For discussion **PWSC(2018-19)40**
on 13 February 2019

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 711 - HOUSING
Civil Engineering – Land development
780CL – Site formation and infrastructure works for public housing development at Wang Chau, Yuen Long

Members are invited to recommend to the Finance Committee the upgrading of **780CL** to Category A at an estimated cost of $2,390.2 million in money-of-the-day prices.

PROBLEM

We need to carry out site formation and infrastructure works to support the proposed Wang Chau public housing development Phase 1, Yuen Long (WCPHD1).

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Transport and Housing, proposes to upgrade **780CL** to Category A, at an estimated cost of $2,390.2 million in money-of-the-day (MOD) prices for the site formation and infrastructure works.

PROJECT SCOPE AND NATURE

3. The proposed scope of works under **780CL** includes –

(a) formation of about 5.6 hectare of land platforms and construction of associated retaining walls and slopes;

/(b) …..

(b) construction of a new single two-lane carriageway of about 400 metres long with a connected underpass,

(c) footpaths and pick-up / drop-off areas;

(d) improvement works at the junction of Long Ping Road and Fung Chi Road, and about 1.1 kilometres long road resurfacing works along a section of Long Ping Road;

(e) construction of a footbridge across Long Ping Road with associated lifts; and

(f) ancillary works including drainage, sewerage, waterworks and landscaping works.

A location and site plan of the proposed works are at **Enclosure 1**.

4. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed works in the third quarter of 2019. The site formation works are expected to be completed in 2022, whereas the infrastructure works are expected to be completed in 2024. In order to meet the tight schedule, we will invite tenders in parallel to enable early commencement of the proposed works. Tenders will only be awarded after obtaining FC's funding approval.

JUSTIFICATION

5. WCPHD1 is planned to be completed in 2025-26 and will provide about 4 000 units for a population of about 12 300. It is necessary to form land and construct infrastructure to support WCPHD1. To tie in with the population intake of WCPHD1, timely completion of the proposed works is necessary.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be $2,390.2 million in MOD prices (please see paragraph 8 below), broken down as follows –

			$ million (in MOD prices)
(a)	Site formation works and retaining structures		1,087.9
(b)	Road works including underpass and footbridge		584.7
(c)	Ancillary works including drainage, sewerage, waterworks and landscaping works		286.0
(d)	Consultants' fees for		12.4
	(i) contract administration	5.0	
	(ii) management of resident site staff (RSS)	7.4	
(e)	Remuneration of RSS		201.9
(f)	Contingencies		217.3
	Total		2,390.2

7. Due to insufficient in-house resources, we propose to engage consultants to undertake contract administration and site supervision of the proposed works. A breakdown of the estimates for consultants' fees and RSS costs by man-months is at **Enclosure 2**.

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

Year	**$ million (MOD)**
2019 – 2020	300.0
2020 – 2021	395.4
2021 – 2022	548.0
2022 – 2023	571.8

/2023 – 2024…..

2023 – 2024		443.1
2024 – 2025		80.5
2025 – 2026		51.4
	Total	2,390.2

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 2019 to 2026. We will deliver the proposed works under New Engineering Contract[1]. The contracts will provide for price adjustments.

10. We estimate the annual recurrent expenditure arising from the proposed works to be about $3.5 million.

PUBLIC CONSULTATION

11. We consulted the Ping Shan Rural Committee (PSRC) on 12 May 2015 and the Traffic and Transport Committee of the Yuen Long District Council (YLDC) on 21 May 2015 on the proposed road scheme and WCPHD1. On 30 October 2015, we gazetted the proposed road works under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (RO) and the proposed sewerage works under RO as applied by Section 26 of the Water Pollution Control (Sewerage) Regulation (Cap. 358AL). We received 159 objections[2] after the gazettal, and met with the objectors between January and April 2016 to explain the details of the project and the compensation package under the prevailing policy, etc. At the end, four objectors withdrew their objections unconditionally, while the remaining 155 objectors maintained their objections.

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[1] 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.

[2] The 159 objections do not include the three objections that explicitly objected to land resumption in accordance with the Lands Resumption Ordinance (Cap. 124).

12. We subsequently submitted the objections and the correspondences with the objectors (including meeting minutes) to the Chief Executive in Council for consideration. On 11 October 2016, the Chief Executive in Council authorised the proposed road and sewerage works without modification. The notice of authorisation was gazetted on 11 November 2016.

13. We consulted PSRC and the Town Planning and Development Committee (TP&DC) of YLDC on 14 and 20 September 2017 respectively on the proposed works. Members of the PSRC had in principle no objection to the proposed works. Members of TP&DC generally supported the proposed works, although some TP&DC members raised objections to the land resumption.

14. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures[3] (ACABAS) on the design of the proposed underpass, retaining walls and footbridge on 17 October 2017. ACABAS accepted the proposed design on 21 November 2017.

15. We consulted the Legislative Council (LegCo) Panel on Housing on the proposed works on 6 November 2017. Members requested that the compensation and rehousing arrangements should be discussed at a joint meeting of Panel on Development and Panel on Housing before submitting the funding proposal to the Public Works Subcommittee for consideration. The Government announced the proposed enhancements to the ex-gratia compensation and rehousing arrangements for eligible domestic occupants in squatters and business undertakings affected by Government's development clearance exercises (New Measures) on 10 May 2018. FC approved the New Measures on 18 July 2018, which is also applicable to Wang Chau Project. We provided the latest information on WCPHD1, at the LegCo Panel on Housing Subcommittee to Follow up the Issues Related to the Wang Chau Development Project (the Subcommittee) meeting on 25 April 2018, 30 November 2018 and 1 February 2019. We conducted a site visit with the Subcommittee on 19 June 2018. At the joint meeting of Panel on Development and Panel on Housing on 29 June 2018, the Panels supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

/ENVIRONMENTAL …..

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[3] The Advisory Committee on the Appearance of Bridges and Associated Structures, which comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institution of Planners, academic institutions, Architectural Services Department, Highways Department, Housing Department and Civil Engineering and Development Department, is responsible for vetting the design of bridges and other structures associated with the public highway system, including noise barriers and semi-enclosures, from aesthetic and visual impact points of view.

ENVIRONMENTAL IMPLICATIONS

16. The project 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 with implementation of mitigation measures including proper drainage systems with silt traps and oil interceptors, low noise road surfacing, etc.

17. We have incorporated into the works contracts the mitigation measures recommended in the PER to control environmental impacts arising from the construction works to within established standards and guidelines. These measures 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. We have included in the project estimate the cost to implement the environmental mitigation measures.

18. At the planning and design stages, we have considered the alignment, design level and construction method of the proposed works so as to reduce generation of construction waste where possible. In addition, we will require the contractors 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 facilities[4] (PFRF). We will encourage the contractors to maximise the use of recycled or recyclable inert construction waste as well as the use of non-timber formworks to further minimise generation of construction waste.

19. At the construction stage, we will ensure that the day-to-day operations on site comply with the approved plan to be submitted by the contractors setting out the waste management measures. We will require the contractors to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

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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 (Cap. 354N). Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

20. We estimate that the proposed works will generate in total about 400 000 tonnes of construction waste. Of these, we will reuse about 110 000 tonnes (27.5%) and 8 000 tonnes (2.0%) of inert and non-inert construction wastes respectively on site and deliver about 254 000 tonnes (63.5%) of inert construction waste to PFRF for subsequent reuse. In addition, we will dispose of the remaining about 28 000 tonnes (7.0%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at PFRF and landfill sites is estimated to be about $23.6 million for this project (based on a unit charge rate of $71 per tonne for disposal at PFRF, 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

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 during the construction stage and operation stage. 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 works. In addition, we will set up a telephone hotline to respond to public enquiries or complaints.

LAND ACQUISITION

23. We posted on site and gazetted the land resumption notice on 2 and 5 May 2017 under the Lands Resumption Ordinance (Cap. 124) and RO respectively. The land was resumed and reverted to the Government on 3 August 2017. The area resumed for the proposed works is about 34 528 square metres (m^2) and involves 79 private lots. The area of government land to be cleared is about 33 920 m^2. The estimated cost of land resumption and clearance is about $311.1 million and will be charged to **Head 701 – Land Acquisition**. A total of about 180 households, involving about 400 clearees, were registered in the pre-clearance freezing survey. The clearance will also involve three graves and 16 urns (Kam Taps). The breakdown of the estimate for land acquisition cost is at **Enclosure 3**.

/**BACKGROUND** …..

BACKGROUND INFORMATION

24. We upgraded **780CL** to Category B in September 2014.

25. We engaged consultants in March 2015 to undertake the detailed design and site investigation for the proposed works at an estimated cost of about $19.0 million (in MOD prices) 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.

26. The proposed works will involve removal of approximately 1 057 no. of trees, including 1 032 no. of trees to be felled and 25 no. of trees to be transplanted within the project site. Amongst them, three important trees[5] will be affected during the implementation of the project. A summary of important trees affected is provided at **Enclosure 4**. We will incorporate planting proposals as part of the proposed works, including estimated quantities of 1 057 no. of trees and approximately 15 300 no. of shrubs.

27. We estimate that the proposed works will create 775 jobs (630 for labourers and another 145 for professional/technical staff) providing a total employment of 27 000 man-months.

Transport and Housing Bureau
February 2019

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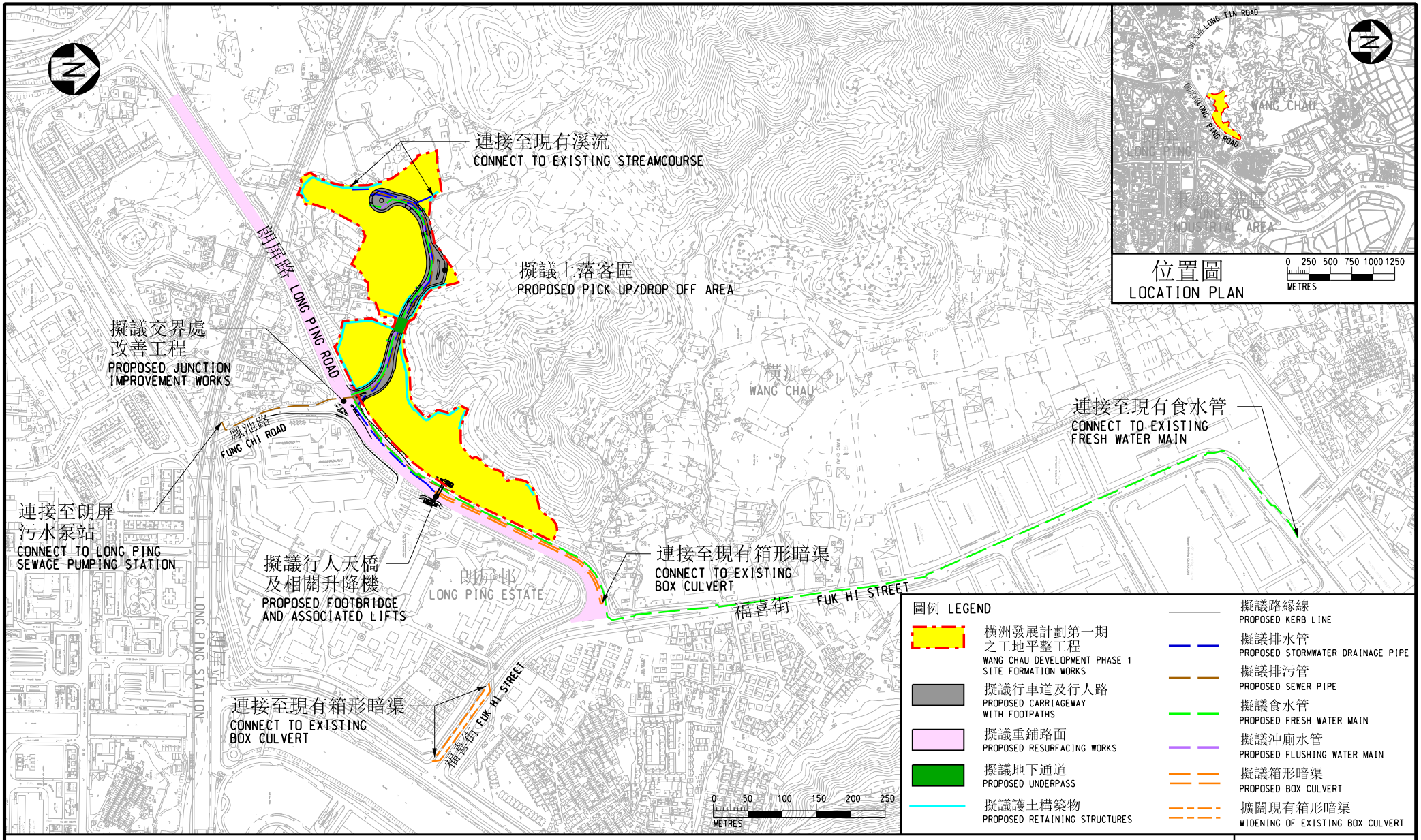
[5] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

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



工務計劃項目編號 780CL

元朗橫洲公營房屋發展之工地平整及基礎設施工程

PWP ITEM NO. 780CL

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT AT WANG CHAU, YUEN LONG

工地平面圖
SITE PLAN

Enclosure 1 附件 1

Enclosure 2 to PWSC(2018-19)40

780CL – Site formation and infrastructure works for public housing development at Wang Chau, Yuen Long

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2018 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	--	--	--	3.8
		Technical	--	--	--	0.6
					Sub-total	4.4#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	656	38	1.6	86.0
		Technical	2 029	14	1.6	93.3
					Sub-total	179.3
	Comprising –					
	(i) Consultants' fees for management of RSS				6.6#	
	(ii) Remuneration of RSS				172.7#	
					Total	**183.7**

* 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 = $81,975 per month and MPS point 14 = $28,725 per month).

2. The consultants' staff cost for the contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **780CL**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **780CL** to Category A.

3. We will only know the actual man-months and actual costs after completion of the construction works.

Remarks

The figures in this Enclosure are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 6 of the main paper.

Enclosure 3 to PWSC(2018-19)40

780CL – Site formation and infrastructure works for public housing development at Wang Chau, Yuen Long

Breakdown of land acquisition cost

			$ million
(I)	**Estimated cost for land acquisition (resumption of private land)**		**258.40**
(II)	**Estimated cost for land clearance**		**47.54**
	(a) Ex-gratia allowances (EGAs) for domestic occupiers (e.g. EGA for permitted occupiers of licensed structures and surveyed squatters affected by clearance and domestic removal allowance, etc.)	33.50	
	(b) Other ex-gratia allowances (e.g. crop compensation, disturbance allowance for cultivators, EGA for miscellaneous permanent improvements to farms, EGA for shops, workshops, godowns, slipways, schools, churches and ornamental fish breeding undertakings, EGA for open-air/ outdoor business undertakings, EGA for clearance of graves, urns ("Kam Taps") and shrines and EGA for "Tun Fu" ceremonial fees, etc.)	14.04	
(III)	**Interest and Contingency Payment**		**5.20**
		Total	**311.14**
			(say $311.1)

Note

The above estimated land acquisition cost is based on the prevailing rates as at April 2017.

ENCLOSURE 4 to PWSC(2018-19)40

780CL - Site formation and infrastructure works for public housing development at Wang Chau, Yuen Long
Summary of "important tree" affected

Tree ref. no. [1]	Species		Measurements			Amenity Value [3]	Form	Health condition	Structural condition	Suitability for Transplanting [4]		Conservation Status [5]	Recommendation	Department to Provide Expert Advice to LandsD	Additional Remarks
	Scientific Name	Chinese Name	Height (m)	DBH [2] (mm)	Crown Spread (m)	(Good / Fair / Poor)				(High / Medium / Low)	Remarks		(Retain/transplant/fell)		
T1118	Dimocarpus longan	龍眼	9	1250	8	Fair	Poor	Fair	Poor	Low	The tree trunk is restricted by existing structures and is leaning. The tree has poor form and structural conditions. Due to the large size of the tree, heavy pruning would be required to facilitate transplant which would lead to permanent damage to the form, health and structure of the tree. As the tree is mature, its transplant survival rate would be low. Therefore, the tree is not considered suitable for transplanting.	No	Fell	Agriculture, Fisheries and Conservation Department	It is not practical to retain the tree as it is located at the middle of the proposed housing site, and there is a large ground level difference of 2.3 m between the current level (+14.7 mPD) and the proposed level (+17.0 mPD).

Tree ref. no. [1]	Species		Measurements			Amenity Value [3]	Form	Health condition	Structural condition	Suitability for Transplanting [4]		Conservation Status [5]	Recommendation	Department to Provide Expert Advice to LandsD	Additional Remarks
	Scientific Name	Chinese Name	Height (m)	DBH [2] (mm)	Crown Spread (m)	(Good / Fair / Poor)				(High / Medium / Low)	Remarks		(Retain/transplant/fell)		
T1125	Celtis sinensis	朴樹	11	1350	8	Fair	Poor	Fair	Poor	Low	The tree is leaning and has cracks on the trunk. The tree has poor form and structural conditions. Due to the large size of the tree, heavy pruning would be required to facilitate transplant which would lead to permanent damage to the form, health and structure of the tree. As the tree is mature, its transplant survival rate would be low. Therefore, the tree is not considered suitable for transplanting.	No	Fell	Agriculture, Fisheries and Conservation Department	It is not practical to retain the tree as it is located at the middle of the proposed housing site, and there is a large ground level difference of 2.0 m between the current level (+16.0 mPD) and the proposed level (+14.0 mPD).
T1303	Aquilaria sinensis	土沉香	4	130	2	Fair	Poor	Poor	Poor	Low	The tree is leaning. It has co-dominant stems (a structural defect), and is heavily covered by vines. The tree has poor form, health and structural conditions. Therefore, the tree is not considered suitable for transplanting.	Precious and rare species	Fell	Agriculture, Fisheries and Conservation Department	It is not practical to retain the tree as it is located at the middle of the proposed carriageway, and there is a large ground level difference of 4.1 m between the current level (+18.1 mPD) and the proposed level (+14.0 mPD).

(1) The three trees are not in the Register of Old and Valuable Trees.

(2) Diameter at Breast Height (DBH) of a tree refers to its trunk diameter at breast height (i.e. measured at 1.3 metres above ground level).

(3) Amenity value of the tree is assessed by its functional values for shade, shelter, screening, reduction of pollution and noise and also its fung shui significance, and classified into the following categories.

Good: important trees which should be retained by adjusting the design layout accordingly.
Fair: trees that are desirable to be retained in order to create a pleasant environment, which includes healthy specimens of lesser importance than “Good” trees.
Poor: trees that are dead, dying or potentially hazardous and should be removed.

(4) Assessment has taken into account conditions of the tree at the time of survey (including health, structure, age and root conditions), site conditions (including topography and accessibility), and intrinsic characters of tree species (survival rate after transplanting).

(5) Conservation status is based on the rarity and protection status of the species under relevant ordinances in Hong Kong, such as Rare and Precious Plants of Hong Kong, the International Union for Conservation of Nature Red List of Threatened Species and the Forests and Countryside Ordinance. Tree no. T1303 is Aquilaria sinensis, a precious or rare species. The species is protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap 586).