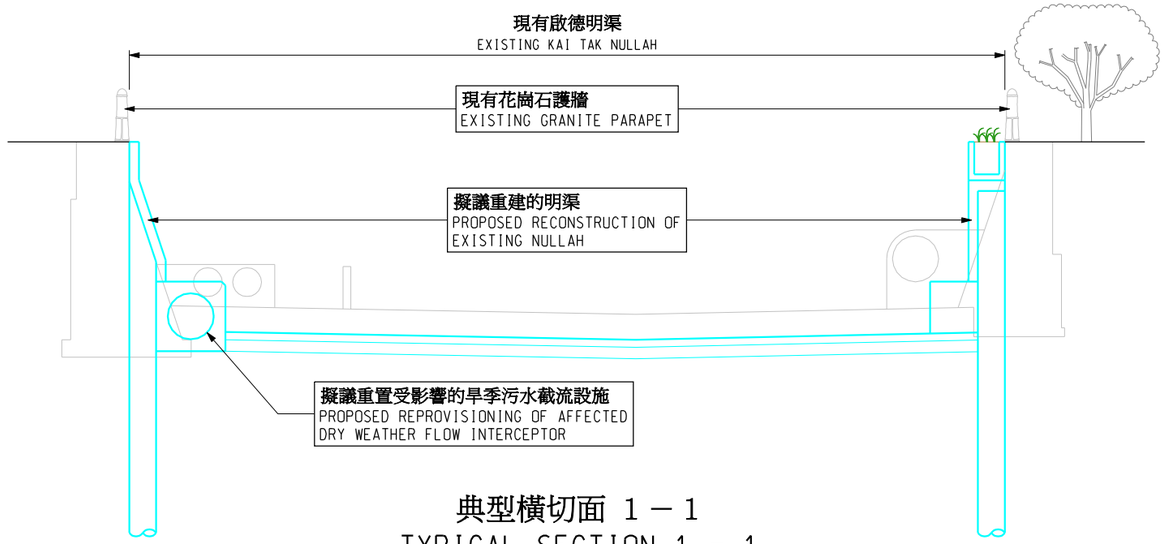
圖例：
LEGEND :

擬議重建及修復的一段由東光道至太子道東的啟德明渠
SECTION OF EXISTING KAI TAK NULLAH FROM TUNG KWONG ROAD TO PRINCE EDWARD ROAD EAST TO BE RECONSTRUCTED AND REHABILITATED

由渠務署興建的工程（工程項目第140CD號及162CD號現正施工）
WORKS BY THE DRAINAGE SERVICES DEPARTMENT (ITEMS 140CD AND 162CD UNDER CONSTRUCTION)

由土木工程拓展署興建的工程（工程項目第167CD號現正施工）
WORKS BY THE CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (ITEM 167CD UNDER CONSTRUCTION)

保留在乙級工程的擬議弧形行人橋
PROPOSED CURVILINEAR FOOTBRIDGE TO BE RETAINED IN CATEGORY B



典型橫切面 1 – 1
TYPICAL SECTION 1 - 1
N.T.S.

版 no.	日期 date	修改項目 description	簡簽 initial
A	07 MAY 2013	GENERAL REVISION	SIGNED C.W. NGAI E/PM11

圖則名稱 drawing title

工程計劃名稱:
重建及修復一段由東光道至太子道東的啟德明渠

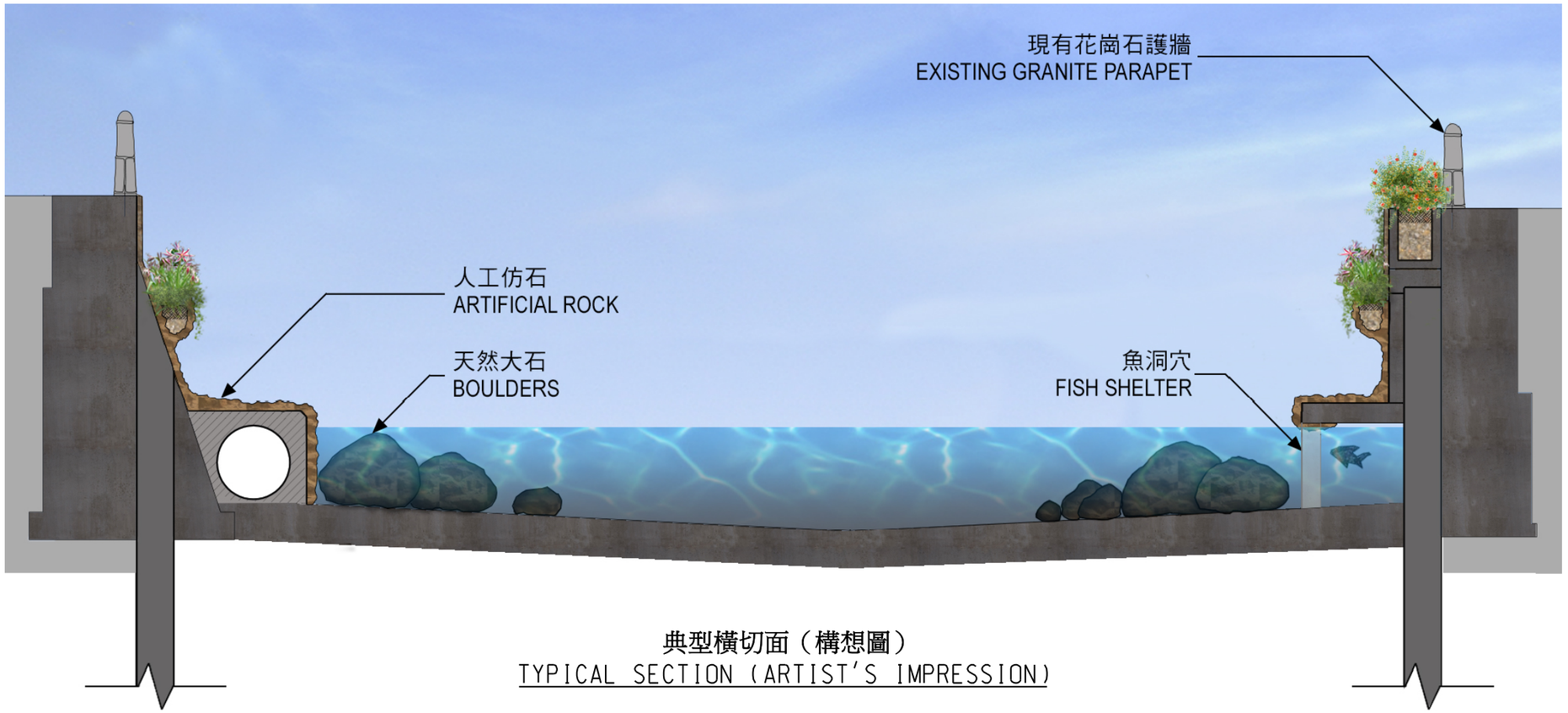
PROJECT TITLE:
RECONSTRUCTION AND REHABILITATION OF KAI TAK NULLAH FROM TUNG KWONG ROAD TO PRINCE EDWARD ROAD EAST

繪畫 drawn	SIGNED T.M. SIU	日期 date 04 MAR 2013
核對 checked	SIGNED C.W. NGAI	日期 date 04 MAR 2013
批核 approved	SIGNED H.N. LEE	日期 date 04 MAR 2013
部門 office	工程管理部 PROJECT MANAGEMENT DIVISION	

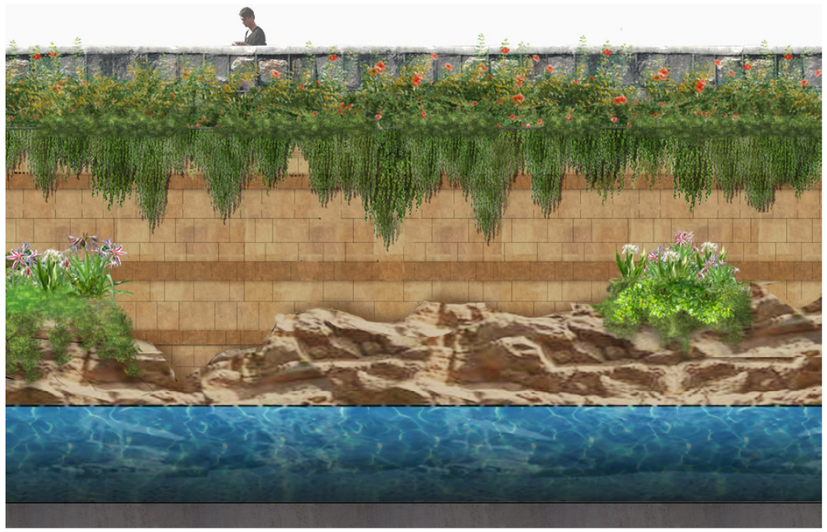
圖則編號 drawing no. DPM/159CD/0004A

比例 scale 1 : 2000 OR AS SHOWN

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION



典型橫切面（構想圖）
TYPICAL SECTION (ARTIST'S IMPRESSION)



平均水平面
MEAN WATER LEVEL

內底水平
INVERT LEVEL

立視圖（構想圖）
ELEVATION (ARTIST'S IMPRESSION)

圖則名稱 drawing title

工程計劃名稱:
重建及修復一段由東光道至太子道東的啟德明渠

PROJECT TITLE:
RECONSTRUCTION AND REHABILITATION OF KAI TAK NULLAH FROM TUNG KWONG ROAD TO PRINCE EDWARD ROAD EAST

繪畫 drawn	SIGNED T.M. SIU	日期 date	07 MAR 2013
核對 checked	SIGNED C.W. NGAI	日期 date	07 MAR 2013
批核 approved	SIGNED H.N. LEE	日期 date	07 MAR 2013
部門 office	工程管理部 PROJECT MANAGEMENT DIVISION		

圖則編號 drawing no. DPM/159CD/0005

比例 scale N.T.S

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION

Enclosure 3 to PWSC(2013-14)19

159CD – Reconstruction and rehabilitation of Kai Tak Nullah from Tung Kwong Road to Prince Edward Road East

Breakdown of estimates for consultants' fees and resident site staff costs (in September 2012 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	3.2
		Technical	-	-	-	1.4
					Sub-total	4.6
(b)	Resident site staff costs (Note 3)	Professional	432	38	1.6	45.4
		Technical	1,046	14	1.6	37.5
					Sub-total	82.9
	Comprising –					
	(i) Consultants' fees for management of resident site staff					3.7
	(ii) Remuneration of resident site staff					79.2
					Total	**87.5**

* 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 = $65,695 per month and MPS salary point 14 = $22,405 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 the project. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **159CD** to Category A.

3. The actual man-months and actual costs will only be known after completion of the construction works.