

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 711 – HOUSING

Civil Engineering – Land development

778CL – Site formation and infrastructure works for public housing developments at Chung Nga Road and Area 9, Tai Po

Members are invited to recommend to the Finance
Committee –

- (a) the upgrading of part of **778CL**, entitled “Site formation and infrastructure works for public housing developments at Chung Nga Road and Area 9, Tai Po – Phase 1”, to Category A at an estimated cost of \$1,146.8 million in money-of-the-day prices; and
- (b) the retention of the remainder of **778CL** in Category B.

PROBLEM

We need to carry out site formation works for the proposed public housing development at Tai Po Area 9 site, and construct associated infrastructure works to support the developments at Chung Nga Road East site and Tai Po Area 9 site.

/PROPOSAL

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Transport and Housing, proposes to upgrade part of **778CL** to Category A, at an estimated cost of \$1,146.8 million in money-of-the-day (MOD) prices for the site formation and infrastructure works.

PROJECT SCOPE AND NATURE

3. The part of **778CL** which we propose to upgrade to Category A comprises –

- (a) design and construction of site formation works at Tai Po Area 9 site;
- (b) design and construction of a new single two-lane carriageway with footpaths connecting Tai Po Area 9 site and Chuen On Road;
- (c) construction of improvement works along Chung Nga Road and at the two junctions between Chung Nga Road and Chuen On Road; and
- (d) construction of ancillary works including drainage, sewerage, 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 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 and late 2022 to tie in with the population intake of the proposed public housing developments at Chung Nga Road East site and Tai Po Area 9 site respectively.

5. We will retain the remainder of **778CL** in Category B, which covers site formation works at Chung Nga Road West site, widening of a road connecting Chung Nga Road West site with Chung Nga Road, as well as other associated works. The implementation of the remainder would dovetail with the programme of the proposed public housing development at Chung Nga Road West site.

/JUSTIFICATION

JUSTIFICATION

6. The proposed public housing developments at Chung Nga Road East site and Tai Po Area 9 site will be completed in 2020-21 and 2022-23 respectively and will provide a total of about 7 070 flats for a population of about 17 500.

7. It is necessary to form land and construct associated infrastructure to support the developments. To cope with the tight project programme, the Government plans to entrust the Hong Kong Housing Authority (HA) with the design and construction of the proposed works in paragraphs 3(a) and 3(b), as well as those infrastructure works at Tai Po Area 9 site in paragraph 3(d) above. This arrangement will allow better coordination on design and construction interface, and ensure timely completion of the proposed works for the public housing development. Chung Nga Road East site is relatively flat and is ready for commencement of public housing construction works by HA.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the proposed works to be \$1,146.8 million in MOD prices (please see paragraph 10 below), broken down as follows –

| | \$ million |
|--|-------------------|
| (a) Site formation works | 494.4 |
| (b) Roadworks | 69.9 |
| (c) Drainage works | 95.6 |
| (d) Sewerage works | 41.5 |
| (e) Waterworks | 23.5 |
| (f) Landscape works | 47.6 |
| (g) On-cost payable to HA ¹ | 81.0 |

/\$ million

¹ The total estimated construction cost of items (a) to (f) is \$772.5 million, of which \$648.1 million is for the entrusted works. On-cost payable to HA is 12.5% of \$648.1 million, which will be charged by HA for the design, administration and supervision of the entrusted works.

| | | \$ million | |
|------|---|------------|----------------------------|
| (h) | Consultants' fee for | 1.6 | |
| (i) | contract administration | 1.0 | |
| (ii) | management of resident site staff (RSS) | 0.6 | |
| (i) | Remuneration of RSS | 12.4 | |
| (j) | Contingencies | 86.7 | |
| | Sub-total | 954.2 | (in September 2016 prices) |
| (k) | Provision for price adjustment | 192.6 | |
| | Total | 1,146.8 | (in MOD prices) |

9. In view of insufficient in-house resources, we propose to engage consultants to undertake the contract administration and site supervision for the proposed infrastructure works at the vicinity of Chung Nga Road and Chuen On Road. A breakdown of the estimates for consultants' fees and RSS costs by man-months is at Enclosure 3.

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

| Year | \$ million (Sept 2016) | Price adjustment factor | \$ million (MOD) |
|-------------|---------------------------|-------------------------------|---------------------|
| 2017 - 2018 | 98.9 | 1.05750 | 104.6 |
| 2018 – 2019 | 278.3 | 1.12095 | 312.0 |
| 2019 – 2020 | 283.4 | 1.18821 | 336.7 |
| 2020 – 2021 | 89.5 | 1.25950 | 112.7 |
| 2021 – 2022 | 85.0 | 1.32562 | 112.7 |
| 2022 – 2023 | 85.0 | 1.39190 | 118.3 |
| 2023 – 2024 | 34.1 | 1.46150 | 49.8 |
| | 954.2 | | 1,146.8 |

/11.

11. 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 2024. Subject to funding approval, we will deliver the proposed infrastructure works at the vicinity of Chung Nga Road and Chuen On Road under a New Engineering Contract² and HA will deliver the proposed entrusted works at Tai Po Area 9 site under a lump sum contract. The contracts will provide for price adjustments.

12. We estimate the annual recurrent expenditure arising from the proposed works to be about \$1.3 million.

PUBLIC CONSULTATION

13. We consulted the Environment, Housing and Works Committee of Tai Po District Council on 9 March 2016 on the proposed works. The Committee supported the proposal.

14. We gazetted the proposed works of the new road under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) on 8 May 2015. No written objection was received. The authorisation notice was gazetted on 28 August 2015.

15. We consulted the Legislative Council Panel on Housing 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

16. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have completed the Preliminary Environmental Review (PER) for the project. The PER concluded and the Director of Environmental Protection agreed that the project would not cause any long-term adverse environmental impacts.

/17.

² 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.

17. During construction, we will control noise, dust and site run-off nuisances to within established standards and guidelines through implementation of mitigation measures in the relevant contracts. These measures include the use of movable noise barriers or enclosures and quiet plant to reduce noise generation, regular cleaning and watering of the works sites, and the provision of wheel-washing facilities to minimise dust generation. We have included in the project estimate the cost for the implementation of these suitable mitigation measures during construction.

18. At the planning and design stages, we have considered the design alignment and construction method of the proposed works so as to reduce generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil and rock fill) on site or in other suitable construction sites as far as possible, in order to minimise disposal of inert construction waste at public fill reception facilities³. 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 reduce generation of construction waste.

19. 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 measures 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 the non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

20. We estimate that the proposed works will generate in total 612 400 tonnes of construction waste. Of these, we will reuse 70 300 tonnes (11%) of inert construction waste on site and deliver 529 800 tonnes (87%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 12 300 tonnes (2%) 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 \$40.1 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

³ 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 license issued by the Director of Civil Engineering and Development.

HERITAGE IMPLICATIONS

21. 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

22. The proposed works will not cause any significant traffic impact. Temporary traffic arrangements will be implemented to facilitate 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 sections of works. In addition, we will set up a telephone hotline to respond to public enquiries or complaints.

LAND ACQUISITION

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

BACKGROUND INFORMATION

24. We upgraded **778CL** to Category B in September 2014.

25. We engaged consultants in June 2015 to undertake the investigation and design for the proposed infrastructure works at the vicinity of Chung Nga Road and Chuen On Road at an estimated cost of about \$1.9 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 mentioned in paragraphs 3(c) and (d) above.

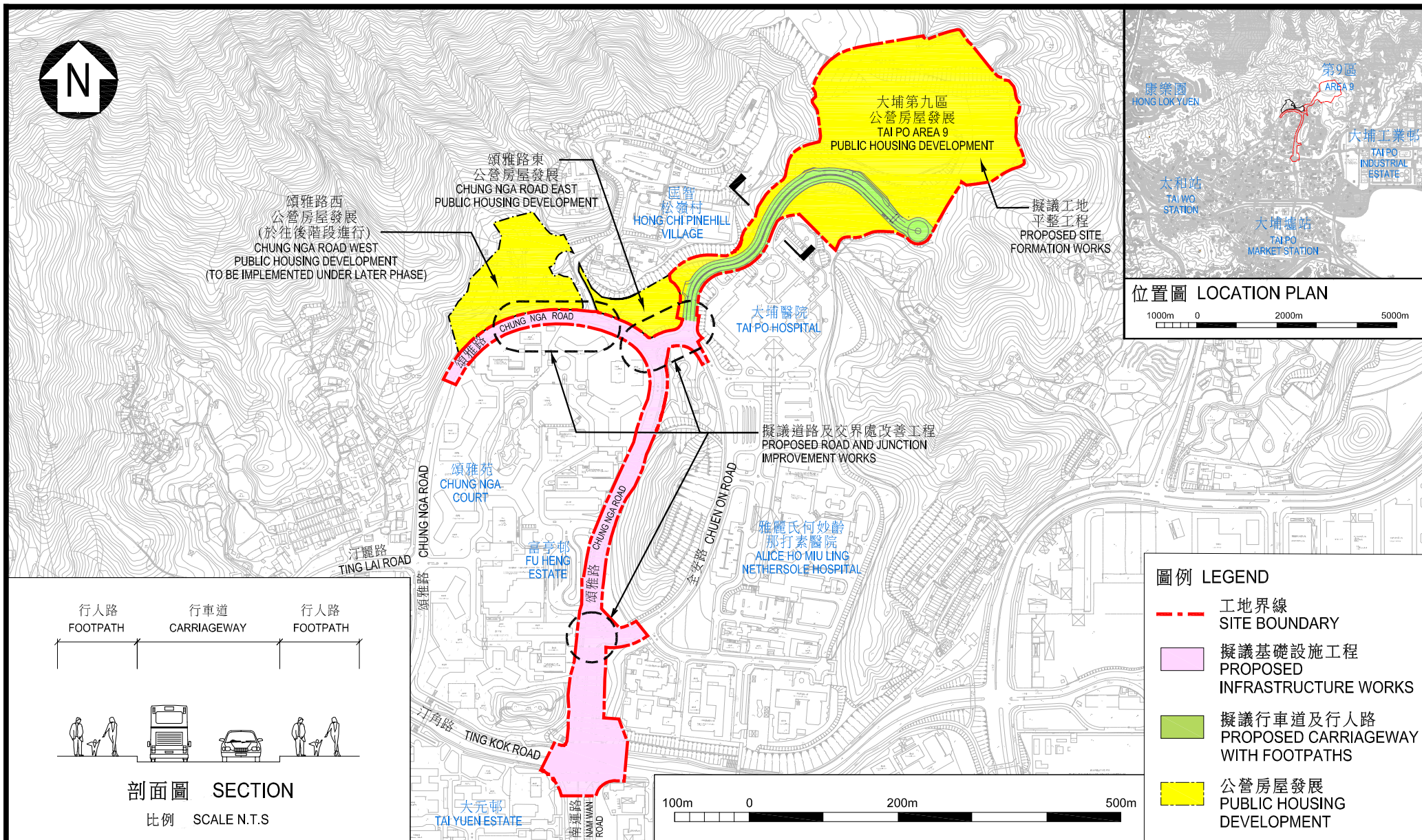
26. The proposed works will involve the removal of 1 937 trees including 1 925 trees to be felled and 12 trees to be transplanted within or adjacent to the project site. All the trees proposed to be felled and transplanted are not important trees⁴. We will incorporate planting proposals as part of the proposed works, including a total of 1 921 trees and 15 whips.

27. We estimate that the proposed works will create 400 jobs (320 for labourers and another 80 for professional or technical staff) providing a total employment of 13 000 man-months.

Transport and Housing Bureau
December 2016

⁴ “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 metre (m) (measured at 1.3 m above ground level), or with a height or canopy spread equal to or exceeding 25m.



工務計劃項目編號 778CL (部分)
大埔第9區和頌雅路公營房屋發展之工地平整及基礎設施工程 - 第一期
PWP ITEM NO. 778CL (PART)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENTS
AT CHUNG NGA ROAD AND AREA 9, TAI PO - PHASE 1

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 778CL(部分)
 大埔第9區和頌雅路公營房屋發展之工地平整及基礎設施工程 - 第一期
 PWP ITEM NO. 778CL (PART)
 SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENTS
 AT CHUNG NGA ROAD AND AREA 9, TAI PO - PHASE 1

構思圖
 ARTIST'S
 IMPRESSION
 DRAWING

Enclosure 3 to PWSC(2016-17)38

778CL (Part) – Site formation and infrastructure works for public housing developments at Chung Nga Road and Area 9, Tai Po – Phase 1

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 fees (\$ million) |
|--------------|--|--------------|-----------------------------|------------------------------------|------------------------|-----------------------------------|
| (a) | Consultants' fees for contract administration (Note 2) | Professional | -- | -- | -- | 0.8 |
| | | Technical | -- | -- | -- | 0.2 |
| | | | | | Sub-total | 1.0 |
| (b) | Resident site staff (RSS) costs (Note 3) | Professional | 43 | 38 | 1.6 | 5.3 |
| | | Technical | 180 | 14 | 1.6 | 7.7 |
| | | | | | Sub-total | 13.0 |
| Comprising – | | | | | | |
| (i) | Consultants' fees for management of RSS | | | | 0.6 | |
| (ii) | Remuneration of RSS | | | | 12.4 | |
| | | | | | Total | 14.0 |

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary 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 the contract administration is calculated in accordance with the existing consultancy agreement for the investigation, design and construction of Phase 1 of **778CL**. The construction phase of the assignment will only be executed upon Finance Committee's approval to upgrade part of **778CL** to Category A.
3. The actual man-months and actual costs will only be known after completion of the construction works.