

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 711 – HOUSING**

#### **Civil Engineering – Land development**

#### **781CL – Infrastructure works for public housing development at Area 54, Tung Chung**

Members are invited to recommend to Finance Committee the upgrading of **781CL** to Category A at an estimated cost of \$284.8 million in money-of-the-day prices for the construction of infrastructure to support the proposed public housing development at Area 54, Tung Chung.

### **PROBLEM**

We need to provide infrastructure to support the proposed public housing development at Area 54, Tung Chung.

### **PROPOSAL**

2. The Director of Civil Engineering and Development, with the support of the Secretary for Transport and Housing, proposes to upgrade **781CL** to Category A at an estimated cost of \$284.8 million in money-of-the-day (MOD) prices for the construction of infrastructure to support the proposed public housing development at Area 54, Tung Chung.

**/PROJECT .....**

## PROJECT SCOPE AND NATURE

3. The proposed scope of **781CL** comprises the following supporting the public housing development at Area 54, Tung Chung –

- (a) construction of a new single two-lane carriageway, with footpaths, a public transport lay-by and a coach parking area, connecting to the junction of Ying Hei Road and Tung Chung Waterfront Road with the associated junction improvement works;
- (b) construction of sewers along the proposed new carriageway, Yi Tung Road, Man Tung Road and Chun Tung Street, and across the Airport Express Line, North Lantau Highway and Cheung Tung Road to the existing Tung Chung Sewage Pumping Station;
- (c) construction of footpaths, a cycle track, a cycle parking area, amenity areas and bus lay-bys to the north of Ying Hei Road; and
- (d) ancillary works including drainage, waterworks and landscaping works.

————— A site plan and an artist's impression of the proposed works are at Enclosure 1 and  
————— Enclosure 2 respectively.

4. Subject to the funding approval of the Finance Committee, we plan to commence the construction works in mid-2017. The proposed works are expected to be completed in mid-2020 to tie in with the population intake of the proposed public housing development at Area 54, Tung Chung.

## JUSTIFICATION

5. The proposed public housing development at Area 54, Tung Chung will be completed in 2021-22 and will provide about 3 300 flats for a population of about 10 000. It is necessary to construct a new carriageway of approximately 500 metres (m) long and the associated infrastructure, including proposed sewers of about 900 m long, to support the developments. To tie in with the population intake of the proposed public housing development at Area 54, timely completion of the proposed infrastructure works is necessary.

/FINANCIAL .....

**FINANCIAL IMPLICATIONS**

6. We estimate the capital cost of the proposed works to be \$284.8 million in MOD prices (please see paragraph 8 below), broken down as follows –

		\$ million	
(a)	Construction of new carriageway, road improvement works, footpaths, cycle track and amenity areas	70.9	
(b)	Construction of sewers	81.2	
(c)	Ancillary works including drainage, waterworks and landscaping works	39.2	
(d)	Consultants' fees for	3.2	
	(i) contract administration	2.4	
	(ii) management of resident site staff (RSS)	0.8	
(e)	Remuneration of RSS	25.5	
(f)	Contingencies	22.0	
	Sub-total	242.0	(in September 2016 prices)
(g)	Provision for price adjustment	42.8	
	Total	284.8	(in MOD prices)

7. In view of insufficient in-house resources, we propose to engage consultants to undertake contract administration and site supervision for the proposed works. A breakdown of the estimates for consultants' fees and resident site staff costs by man-months is at Enclosure 3.

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

Year	\$ million (Sept 2016)	Price adjustment factor	\$ million (MOD)
2017 – 2018	39.6	1.05750	41.9
2018 – 2019	59.9	1.12095	67.1
2019 – 2020	74.3	1.18821	88.3
2020 – 2021	49.4	1.25950	62.2
2021 – 2022	13.0	1.32562	17.2
2022 – 2023	5.8	1.39190	8.1
	<u>242.0</u>		<u>284.8</u>

9. 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 2017 to 2023. Subject to funding approval, we will deliver the works under a New Engineering Contract<sup>1</sup> with provision for price adjustment.

10. We estimate the annual recurrent expenditure arising from the proposed works to be about \$2.1 million.

## **PUBLIC CONSULTATION**

11. We consulted the Islands District Council on 1 February 2016 on the proposed works. Members supported the proposal.

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<sup>1</sup> New Engineering Contract is a suite of contracts developed by Institution of Civil Engineers, United Kingdom. It is a contract form that emphasises cooperation, mutual trust and collaborative risk management between contracting parties.

12. We gazetted the proposed road works under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (RO) on 15 September 2016 and, in accordance with the Water Pollution Control (Sewerage) Regulation (Cap. 358AL), applied the RO and gazetted the proposed sewerage works. No written objection was received. The authorisation notices will be gazetted subsequently.

13. We consulted the Legislative Council Panel on Housing on the proposed works on 5 December 2016. Members supported submitting the funding proposal to the Public Works Subcommittee (PWSC) for consideration. The supplementary information requested by Panel Members will be submitted to the Panel before the PWSC meeting.

## **ENVIRONMENTAL IMPLICATIONS**

14. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). As agreed by the Director of Environmental Protection, the project would not have any long-term adverse environmental impacts. We undertake to implement the standard pollution control measures during construction, as promulgated by the Director of Environmental Protection.

15. During construction, we will control potential noise, dust and site run-off nuisance arising from the construction works to within established standards and guidelines through implementation of environmental mitigation measures. These measures include regular cleaning and watering of the exposed site area to reduce emission of fugitive dust, the use of movable noise barriers and quiet plant to reduce noise generation, and the use of trucks with cover or enclosed containers for waste transportation.

16. At the planning and design stages, we have considered the design and construction sequence of the proposed works to reduce, where possible, the generation of construction waste. In addition, we will require the contractor to reuse inert construction waste (e.g. use of excavated material 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 at public fill reception facilities<sup>2</sup>. 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 reduce the generation of construction waste.

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<sup>2</sup> 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.

17. 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 to public fill reception facilities and landfills respectively through a trip-ticket system.

18. We estimate that the proposed works will generate in total 36 750 tonnes of construction waste. Of these, we will reuse 11 450 tonnes (31%) of inert construction waste on site and deliver 22 500 tonnes (61%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 2 800 tonnes (8%) 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 \$2.2 million for this project (based on a unit charge rate of \$71 per tonne for disposal at public fill reception facilities and \$200 per tonne for disposal at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N).

## **HERITAGE IMPLICATIONS**

19. The proposed works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites or buildings, sites of archaeological interest and government historic sites identified by the Antiquities and Monuments Office.

## **TRAFFIC IMPLICATIONS**

20. The proposed works will not cause any significant traffic impact. Temporary traffic arrangements will be implemented to facilitate the construction works which will require temporary partial road closures. We will display publicity boards on site giving details of the temporary traffic arrangements, and the anticipated completion dates of individual section of the works. In addition, we will set up a telephone hotline to respond to public enquiries or complaints.

## **LAND ACQUISITION**

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

**/BACKGROUND .....**

**BACKGROUND INFORMATION**

22. We upgraded **781CL** to Category B in September 2014.

23. We engaged consultants in May 2015 to undertake the detailed design and site investigation for the proposed works at an estimated cost of about \$6.8 million under the block allocation **Subhead B100HX** “Minor housing development related works, studies and investigations for items in Category D of the Public Works Programme”. We have completed the detailed design for the proposed works as mentioned in paragraph 3 above.

24. The proposed works will involve removal of 116 trees including 111 trees to be felled and 5 trees to be transplanted within the project site. All the trees to be felled and transplanted are not important trees<sup>3</sup>. We will incorporate planting proposals as part of the project, including a total of 393 trees, 140 000 shrubs and 13 620m<sup>2</sup> of grassed area.

25. We estimate that the proposed works will create about 105 jobs (85 for labourers and another 20 for professional or technical staff) providing a total employment of 3 400 man-months.

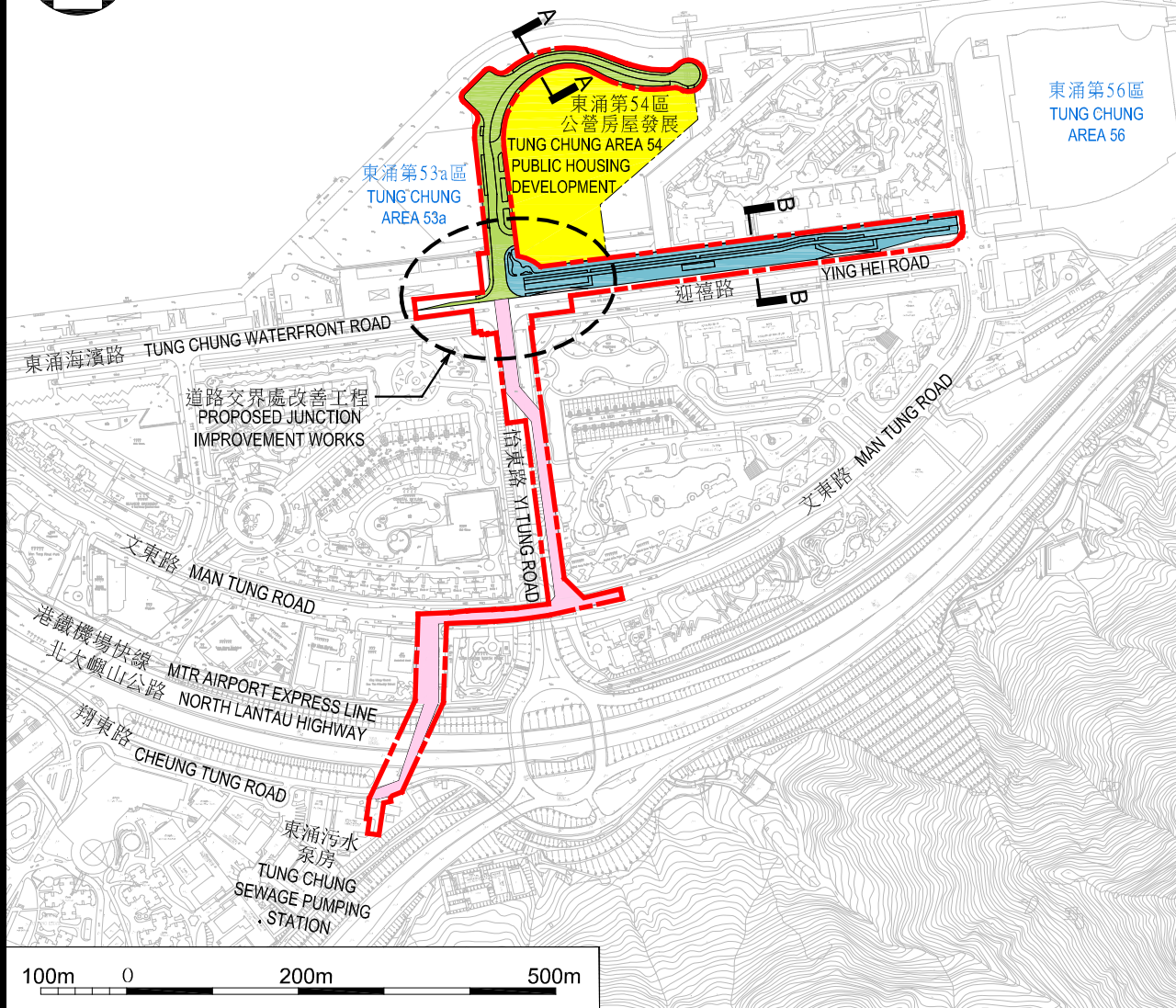
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Transport and Housing Bureau  
December 2016

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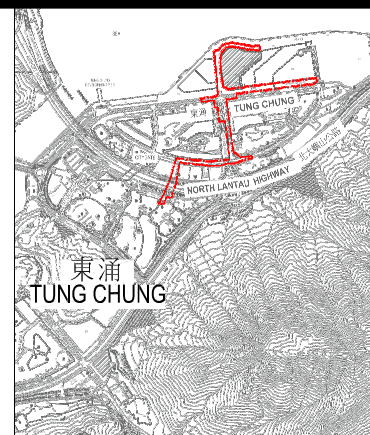
<sup>3</sup> “Important trees” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance, e.g. Fung Shui trees, trees 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 the 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 a trunk diameter equal to or exceeding 1.0 m (measured at 1.3 m above ground level), or with a height or canopy spread equal to or exceeding 25 m.



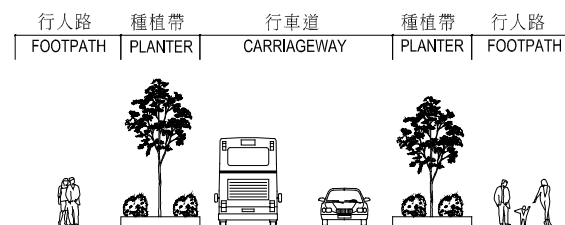
### 圖例 LEGEND

- 工地界線  
SITE BOUNDARY
- 擬議行車道及行人路  
PROPOSED CARRIAGEWAY WITH FOOTPATHS
- 擬議行人路及單車徑  
PROPOSED FOOTPATH AND CYCLE TRACK
- 擬議排污工程  
PROPOSED SEWERAGE WORKS
- 公營房屋發展  
PUBLIC HOUSING DEVELOPMENT



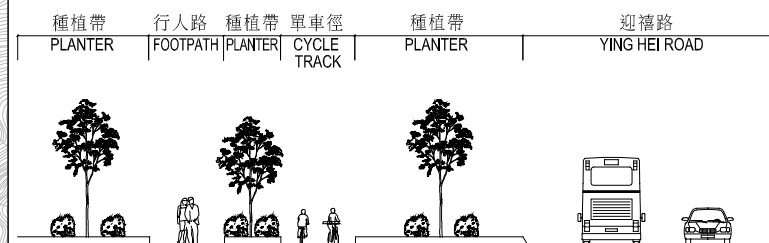
### 位置圖 LOCATION PLAN

300m 0m 600m 1500m



### 剖面圖 SECTION A-A

比例 SCALE N.T.S.



### 剖面圖 SECTION B-B

比例 SCALE N.T.S.

工務計劃項目編號 781CL  
東涌第54區公營房屋發展之基礎設施工程  
PWP ITEM NO. 781CL

INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT AT AREA 54, TUNG CHUNG

工地平面圖  
SITE PLAN





從南面望向擬議行車道及行人路

VIEW OF PROPOSED CARRIAGEWAY AND FOOTPATH FROM SOUTH DIRECTION

工務計劃項目編號 781CL  
東涌第54區公營房屋發展之基礎設施工程  
PWP ITEM NO. 781CL

INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT AT AREA 54, TUNG CHUNG

構思圖  
ARTIST'S  
IMPRESSION  
DRAWING

**781CL – Infrastructure works for public housing development at Area 54,  
Tung Chung**

**Breakdown of the estimates for consultants' fees and resident site staff costs  
(in September 2016 prices)**

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	--	--	--	2.0
		Technical	--	--	--	0.4
Sub-total						2.4
(b)	Resident site staff (RSS) cost (Note 3)	Professional	88	38	1.6	10.9
		Technical	360	14	1.6	15.4
Sub-total						26.3
Comprising -						
(i)	Consultants' fees for management of RSS				0.8	
(ii)	Remuneration of RSS				25.5	
Total						28.7

\* MPS = Master Pay Scale

**Notes**

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of RSS supplied by the consultants (as at now, MPS point 38 = \$77,320 per month and MPS point 14 = \$26,700 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 **781CL**. The construction phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade **781CL** to Category A.
3. The actual man-months and actual costs will only be known after completion of the construction works.