

**For discussion
on 23 March 2016**

**Legislative Council Panel on Transport
Provision of Hillside Escalator Links and Elevator Systems,
footbridges and elevated walkways**

PURPOSE

This paper seeks Members' views on the funding proposals of the construction of the following projects which target to enhance the accessibility of hillsides and urban area:

- (a) Lift and Pedestrian Walkway System at Cheung Hang Estate, Tsing Yi;
- (b) Lift and Pedestrian Walkway System between Kwai Shing Circuit and Hing Shing Road, Kwai Chung;
- (c) Lift and Pedestrian Walkway System at Waterloo Hill;
- (d) Footbridge connecting Tsuen Wan Plaza, Skyline Plaza and Adjacent Landscaping Area; and
- (e) Elevated Walkway between Tong Ming Street and Tong Tak Street, Tseung Kwan O.

Details of the above projects are at the Annexes attached to this paper.

LIFT AND PEDESTRIAN WALKWAY SYSTEMS

- (a) Lift and Pedestrian Walkway System at Cheung Hang Estate, Tsing Yi

2. The project will construct a lift tower at Tsing Yu Street, construct a covered elevated walkway connecting the above lift tower to the footpath along the southbound carriageway of Tsing Yi Road West, construct a lift tower at the eastern side of the existing footbridge across Tsing Yi Road West, and widen a section of footpath along the southbound carriageway of Tsing Yi Road West between the proposed elevated walkway and the existing footbridge across Tsing Yi Road West. The project will form a lift and pedestrian walkway system for the existing footbridge across Tsing Yi Road West, the proposed lift tower at

_____ Tsing Yu Street and the elevated walkway. This system will connect the Cheung Hang Estate area and Tsing Yu Street and directly connect to Tsing Yi Hui / Tsing Yu New Village. At the same time, barrier-free access and facilities for the existing footbridge and for the entire pedestrian walkway system will be provided. The estimated cost of the project is \$222.7 million. Details of the project are at **Annex 1**.

(b) Lift and Pedestrian Walkway System between Kwai Shing Circuit and Hing Shing Road, Kwai Chung

_____ 3. The project will construct a lift tower adjacent to Hing Shing Road and construct a covered elevated walkway to connect the above lift tower, widen the southern footpath along Kwai Shing Circuit between Shing Fuk Street and Hing Shing Road, and widen the western footpath along Ko Fong Street. The project will provide a convenient, direct and comfortable access connecting Kwai Shing Circuit and Hing Shing Road. The estimated cost of the project is \$239.4 million. Details of the project are at **Annex 2**.

(c) Lift and Pedestrian Walkway System at Waterloo Hill

_____ 4. The project will construct a lift tower at Waterloo Road and construct an elevated walkway connecting the above lift tower to Man Fuk Road Garden. The project will provide a convenient and barrier-free access for commuting between Waterloo Road and Man Fuk Road. The estimated cost of the project is \$116.7 million. Details of the project are at **Annex 3**.

FOOTBRIDGE AND ELEVATED WALKWAY

(d) Footbridge connecting Tsuen Wan Plaza, Skyline Plaza and Adjacent Landscaping Area

_____ 5. The project will construct a covered footbridge connecting Tsuen Wan Plaza, Skyline Plaza and Adjacent Landscaping Area, construct a lift and covered staircase at Hoi Shing Road, and reconstruct the existing lay-by at Hoi Shing Road. The project will connect the existing footbridge network in the area and facilitate the public to commute between the northern and southern parts of Tsuen Wan, main public transport facilities and streets. The estimated cost of the project is \$146.2 million. Details of the project are at **Annex 4**.

(e) Elevated Walkway between Tong Ming Street and Tong Tak Street, Tseung Kwan O

6. The project will construct an elevated walkway connecting the existing footbridge across Tong Ming Street to the shopping mall above Tseung Kwan O (TKO) MTR Station, construct a lift at the end of the proposed elevated walkway near Tong Tak Street, and re-construct and expand the existing cycle parking area. This project will provide a comfortable and convenient access for residents to travel to and from the centre of TKO. The estimated cost of the project is \$221.6 million. Details of the project are at Annex 5.

BACKGROUND

7. Slopes and staircases are a common sight in Hong Kong. For the convenience of the elderly and those travelling to and from uphill areas, the Government mentioned in the 2016 Policy Address and Policy Agenda that it will strive to take forward progressively from the fourth quarter of this year the construction of three lift and pedestrian walkway systems in Tsing Yi, Kwai Chung and Kowloon City, and build an elevated walkway in Tseung Kwan O and a footbridge in Tsuen Wan to provide convenient access for the public.

8. Subject to the support of this Panel, we plan to seek the endorsement of the Legislative Council Public Works Subcommittee, and then to seek funding approval from the Finance Committee for upgrading the construction works of the proposed projects to Category A.

ADVICE SOUGHT

9. Members are invited to comment on and support our funding application.

Transport and Housing Bureau
March 2016

For discussion
on 23 March 2016

Legislative Council Panel on Transport

169TB – Lift and Pedestrian Walkway System at Cheung Hang Estate, Tsing Yi

PURPOSE

This paper seeks Members' views on the funding proposal for upgrading **169TB** "Lift and Pedestrian Walkway System at Cheung Hang Estate, Tsing Yi" (the Project) to Category A.

PROJECT SCOPE AND NATURE

2. The proposed scope of works under the Project includes –
 - (a) construction of a lift tower with two lifts and staircase of about 31 metres (m) in height at Tsing Yu Street;
 - (b) construction of a covered elevated walkway with a clear width of about 3.3 m and of about 60 m in length, connecting the above lift tower to the footpath along the southbound carriageway of Tsing Yi Road West;
 - (c) construction of a lift tower with single lift of about 13 m in height at the eastern side of the existing footbridge (No. NF230) across Tsing Yi Road West;
 - (d) widening of a section of footpath of about 30 m in length to about 3.5 m along the southbound carriageway of Tsing Yi Road West between the proposed elevated walkway and the existing footbridge (No. NF230) across Tsing Yi Road West; and
 - (e) ancillary works including associated road, drainage, slope and geotechnical, utilities, public lighting, landscaping, electrical and mechanical (E&M) works, etc.
3. A layout plan and artist's impression of the Project are at
Enclosure 1.

4. The Highways Department (HyD) has completed the detailed design of the Project. Subject to the funding approval of the Finance Committee (FC) within this legislative session, HyD plans to commence the construction works in the fourth quarter of 2016 for completion by mid-2019.

JUSTIFICATIONS

5. At present, there is no direct pedestrian link between Tsing Yi Cheung Hang Estate area (including Cheung Hang Estate, Cheung Wang Estate and Mount Haven) and the major community facilities near Tsing Yip Street and Tsing Luk Street. The public needs to walk along Tsing Yi Road West and Fung Shue Wo Road to Tsing Yip Street/Tsing Luk Street. As the existing pedestrian route is very indirect, the public depends largely on public transport to travel between the major community facilities and Cheung Hang Estate area.

6. The area currently accommodates about 44 200 residents (including about 7 400 elderly). We plan to implement the Project for the convenience of the public in particular the elderly and the disabled, and to encourage people walking instead of using transport services for travelling to and from Cheung Hang Estate area and the major community facilities in Tsing Yip Street/Tsing Luk Street. With the implementation of the Project, the walking distance from Cheung Hang Estate area to Tsing Yip Street will be shortened from about 950 m by about 400 m to about 550 m. The Project will provide a more convenient, comfortable and direct link for the public especially for the elderly and the disabled. The current pedestrian route and the proposed pedestrian route after the completion of the Project are at **Enclosure 2**.

7. We plan to widen a section of footpath of about 30 m in length from 2.7 m to about 3.5 m along the southbound carriageway of Tsing Yi Road West adjacent to the existing footbridge across Tsing Yi Road West (No. NF230) so as to meet the demand arising from the pedestrian flow and the number of persons waiting for buses during peak hours.

8. With a lift added to the existing footbridge across Tsing Yi Road West (No. NF230) under the Project, the existing footbridge, the proposed lift tower at Tsing Yu Street and the elevated walkway will form a lift and pedestrian walkway system connecting Cheung Hang Estate area and Tsing Yu Street. At the same time, barrier-free access and facilities for the existing footbridge and for the entire pedestrian walkway system will be provided. We expect that the Project can attract about 3 000 passenger trips per day.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the Project to be \$222.7 million in money-of-the-day (MOD) prices (please see paragraph 11 below), with the following breakdown –

		\$ million	
(a)	Lift tower at Tsing Yu Street	69.2	
	(i) tower and staircase structure	44.0	
	(ii) foundation	25.2	
(b)	Elevated walkway	37.7	
	(i) bridge structure	24.4	
	(ii) foundation	13.3	
(c)	Lift tower at the existing footbridge No. NF230	13.0	
	(i) tower structure	5.5	
	(ii) foundation	7.5	
(d)	Associated road, drainage, landscaping and public lighting works	5.7	
(e)	Geotechnical works	29.9	
(f)	E&M works	11.3	
	(i) lift car (3 nos.)	10.6	
	(ii) Electrical & Mechanical Services Trading Fund (EMSTF) ¹	0.7	
(g)	Consultants' fee	1.6	
(h)	Contingencies	16.8	
	Sub-total	185.2	(in September 2015 prices)
(i)	Provision for price adjustment	37.5	
	Total	222.7	(in MOD prices)

1 Upon its establishment from 1 August 1996 under the Trading Fund Ordinance, the EMSTF charges government departments for design and technical consultancy services for E&M installations. The services rendered for the Project include carrying out the design and site supervision on all E&M installations and providing technical advice to the Government on all E&M works and their impacts on the Project.

10. HyD plans to engage consultants to provide advisory services for contract administration for the Project. A breakdown of the consultants' fees based on the estimated man-months is at **Enclosure 3**.

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

Year	\$ million (in Sep 2015 prices)	Price adjustment factor	\$ million (in MOD prices)
2016 – 17	4.0	1.05775	4.2
2017 – 18	55.8	1.12122	62.6
2018 – 19	60.1	1.18849	71.4
2019 – 20	42.9	1.25980	54.0
2020 – 21	14.6	1.33539	19.5
2021 – 22	7.8	1.40549	11.0
	<u>185.2</u>		<u>222.7</u>

12. 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 2016 to 2022. The contract will provide for price adjustments.

PUBLIC CONSULTATION

13. The Government established in 2009 a set of comprehensive, objective and transparent scoring criteria for assessing proposals for hillside escalator links and elevator systems (hereafter referred to as "hillside escalator links") to determine the priority for conducting preliminary technical feasibility studies for the 20 proposals received at that time. On this, the Government consulted the Legislative Council (LegCo) Panel on Transport in May 2009. Upon completion of the assessment, the results were reported to the LegCo Panel on Transport in February 2010. Two proposals were screened out initially, and 18 others were ranked. The Government indicated at the time that preliminary technical feasibility studies for the proposals ranked top ten in the assessment would be conducted by batches, and that the remaining proposals would be followed up after the smooth implementation of the top ten proposals. The

Project is ranked third. LegCo members have been concerning the implementation of hillside escalator links and issued letters to the government and relative departments for early implementation of the projects (especially for the areas that are densely-populated with elderly).

14. HyD consulted the Traffic and Transport Committee (T&TC) of the Kwai Tsing District Council on 2 September 2014. The T&TC members supported the Project and requested for early implementation.

15. We gazetted the Project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 18 and 27 February 2015. No objection was received during the statutory period. The Project was subsequently authorised under the Ordinance.

16. HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)² on the proposed aesthetic design of the lift towers, covered staircase and elevated walkway of the Project. The Committee accepted the proposed aesthetic design.

ENVIRONMENTAL IMPLICATIONS

17. The Project is not a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499). It will not cause long-term environmental impact. HyD will control construction noise, dust and site run-off nuisances to levels within established standards and guidelines through the implementation of mitigation measures as required. The required expenses of implementing the environmental mitigation measures have been included in the project estimates.

18. At the planning and design stages, HyD has considered measures to reduce the generation of construction waste where possible. Such measures include optimising the alignment of the Project, reducing the size of the foundations of the structures and adjusting the method of construction. In addition, HyD will require the contractor to reuse inert construction waste (e.g. excavated materials for backfilling) on site or in other suitable construction sites as far as possible in order to minimise the disposal of inert construction waste at

2 ACABAS comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, the Architectural Services Department, the Highways Department, the Housing Department, the Civil Engineering and Development Department, and an academic institution to be invited by the Chairman of ACABAS (such as an architectural school from a local institution), is responsible for vetting the design of bridges and other structures associated with the highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

public fill reception facilities³. HyD will also 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 minimise the generation of construction waste.

19. At the construction stage, HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures, which will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. HyD will ensure that the day-to-day operations on site comply with the approved plan. HyD will require the contractor to separate inert construction waste from non-inert construction waste on site to facilitate their transportation to appropriate facilities for disposal. HyD will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively for disposal through a trip-ticket system.

20. HyD estimates that the Project will generate in total about 27 000 tonnes of construction waste. Of these, we will reuse about 5 000 tonnes (18.5%) of inert construction waste on site and deliver about 21 200 tonnes (78.5%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining about 800 tonnes (3.0%) 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 about \$670,000 for the Project (the amount is based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

HERITAGE IMPLICATIONS

21. The Project 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.

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.

TREE IMPLICATIONS

22. In order to make way for the proposed facilities, the Project will require removal of 42 trees. All trees to be removed are not important trees⁴. HyD will incorporate planting proposals into the Project, including the planting of about 54 trees and about 700 shrubs.

LAND ACQUISITION

23. The Project does not require land resumption.

TRAFFIC IMPLICATIONS

24. HyD has conducted traffic impact assessment for the Project, covering the traffic impact during the construction period. According to the assessment findings, with the implementation of appropriate temporary traffic arrangements (TTA), the Project during its construction stage will not cause significant impact on the traffic network in the area concerned. To facilitate the related construction works, HyD will implement TTA and a traffic management liaison group will be set up to assess the effectiveness of the TTA. This group comprises representatives of the Hong Kong Police Force, the Transport Department and other concerned government departments. HyD will specify such requirements for implementing the TTA in the works contract to minimise the traffic impact during construction. HyD will also display publicity boards on site, giving details of the TTA and the anticipated completion dates of individual sections of works. In addition, HyD will set up a telephone hotline for public enquiries or complaints.

EMPLOYMENT OPPORTUNITIES

25. We estimate that the Project will create about 106 jobs (14 for professional/technical staff and 92 for labourers), providing a total employment of about 2 869 man-months.

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 important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding forms (taking account of overall tree sizes, shapes and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitats; or
- (e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

BACKGROUND

26. The Government announced in 2016 Policy Address that it will strive to take forward progressively from the fourth quarter of this year the construction of three lift and pedestrian walkway systems in Tsing Yi, Kwai Chung and Kowloon City.

27. We upgraded the Project to Category B in September 2011. We engaged an engineering consultant to undertake the preliminary design, studies and ground investigation works in July 2012. The total cost of the above consultancy services and works is about \$3.0 million. Funding has been obtained to pay for this amount under block allocation **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme”. These consultancy services and works have been completed.

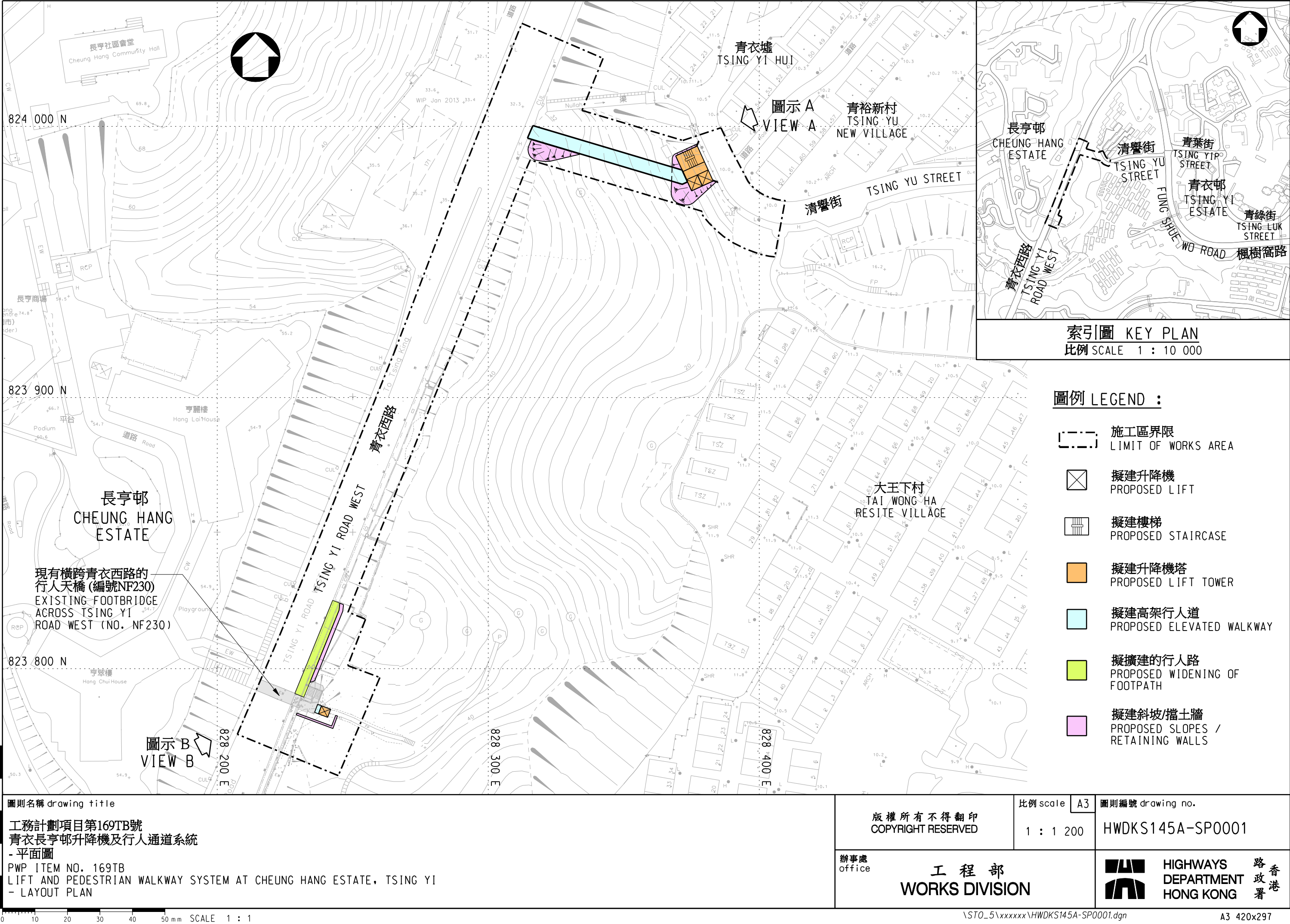
WAY FORWARD

28. Subject to the support of this Panel, we plan to seek the endorsement of the LegCo Public Works Subcommittee for upgrading the Project of **169TB** to Category A, and then to seek funding approval from the Finance Committee.

ADVICE SOUGHT

29. Members are invited to comment on and support our funding application.

Transport and Housing Bureau
March 2016



索引圖 KEY PLAN
比例 SCALE 1 : 10 000

- 圖例 LEGEND :
- 施工區界限
LIMIT OF WORKS AREA
 - 擬建升降機
PROPOSED LIFT
 - 擬建樓梯
PROPOSED STAIRCASE
 - 擬建升降機塔
PROPOSED LIFT TOWER
 - 擬建高架行人道
PROPOSED ELEVATED WALKWAY
 - 擬擴建的行人路
PROPOSED WIDENING OF FOOTPATH
 - 擬建斜坡/擋土牆
PROPOSED SLOPES / RETAINING WALLS

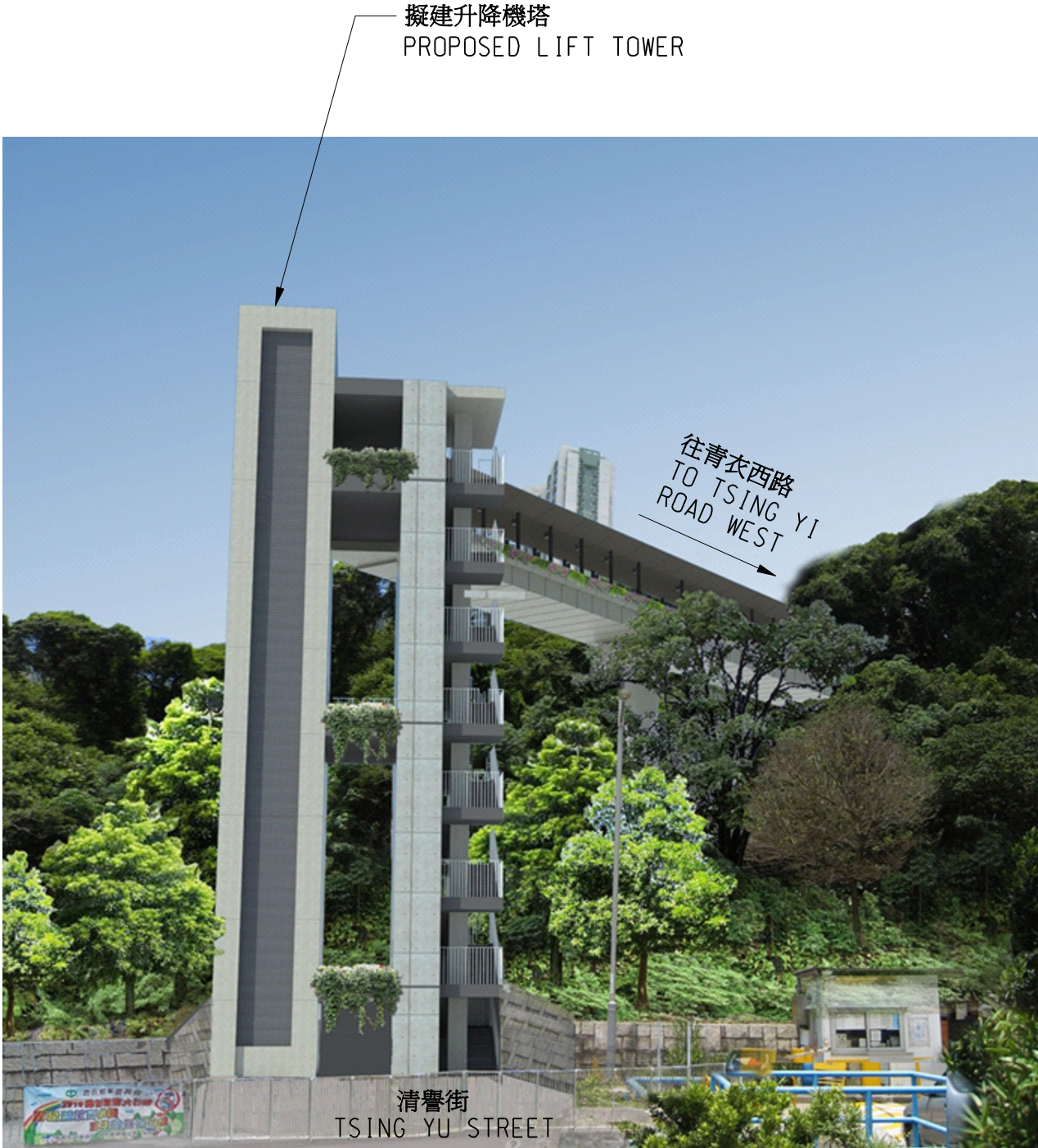


圖 示 A
VIEW A



圖 示 B
VIEW B

50 mm SCALE 1 : 1

圖則名稱 drawing title

工務計劃項目第169TB號
青衣長亨邨升降機及行人通道系統
- 擬建行人通道系統構思圖

PWP ITEM NO. 169TB
LIFT AND PEDESTRIAN WALKWAY SYSTEM AT CHEUNG HANG ESTATE, TSING YI
- ARTIST'S IMPRESSION OF PROPOSED PEDESTRIAN WALKWAY SYSTEM

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比例 scale

A3

不適用
NA

圖則編號 drawing no.

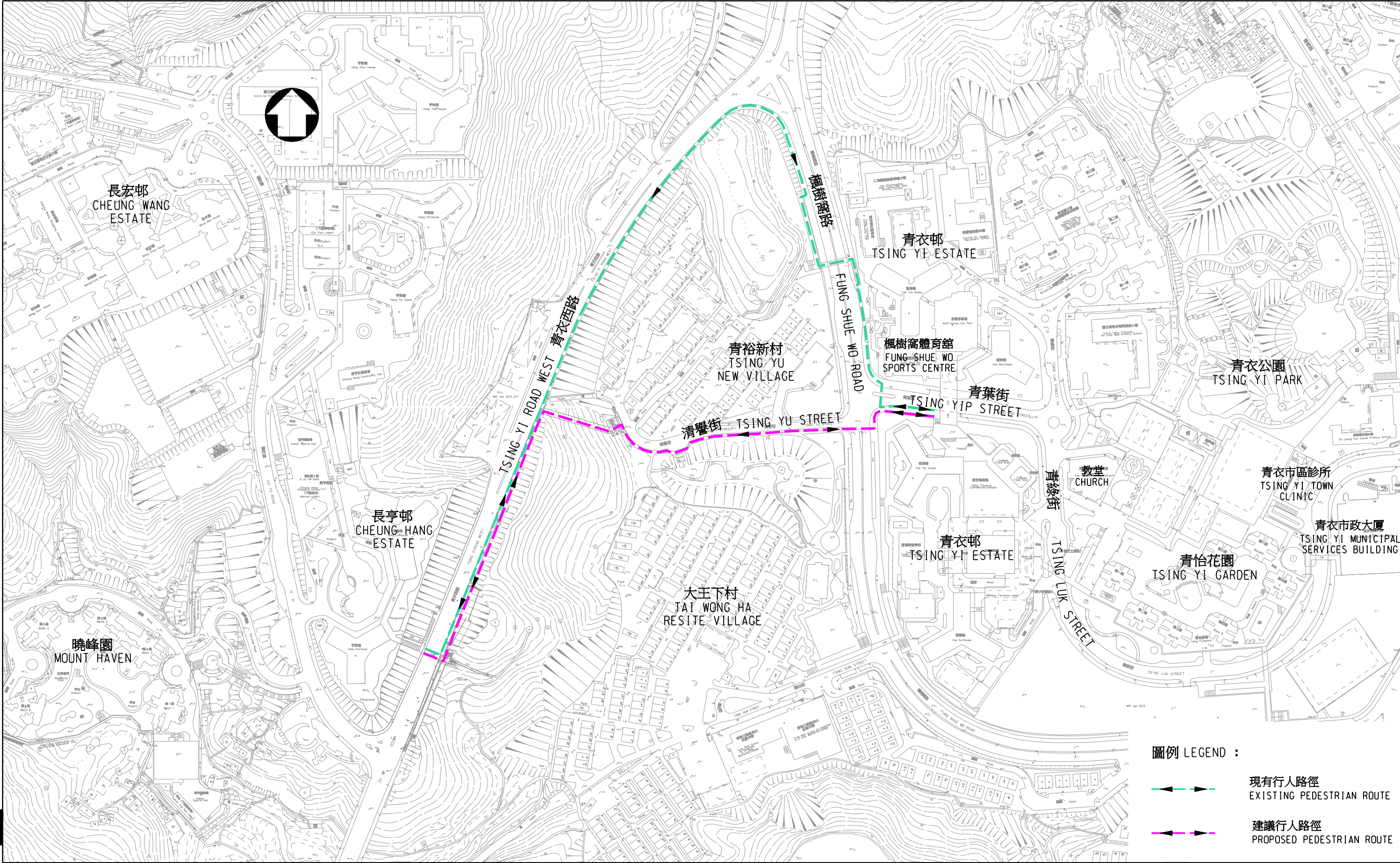
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辦事處
office

工 程 部
WORKS DIVISION



HIGHWAYS
DEPARTMENT
HONG KONG 路 香
政 港
署



圖例 LEGEND :

現有行人路徑
EXISTING PEDESTRIAN ROUTE

建議行人路徑
PROPOSED PEDESTRIAN ROUTE

圖則名稱 drawing title

工務計劃項目第169TB號

青衣長亨邨升降機及行人通道系統

- 長亨邨、長宏邨及曉峰園居民往來青葉街/青綠街鄰近主要社區設施的行人路徑

PWP ITEM NO. 169TB

LIFT AND PEDESTRIAN WALKWAY SYSTEM AT CHEUNG HANG ESTATE, TSING YI

- PEDESTRIAN ROUTES BETWEEN CHEUNG HANG ESTATE, CHEUNG WANG ESTATE, MOUNT HAVEN AND THE MAIN COMMUNITY FACILITIES NEAR TSING YIP STREET / TSING LUK STREET

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	1 : 3 000		
辦事處 office	工程 部 WORKS DIVISION		 HIGHWAYS DEPARTMENT HONG KONG 路 香 政 港 署

169TB - Lift and Pedestrian Walkway System at Cheung Hang Estate, Tsing Yi**Breakdown of estimates for consultants' fees (in September 2015 prices)**

		Estimated man -months	Average MPS* salary point	Multiplier (Note)	Estimated fees (\$million)
Consultants' fees for contract administration advisory services ¹	Professional	10.0	38	2.0	1.5
	Technical	2.0	14	2.0	0.1
Total					1.6

*MPS = Master Pay Scale

Note :

A multiplier of 2.0 is applied to the average MPS salary point to arrive at the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. (At present, MPS salary point 38 is equivalent to a monthly salary of \$74,210 and MPS salary point 14 is equivalent to a monthly salary of \$25,505.).

¹ HyD will adopt 'New Engineering Contract' form in the works contract of the Project. HyD will deploy in-house staff to supervise the construction of the proposed works. The fees above will be used for engaging consultants to provide professional advisory services for HyD's detailed arrangements for the administration of 'New Engineering Contract'.

**For discussion
on 23 March 2016**

Legislative Council Panel on Transport

**175TB – Lift and Pedestrian Walkway System
between Kwai Shing Circuit and Hing Shing Road, Kwai Chung**

PURPOSE

This paper seeks Members' views on the funding proposal for upgrading **175TB** "Lift and Pedestrian Walkway System between Kwai Shing Circuit and Hing Shing Road, Kwai Chung" (the Project) to Category A.

PROJECT SCOPE AND NATURE

2. The proposed scope of works under the Project includes –
- (a) construction of a lift tower with three lifts of about 30m in height adjacent to Hing Shing Road;
 - (b) construction of an covered elevated walkway of about 60m long and about 4.5m clear width to connect the above lift tower and the southern footpath along Kwai Shing Circuit;
 - (c) widening of the southern footpath along Kwai Shing Circuit between Shing Fuk Street and Hing Shing Road to about 2.75m;
 - (d) widening of the western footpath along Ko Fong Street to about 4.5m; and
 - (e) ancillary works including improvement on pedestrian facilities, geotechnical¹, drainage, utilities, landscaping, public lighting, electrical and mechanical (E&M) works, and re-provisioning of playground facilities².

1 The works include the improvement/modification of the existing slopes within Hing Shing Road Playground being affected by those works mentioned in items (a) and (b) of this paragraph.

2 The works include the re-provisioning of playground facilities including the fence wall, footpath and planters within Hing Shing Road Playground and Kwai Chung Sports Ground being affected by those works mentioned in items (a), (b) and (d) of this paragraph.

3. A layout plan and artist's impression of the Project are at **Enclosure 1.**

4. Subject to funding approval of the Finance Committee (FC) within this legislative session, HyD plans to commence the construction works in the first quarter of 2017 for completion in 2020.

JUSTIFICATIONS

5. At present, residents in Kwai Shing area (Kwai Luen Estate, Kwai Shing West Estate and Kwai Shing East Estate), students of schools nearby and users of the nearby clinic mainly use the steep staircases of about 20m height in Hing Shing Road Playground or public transportation facilities for travelling to and from Kwai Fong area.

6. Kwai Shing area has about 23 800 population (including about 4 100 elderly population). For the convenience of the public travelling to and from Kwai Shing and Kwai Fong particularly the elderly, disabled, users of the South Kwai Chung Jockey Club Polyclinic and students of the nearby schools, as well as to encourage the public to walk instead of taking transportation, we intend to take forward the Project which will provide a convenient, direct and comfortable access connecting Kwai Shing Circuit and Hing Shing Road. The Project could also help promote walking instead of using transport services. We expect the proposed lift and pedestrian walkway system can attract about 16 200 pedestrians daily. Moreover, to facilitate the proposed lift and pedestrian walkway system, we will widen the section of southern footpath along Kwai Shing Circuit and a section of the western footpath along Ko Fong Street to serve the anticipated growth of pedestrian flow.

FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the Project to be \$239.4 million in money-of-the-day (MOD) prices (please see paragraph 9 below), with the following breakdown –

	\$ million
(a) Lift tower	57.4
(i) tower structure	30.5
(ii) foundation	26.9

		\$ million	
(b)	Elevated walkway		41.4
	(i) bridge structure	26.8	
	(ii) foundation	14.6	
(c)	Re-provisioning of playground facilities		2.7
(d)	Geotechnical works		21.4
(e)	Associated road, landscaping and public lighting works, etc.		18.9
(f)	Lifts (3 nos.) associated E&M works		10.1
(g)	Consultancy fee		3.4
	(i) contract administration	2.5	
	(ii) management of resident site staff	0.9	
(h)	Remuneration of resident site staff		19.3
(i)	Contingencies		17.5
Sub-total			192.1 (in September 2015 prices)
(j)	Provision for price adjustment		47.3
Total			239.4 (in MOD prices)

8. The Highways Department (HyD) proposed to engage consultants to provide consulting services for contract management of the Project. A breakdown of the estimated consultant's fees and resident site staff costs by man-months is at **Enclosure 2**.

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

Year	\$ million (in Sept 2015 prices)	Price adjustment factor	\$ million (in MOD prices)
2016-2017	0.1	1.05775	0.1
2017-2018	24.9	1.12122	27.9
2018-2019	55.7	1.18849	66.2
2019-2020	65.3	1.25980	82.3
2020-2021	28.8	1.33539	38.5
2021-2022	15.4	1.40549	21.6
2022-2023	1.9	1.47577	2.8
	<hr/> 192.1		<hr/> 239.4

10. 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 2016 to 2023. The contract will provide for price adjustments.

PUBLIC CONSULTATION

11. The Government established in 2009 a set of comprehensive, objective and transparent scoring criteria for assessing proposals for hillside escalator links and elevator systems (hereafter referred to as "hillside escalator links") to determine the priority for conducting preliminary technical feasibility studies for the 20 proposals received at that time. On this, the Government consulted the Legislative Council (LegCo) Panel on Transport in May 2009. Upon completion of the assessment, the results were reported to the LegCo Panel on Transport in February 2010. Two proposals were screened out initially, and 18 others were ranked. The Government indicated at the time that preliminary technical feasibility studies for the proposals ranked top ten in the assessment would be conducted by batches, and that the remaining proposals would be followed up after the smooth implementation of the top ten proposals. The Project is ranked fifth. In fact, the LegCo members had written to and met with relevant government departments in many occasions raising their concerns about the progress of the hillside escalator links and expressing that the Government should implement the projects (especially for the areas that are densely-populated with elderly) as early as possible.

12. HyD consulted the Traffic and Transport Committee of the Kwai Tsing District Council (KwTDC) on 11 June 2015 which expressed its support for the implementation of the Project. Over the years, KwTDC and the locals have been urging for early implementation of the Project.

13. We gazetted the Project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 30 October 2015 and 6 November 2015. No objection was received during the statutory period. The Project was subsequently authorised under the Ordinance.

14. HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)³ on the proposed aesthetic design of the lift towers and covered elevated walkway of the Project. The Committee accepted the proposed aesthetic design.

ENVIRONMENTAL IMPLICATIONS

15. The Project is not a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499). It will not cause long-term environmental impact. HyD will control construction noise, dust and site run-off nuisances to levels within established standards and guidelines through the implementation of mitigation measures as required. The required expenses of implementing the environmental mitigation measures have been included in the project estimates.

16. At the planning and preliminary design stages, HyD has considered measures to reduce the generation of construction waste where possible. Such measures include reducing the size of the foundations of the structures in order to minimise the quantity of construction waste generated from the Project. In addition, HyD will require the contractor to reuse inert construction waste (e.g. excavated materials for backfilling) 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 facilities⁴. HyD will also encourage the contractor to

3 ACABAS comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, the Architectural Services Department, the Highways Department, the Housing Department, the Civil Engineering and Development Department, and an academic institution to be invited by the Chairman of ACABAS (such as an architectural school from a local institution), is responsible for vetting the design of bridges and other structures associated with the highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

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.

maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

17. At the construction stage, HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures, which will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. HyD will ensure that the day-to-day operations on site comply with the approved plan. HyD will require the contractor to separate inert construction waste from non-inert construction waste on site to facilitate their transportation to appropriate facilities for disposal. HyD will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively for disposal through a trip-ticket system.

18. HyD estimates that the Project will generate in total about 8 170 tonnes of construction waste. Of these, we will reuse about 5 280 tonnes (64.63%) of inert construction waste on site and deliver about 2 600 tonnes (31.82%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining about 290 tonnes (3.55%) 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 about \$106,450 for the Project (the amount is based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

HERITAGE IMPLICATIONS

19. The Project 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.

TREE IMPLICATIONS

20. Of the 129 trees within the project boundary, 89 trees will be preserved. In order to make way for the proposed facilities, the Project will require removal of 40 trees, including about 37 trees to be felled and about 3

trees to be transplanted. All trees to be removed are not important trees⁵. HyD will incorporate planting proposals into the Project, including the planting of about 37 trees.

LAND ACQUISITION

21. The Project does not require land acquisition.

TRAFFIC IMPLICATION

22. HyD has conducted Traffic Impact Assessment on the Project, including assessing the impact on traffic during construction. Based on the assessment, with the implementation of appropriate temporary traffic measures, the construction works will not pose significant impact on the local transportation network. To facilitate the related construction works, HyD will implement temporary traffic arrangement (TTA) and a Traffic Management Liaison Group will be set up to assess the effectiveness of TTA. This group comprises representatives from the Hong Kong Police Force, Transport Department and other concerned government departments. HyD will specify such requirements for implementing the TTA into the works contracts to minimise the traffic impacts during construction. HyD will also display publicity boards on site, giving details of the TTA and the anticipated completion dates of individual sections of works. In addition, HyD will set up a telephone hotline for public enquiries or complaints.

EMPLOYMENT OPPORTUNITIES

23. We estimate that the Project will create about 87 jobs (17 for professional/technical staff and 70 for labourers), providing a total employment of about 2 883 man-months.

5 "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, tree as landmark of monastery or heritage monument, and trees in memory of important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding forms (taking account of overall tree sizes, shapes and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitats; or
- (e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

BACKGROUND

24. The Government announced in 2016 Policy Address that it will strive to take forward progressively from the fourth quarter of this year the construction of three lift and pedestrian walkway systems in Tsing Yi, Kwai Chung and Kowloon City.

25. We upgraded the Project to Category B in September 2012. We engaged an engineering consultant to undertake the preliminary design, investigation and ground investigation works in June 2014. The total cost of the above consultancy services and works is about \$3.9 million. Funding has been obtained to pay for this amount under block allocation **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme”. These consultancy services and works have been completed.

26. We will engage an engineering consultant in April 2016 to undertake detailed design and supervision of the construction. The estimated cost for these consultancy services is about \$4.8 million, and will be paid for under Subhead **6100TX** “Highway works, consultants’ design fees and charges for items in Category D of the Public Works Programme”.

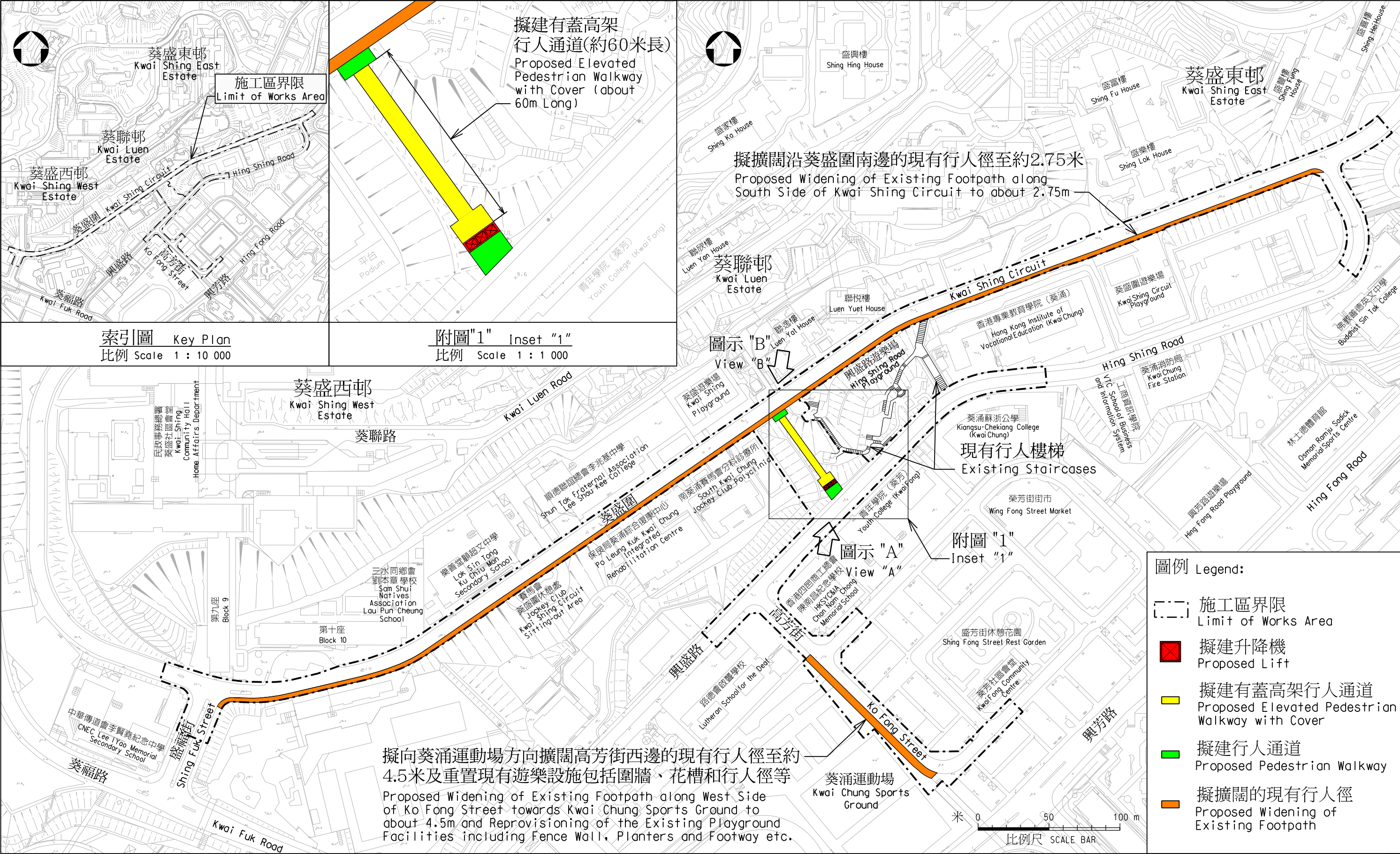
WAY FORWARD

27. Subject to the support of this Panel, we plan to seek the endorsement of the LegCo Public Works Subcommittee for upgrading the Project of **175TB** to Category A, and then to seek funding approval from the Finance Committee

ADVICE SOUGHT

28. Members are invited to comment on and support our funding application.

Transport and Housing Bureau
March 2016



圖則名稱 drawing title

工務計劃項目第6175TB號 - 葵涌葵盛圍至興盛路升降機及行人通道系統

PWP Item No. 6175TB - Lift and Pedestrian Walkway System between Kwai Shing Circuit and Hing Shing Road, Kwai Chung

圖號 drawing no.

HRW6175TB-SK0016

比例 scale A3

1 : 2 500
or As Shown

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路政署
HIGHWAYS DEPARTMENT



擬建升降機塔
Proposed Lift Tower

擬建有蓋高架行人通道
Proposed Elevated Pedestrian
Walkway with Cover

興盛路
Hing Shing Road

圖示 "A"
View "A"



擬建行人通道
Proposed Pedestrian Walkway

葵盛圍
Kwai Shing Circuit

圖示 "B"
View "B"

圖則名稱 drawing title

工務計劃項目第6175TB號 - 葵涌葵盛圍至興盛路升降機及行人通道系統

PWP Item No. 6175TB - Lift and Pedestrian Walkway System between Kwai Shing Circuit and Hing Shing Road, Kwai Chung

圖號 drawing no.

HRW6175TB-SK0018

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路政署
HIGHWAYS DEPARTMENT

A3 297X420

**175TB – Lift and Pedestrian Walkway System
between Kwai Shing Circuit and Hing Shing Road, Kwai Chung**

**Breakdown of estimates for consultants' fees and resident site staff costs
(in September 2015 prices)**

				Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a)	Consultants' fees for	Professional		-	-	-	2.0
	contract	Technical		-	-	-	0.5
	administration ^(Note 2)						
						Sub-total	2.5
(b)	Resident Site Staff	Professional		54	38	1.6	6.4
	(RSS) costs ^(Note 3)	Technical		338	14	1.6	13.8
						Sub-total	20.2
Comprising –							
(i)	Consultants' fee						0.9
	for management of						
	resident site staff						
(ii)	Remuneration of						19.3
	resident site staff						
						Total	22.7

* MPS = Master Pay Scale

Notes:

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident staff supplied by the consultant. (At present, MPS salary point 38 is equivalent to a monthly salary of \$74,210 and MPS salary point 14 is equivalent to a monthly salary of \$25,505.)
2. The consultants' staff cost for contract administration is estimated in accordance with the consultancy agreement for the design and construction of **175TB**. The construction phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade **175TB** to Category A.
3. The actual man-months and actual costs will be ascertained after completion of the construction works.

**For discussion
on 23 March 2016**

Legislative Council Panel on Transport

168TB – Lift and Pedestrian Walkway System at Waterloo Hill

PURPOSE

This paper seeks Members' views on the funding proposal for upgrading **168TB** "Lift and Pedestrian Walkway System at Waterloo Hill" (the Project) to Category A.

PROJECT SCOPE AND NATURE

2. The proposed scope of works under the Project includes –
 - (a) construction of a lift tower with two lifts of about 28m in height at Waterloo Road;
 - (b) construction of an elevated walkway of about 3.5m in clear width and about 19m in length connecting the above lift tower to Man Fuk Road Garden; and
 - (c) ancillary works including associated road, drainage, utilities, public lighting, landscaping, electrical and mechanical (E&M) works, etc.
3. A layout plan and artist's impression of the Project are at **Enclosure 1**.
4. The Highways Department (HyD) has completed the detailed design of the Project. Subject to the funding approval of the Finance Committee (FC) within this legislative session, HyD plans to commence the construction works in the fourth quarter of 2016 for completion by mid-2019.

JUSTIFICATIONS

5. At present, to travel between Waterloo Road and Man Fuk Road, the public usually take the following routes –

- (a) take the staircase with some 130 steps connecting Waterloo Road and Man Fuk Road. The staircase is located adjacent to Man Fuk Road Garden (as indicated at **Enclosure 1**);
- (b) walk via Pui Ching Road and Pui Ching Road Playground to Man Fuk Road, with a walking distance of about 230m and a gradient of about 1:10; and
- (c) take green minibus.

6. Several residential buildings, schools and guesthouses are located near Man Fuk Road. This area currently accommodates about 19 300 residents (including about 3 700 elderly). To provide convenience for the public (especially the elderly and the disabled) to travel to and from the Waterloo Hill area, and to encourage the public to walk instead of to take public transport, we plan to implement the Project.

7. A pedestrian link with two lifts will be constructed under the Project so as to provide a convenient and barrier-free access between Waterloo Road and Man Fuk Road to the residents, especially the elderly and the disabled. We expect that the proposed lift and pedestrian link will attract about 10 000 passenger trips per day.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the Project to be \$116.7 million in money-of-the-day (MOD) prices (please see paragraph 9 below), with the following breakdown—

		\$ million
(a)	Lift tower	51.4
	(i) tower structure	27.6
	(ii) foundation	23.8
(b)	Elevated walkway	21.7
	(i) bridge structure	13.4
	(ii) foundation	8.3

		\$ million	
(c)	E&M works	8.5	
	(i) lift car (2 nos.)	8.1	
	(ii) Electrical & Mechanical Services Trading Fund (EMSTF) ¹	0.4	
(d)	Associated road, landscaping drainage, public lighting works, etc.	6.6	
(e)	Contingencies	8.8	
	Sub-total	97.0	(in September 2015 prices)
(f)	Provision for price adjustment	19.7	
	Total	116.7	(in MOD prices)

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

Year	\$ million (in Sep 2015 prices)	Price adjustment factor	\$ million (in MOD prices)
2016 – 17	4.8	1.05775	5.1
2017 – 18	28.2	1.12122	31.6
2018 – 19	32.0	1.18849	38.0
2019 – 20	14.6	1.25980	18.4
2020 – 21	12.5	1.33539	16.7
2021 – 22	4.9	1.40549	6.9
	97.0		116.7

¹ Upon its establishment from 1 August 1996 under the Trading Fund Ordinance, the EMSTF charges government departments for design and technical consultancy services for E&M installations. The services rendered for the project include carrying out the design and site supervision on all E&M installations and providing technical advice to the Government on all E&M works and their impacts on the project.

10. 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 2016 to 2022. The contract will provide for price adjustments.

PUBLIC CONSULTATION

11. The Government established in 2009 a set of comprehensive, objective and transparent scoring criteria for assessing proposals for hillside escalator links and elevator systems (hereafter referred to as "hillside escalator links") to determine the priority for conducting preliminary technical feasibility studies for the 20 proposals received at that time. On this, the Government consulted the Legislative Council (LegCo) Panel on Transport in May 2009. Upon completion of the assessment, the results were reported to the LegCo Panel on Transport in February 2010. Two proposals were screened out initially, and 18 others were ranked. The Government indicated at the time that preliminary technical feasibility studies for the proposals ranked top ten in the assessment would be conducted by batches, and that the remaining proposals would be followed up after the smooth implementation of the top ten proposals. The Project is ranked ninth. LegCo members have been concerning the implementation of hillside escalator links and issued letters to the government and relative departments for early implementation of the projects (especially for the areas that are densely populated with elderly).

12. HyD consulted the Traffic and Transport Committee (T&TC) of the Kowloon City District Council on 28 March 2013 and 5 December 2013. The T&TC members supported the Project. District Council members and local public have been expecting the early implementation of the Project.

13. We gazetted the Project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 16 and 23 May 2014. No objection was received during the statutory period. The Project was subsequently authorised under the Ordinance.

14. HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)² on the proposed aesthetic design of the lift tower and elevated walkway of the Project. The Committee accepted the proposed aesthetic design.

2 ACABAS comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, the Architectural Services Department, the Highways Department, the Housing Department, the Civil Engineering and Development Department, and an academic institution to be invited by the Chairman of ACABAS (such as an architectural school from a local institution), is responsible for vetting the design of bridges and other structures associated with the highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

ENVIRONMENTAL IMPLICATIONS

15. The Project is not a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499). It will not cause long-term environmental impact. HyD will control construction noise, dust and site run-off nuisances to levels within established standards and guidelines through the implementation of mitigation measures as required. The required expenses of implementing the environmental mitigation measures have been included in the project estimates.

16. At the planning and design stages, HyD has considered measures to reduce the generation of construction waste where possible. Such measures include optimising the alignment of the Project, reducing the size of the foundations of the structures and adjusting the method of construction. In addition, HyD will require the contractor to reuse inert construction waste (e.g. excavated materials for backfilling) 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 facilities³. HyD will also 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 minimise the generation of construction waste.

17. At the construction stage, HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures, which will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. HyD will ensure that the day-to-day operations on site comply with the approved plan. HyD will require the contractor to separate inert construction waste from non-inert construction waste on site to facilitate their transportation to appropriate facilities for disposal. HyD will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively for disposal through a trip-ticket system.

18. HyD estimates that the Project will generate in total about 4 150 tonnes of construction waste. Of these, we will reuse about 420 tonnes (10.1%) of inert construction waste on site and deliver about 3 390 tonnes (81.7%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining 340 tonnes (8.2%) 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 about

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.

\$134,030 for the Project (the amount is based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

HERITAGE IMPLICATIONS

19. The Project 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.

TREE IMPLICATIONS

20. In order to make way for the proposed facilities, the Project will require removal of about 7 trees. All trees to be removed are not important trees⁴. HyD will incorporate planting proposals into the Project, including the planting of about 10 trees and about 342 shrubs.

LAND ACQUISITION

21. The Project does not require land resumption.

TRAFFIC IMPLICATIONS

22. The Project will cause localised traffic impact during its construction stage so parts of the southbound slow lane of Waterloo Road will be temporarily closed. HyD will implement temporary traffic arrangements (TTA) and set up a Traffic Management Liaison Group to assess the effectiveness of the TTA. This group comprises representatives of the Hong Kong Police Force, the Transport Department and other concerned government departments. HyD will specify such requirements for implementing the TTA in the works contract to minimise the traffic impact during construction. HyD will also display publicity boards on site, giving details of the TTA and the anticipated completion

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 important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding forms (taking account of overall tree sizes, shapes and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitats; or
- (e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

dates of individual sections of works. In addition, HyD will set up a telephone hotline for public enquiries or complaints.

EMPLOYMENT OPPORTUNITIES

23. We estimate that the Project will create about 56 jobs (7 for professional/technical staff and 49 for labourers), providing a total employment of about 1 525 man-months.

BACKGROUND

24. The Government announced in 2016 Policy Address that it will strive to take forward progressively from the fourth quarter of this year the construction of three lift and pedestrian walkway systems in Tsing Yi, Kwai Chung and Kowloon City.

25. We upgraded the Project to Category B in October 2011, and allocated an amount of about \$0.5 million under block allocation **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme” for ground investigation works. HyD completed the ground investigation works in December 2013.

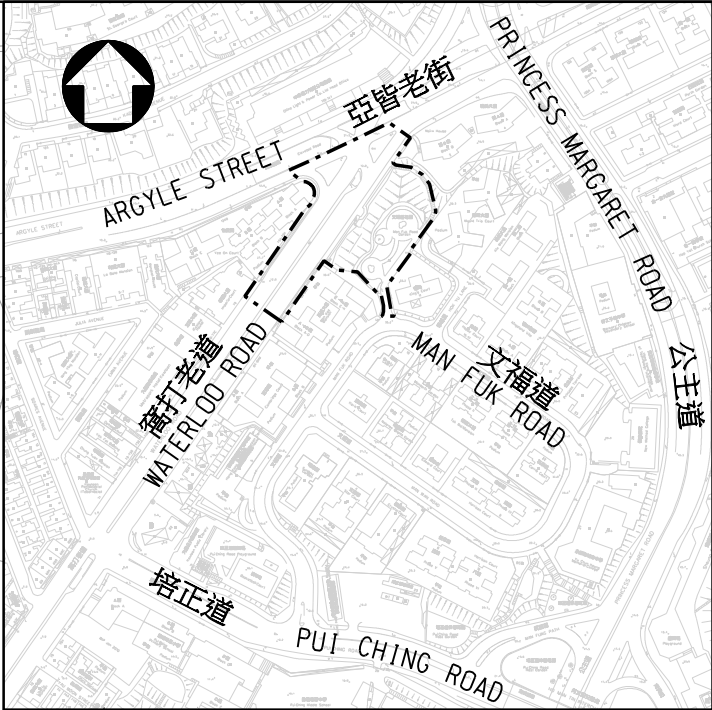
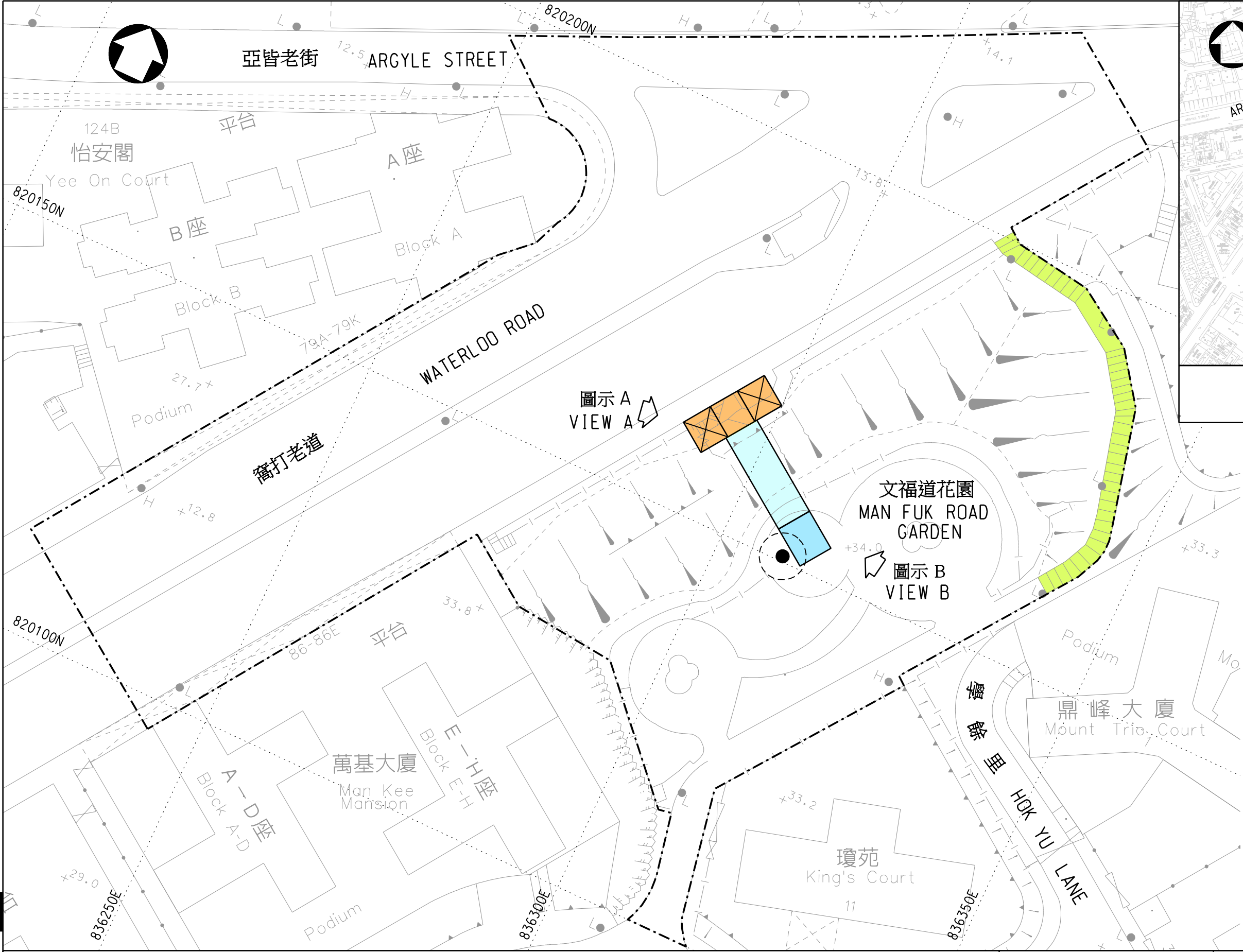
WAY FORWARD

26. Subject to the support of this Panel, we plan to seek the endorsement of the LegCo Public Works Subcommittee for upgrading the Project of **168TB** to Category A, and then to seek funding approval from the Finance Committee.

ADVICE SOUGHT

27. Members are invited to comment on and support our funding application.

Transport and Housing Bureau
March 2016



索引圖 KEY PLAN

比例 SCALE 1 : 5000

圖例 LEGEND :

- 施工區界限
LIMIT OF WORKS AREA
- 擬建升降機
PROPOSED LIFT
- 擬建升降機塔
PROPOSED LIFT TOWER
- 擬建有蓋高架行人道
PROPOSED ELEVATED WALKWAY WITH COVER
- 擬建行人道
PROPOSED WALKWAY
- 現有樓梯連接窩打老道和文福道花園
EXISTING STAIRWAY CONNECTING WATERLOO ROAD AND MAN FUK ROAD GARDEN
- 現有涼亭將拆除
EXISTING SHELTER TO BE DEMOLISHED

圖則名稱 drawing title

工務計劃項目第168TB號
窩打老道山升降機及行人通道系統
- 平面圖

PWP ITEM NO. 168TB
LIFT AND PEDESTRIAN WALKWAY SYSTEM AT WATERLOO HILL
- LAYOUT PLAN

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辦事處
office

工程 部
WORKS DIVISION

比例 scale

1 : 500

圖則編號 drawing no.

HWDYM105A-SP0005



HIGHWAYS
DEPARTMENT
HONG KONG

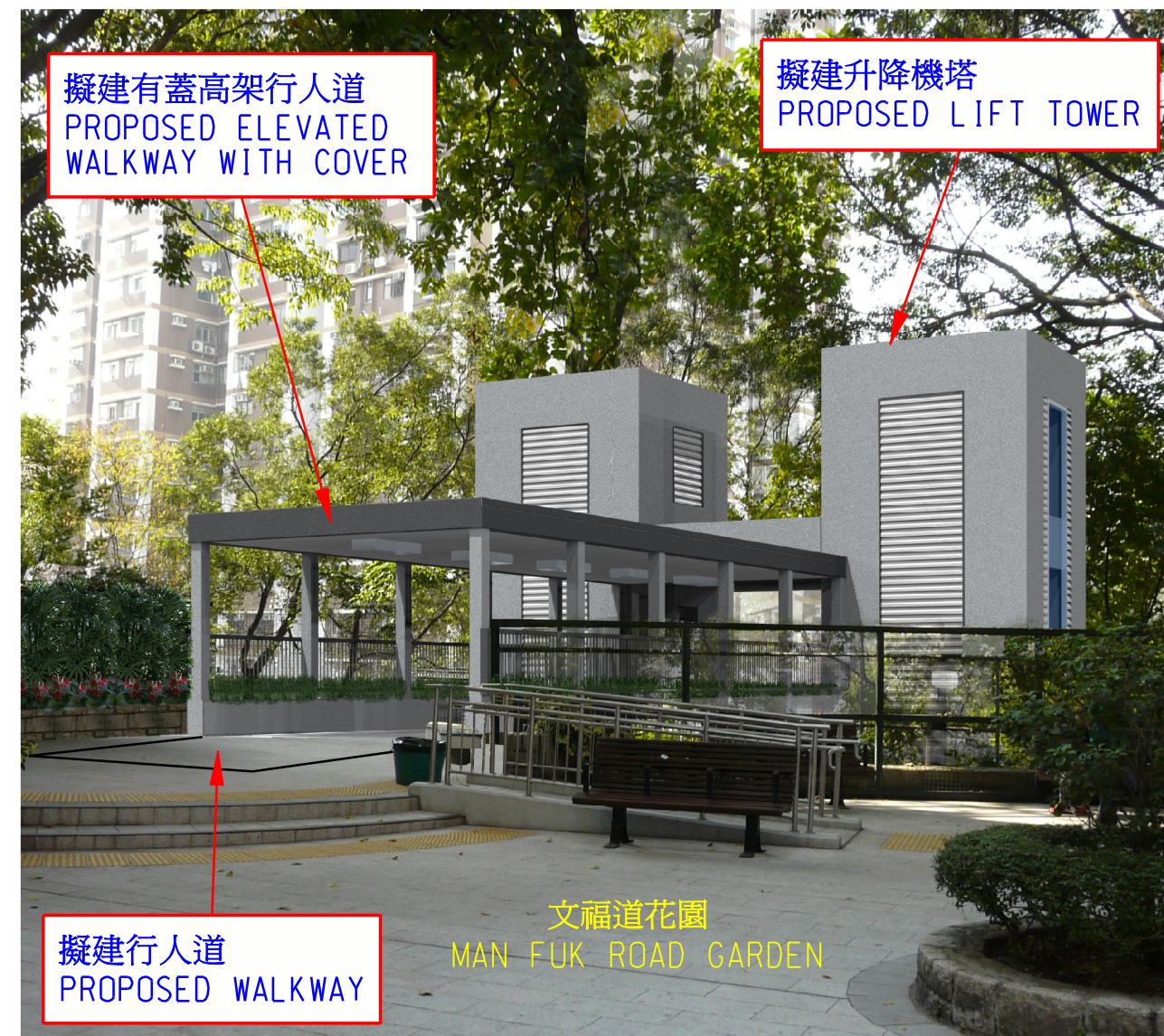
路 香
政 港
署

50 mm SCALE 1 : 1



窩打老道
WATERLOO ROAD

圖示 A
VIEW A



文福道花園
MAN FUK ROAD GARDEN

圖示 B
VIEW B

圖則名稱 drawing title

工務計劃項目第168TB號
窩打老道山升降機及行人通道系統
- 擬建行人通道系統構思圖
PWP ITEM NO. 168TB
LIFT AND PEDESTRIAN WALKWAY SYSTEM AT WATERLOO HILL
- ARTIST'S IMPRESSION OF PROPOSED PEDESTRIAN WALKWAY SYSTEM

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比例 scale A3

不適用
NA

圖則編號 drawing no.

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WORKS DIVISION



HIGHWAYS
DEPARTMENT
HONG KONG 路 香港
政 署

**For discussion
on 23 March 2016**

Legislative Council Panel on Transport

**164TB – Footbridge Connecting Tsuen Wan Plaza, Skyline Plaza and
Adjacent Landscaping Area**

PURPOSE

This paper seeks Members' views on the funding proposal for upgrading **164TB** "Footbridge Connecting Tsuen Wan Plaza, Skyline Plaza and Adjacent Landscaping Area" (the Project) to Category A.

PROJECT SCOPE AND NATURE

2. The proposed scope of works under the Project includes –
 - (a) construction of a covered footbridge of about 66 metres in length and about 3.5 metres in clear width connecting Tsuen Wan Plaza, Skyline Plaza and Adjacent Landscaping Area;
 - (b) construction of a lift and covered staircase at Hoi Shing Road;
 - (c) reconstruction of the existing lay-by at Hoi Shing Road; and
 - (d) ancillary works including associated road, drainage, utilities, public lighting, landscaping, electrical and mechanical (E&M) works, etc.
3. A layout plan and artist's impression of the Project are at
— **Enclosure 1.**
4. The Highways Department (HyD) has substantially completed the detailed design of the Project. Subject to the funding approval of the Finance Committee (FC) within this legislative session, HyD plans to commence the construction works in the fourth quarter of 2016 for completion by end-2019.

JUSTIFICATIONS

5. There are a number of residential estates, shopping centres, commercial buildings and landscaping area in the area of Hoi Shing Road. This area currently has about 46 000 residents (including about 6 100 elderly) and about 26 000 employed population. Currently, pedestrians need to walk across Hoi Shing Road and Yuen Tun Circuit to and from Tsuen Wan Plaza, Skyline Plaza and Landscaping Area managed by the Leisure and Cultural Services Department (LCSD). According to the survey conducted by Transport Department (TD), the flow of pedestrian crossing located at Hoi Shing Road is currently about 4 000 pedestrians per hour during peak hours, which is close to the design capacity of that crossing. In addition, there is no footbridge system which is directly connected to Tsuen Wan Plaza, Skyline Plaza and adjacent Landscaping Area managed by LCSD, hereby affecting the accessibility of pedestrians.

6. The proposed footbridge is a direct and elevated passage to connect the existing pedestrian walkway system in the area, enhance the existing local footbridge network and strengthen the connection between the northern and southern parts of the area. It can facilitate the public (especially the elderly) to commute between the northern and southern parts of Tsuen Wan, main public transport facilities and streets, hence encouraging the public to walk instead of taking transportation.

7. The proposed footbridge can relieve the congestion at the existing pedestrian crossing at Hoi Shing Road and cater for the future pedestrian flow arising from the development project at Tsuen Wan West Station. The proposed footbridge can also alleviate with high pedestrian flow at local interchanges. Pedestrian safety can be improved as the public do not need to cross the pedestrian crossing at grade, which in turn minimise potential risks due to a shared use of the same road by both pedestrians and vehicles. After the completion of the Project, TD anticipates that about 4 300 pedestrians per hour will use the proposed footbridge during peak hours on holidays, morning and evening. In addition, to facilitate the construction of the relevant facilities, HyD will relocate the lay-by at Hoi Shing Road and reconstruct the planter in the Landscaping Area managed by LCSD.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the Project to be \$146.2 million in money-of-the-day (MOD) prices (please see paragraph 9 below), with the following breakdown –

		\$ million	
(a)	Footbridge and covered staircase	80.1	
(i)	bridge and staircase structure	39.0	
(ii)	foundation	41.1	
(b)	Lift tower	17.0	
(i)	tower structure	3.9	
(ii)	foundation	13.1	
(c)	E&M works	3.5	
(i)	lift car (1 no.)	3.1	
(ii)	Electrical & Mechanical Services Trading Fund (EMSTF) ¹	0.4	
(d)	Associated road, landscaping, drainage, public lighting works, etc.	10.4	
(e)	Contingencies	11.0	
	Sub-total	122.0	(in September 2015 prices)
(f)	Provision for price adjustment	24.2	
	Total	146.2	(in MOD prices)

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

Year	\$ million (Sep 2015)	Price adjustment factor	\$ million (MOD)
2016 – 17	0.1	1.05775	0.1
2017 – 18	38.1	1.12122	42.7
2018 – 19	44.3	1.18849	52.7
2019 – 20	30.4	1.25980	38.3

1 Upon its establishment from 1 August 1996 under the Trading Fund Ordinance, the EMSTF charges government departments for design and technical consultancy services for E&M installations. The services rendered for the project include carrying out the design and site supervision on all E&M installations and providing technical advice to the Government on all E&M works and their impacts on the project.

Year	\$ million (Sep 2015)	Price adjustment factor	\$ million (MOD)
2020 – 21	5.5	1.33539	7.3
2021 – 22	3.6	1.40549	5.1
	<u>122.0</u>		<u>146.2</u>

10. 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 2016 to 2022. The contract will provide for price adjustments.

PUBLIC CONSULTATION

11. HyD consulted the Tsuen Wan District Council (TWDC) on 8 May 2007 and the Traffic and Transport Committee of TWDC on 6 July 2015, which expressed their support to the implementation of the Project.

12. We gazetted the Project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 23 and 30 October 2015. No objection was received during the statutory period. The Project was subsequently authorised under the Ordinance.

13. HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)² on the proposed aesthetic design of the footbridge, covered staircase and lift tower of the Project. The Committee accepted the proposed aesthetic design.

ENVIRONMENTAL IMPLICATIONS

14. The Project is not a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499). It will not cause long-term environmental impact. During construction, HyD will control construction noise, dust and site run-off nuisances to levels within established

2 ACABAS comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, the Architectural Services Department, the Highways Department, the Housing Department, the Civil Engineering and Development Department, and an academic institution to be invited by the Chairman of ACABAS (such as an architectural school from a local institution), is responsible for vetting the design of bridges and other structures associated with the highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

standards and guidelines through the implementation of mitigation measures as required. The required expenses of implementing the environmental mitigation measures have been included in the project estimates.

15. At the planning and design stages, HyD has considered measures to reduce the generation of construction waste where possible. Such measures include optimising the alignment of the Project, reducing the size of the foundations of the structures and adjusting the method of construction. In addition, HyD will require the contractor to reuse inert construction waste (e.g. excavated materials for backfilling) 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 facilities³. HyD will also 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 minimise the generation of construction waste.

16. At the construction stage, HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures, which will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. HyD will ensure that the day-to-day operations on site comply with the approved plan. HyD will require the contractor to separate inert construction waste from non-inert construction waste on site to facilitate their transportation to appropriate facilities for disposal. HyD will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively for disposal through a trip-ticket system.

17. HyD estimates that the Project will generate in total about 2 350 tonnes of construction waste. Of these, we will reuse about 448 tonnes (19.1%) of inert construction waste on site and deliver about 1 880 tonnes (80.0%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining 22 tonnes (0.9%) 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 about \$53,510 for the Project (the amount is based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

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

18. The Project 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.

TREE IMPLICATIONS

19. There are about 30 trees within the project boundary and there are no old and valuable trees. To make way for the proposed facilities, the Project will require removal of 29 trees, including 20 trees to be felled and 9 trees to be transplanted. All trees to be removed are not important trees⁴. HyD will incorporate planting proposals into the Project, including the planting of about 20 trees and about 1 500 shrubs.

LAND ACQUISITION

20. The Project does not require land resumption.

TRAFFIC IMPLICATIONS

21. The Project will not cause any significant traffic impact during construction. HyD will implement temporary traffic arrangements (TTA) when temporary lane closure is required. HyD will also set up a Traffic Management Liaison Group comprising representatives of the Hong Kong Police Force, TD and other concerned government departments to assess the effectiveness of TTA. HyD will specify such requirements for implementing the TTA in the works contract to minimise the traffic impact during construction. HyD will also display publicity boards on site, giving details of the TTA and the anticipated completion dates of individual sections of works. In addition, HyD will set up a telephone hotline for public enquiries or complaints.

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 important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding forms (taking account of overall tree sizes, shapes and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitats; or
- (e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

EMPLOYMENT OPPORTUNITIES

22. We estimate that the Project will create about 65 jobs (8 for professional / technical staff and 57 for labourers), providing a total employment of about 1 762 man-months.

BACKGROUND

23. We upgraded the Project to Category B in September 2009, and allocated an amount of about \$0.38 million under block allocation **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme” for ground investigation works. HyD has completed the ground investigation works in January 2016.

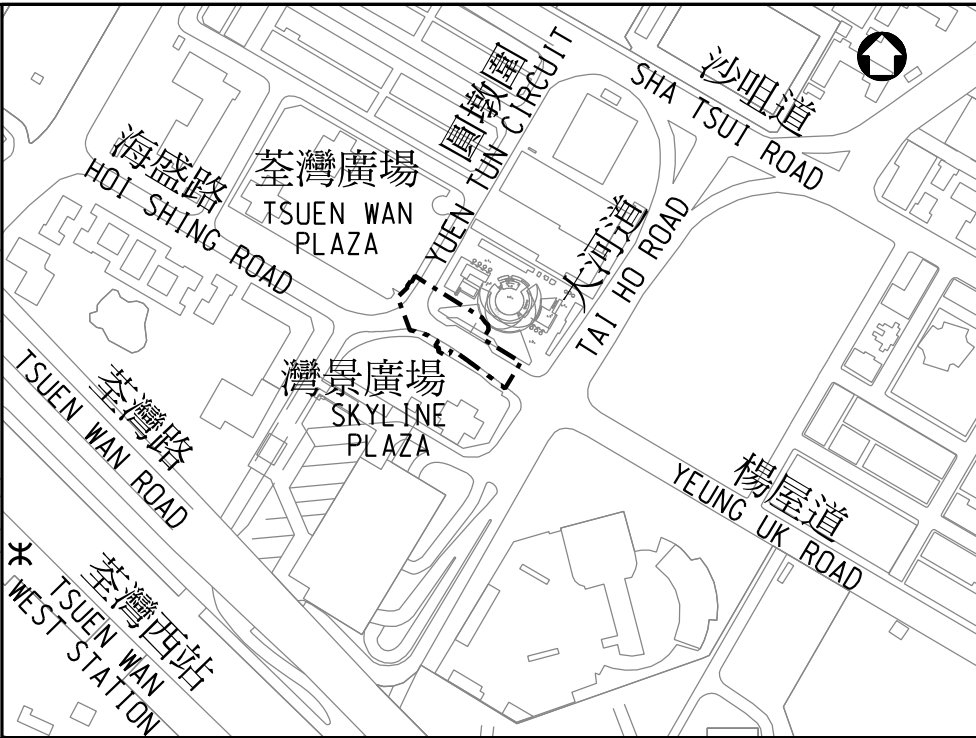
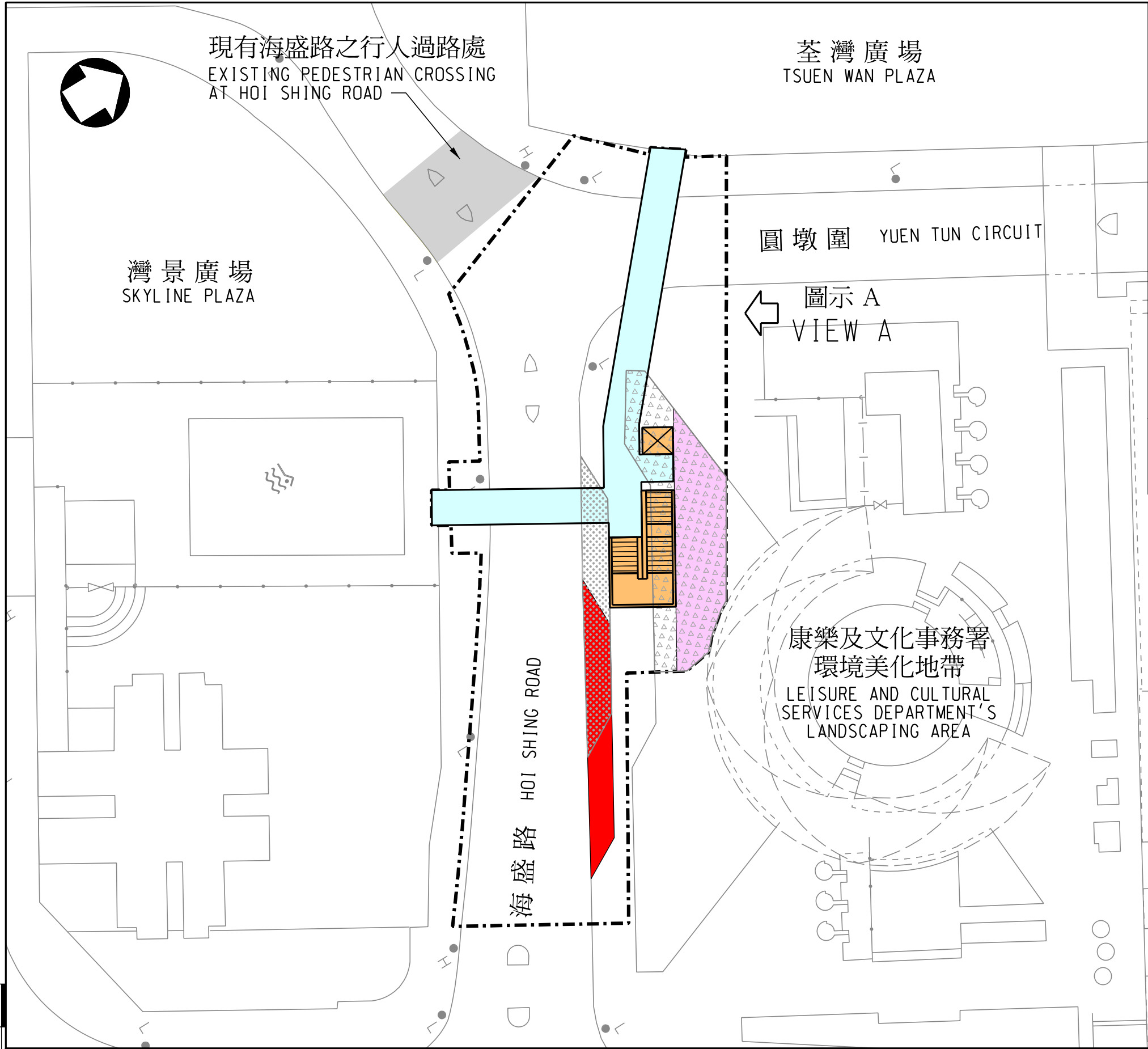
WAY FORWARD

24. Subject to the support of this Panel, we plan to seek the endorsement of the Legislative Council Public Works Subcommittee for upgrading the Project of **164TB** to Category A, and then to seek funding approval from the Finance Committee.

ADVICE SOUGHT

25. Members are invited to comment on and support our funding application.

Transport and Housing Bureau
March 2016



索引圖 KEY PLAN

比例 SCALE 1 : 5000

圖例 LEGEND

- 施工區界限
LIMIT OF WORKS AREA
- 擬建升降機
PROPOSED LIFT
- 擬建樓梯
PROPOSED STAIRCASE
- 擬建行人天橋
PROPOSED FOOTBRIDGE
- 擬重建花槽
PROPOSED RECONSTRUCTED PLANTER
- 擬重置停車處
PROPOSED RELOCATED LAY-BY
- 現有花槽
EXISTING PLANTER
- 現有停車處
EXISTING LAY-BY

圖則名稱 drawing title

工務計劃項目第164TB號
連接荃灣廣場、灣景廣場及毗鄰環境美化地帶之行人天橋 - 平面圖

PWP ITEM NO. 164TB
FOOTBRIDGE CONNECTING TSUEN WAN PLAZA, SKYLINE PLAZA AND ADJACENT LANDSCAPING AREA - LAYOUT PLAN

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比例 scale
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或如圖示
OR AS SHOWN

圖則編號 drawing no.
HWDTW061A-SP0001

辦事處
office

工程 部
WORKS DIVISION



HIGHWAYS
DEPARTMENT
HONG KONG

路
政
署



圖示 A
VIEW A

50 mm SCALE 1 : 1

圖則名稱 drawing title

工務計劃項目第164TB號
連接荃灣廣場、灣景廣場及毗鄰環境美化地帶之行人天橋
- 擬建行人天橋構思圖
PWP ITEM NO. 164TB
FOOTBRIDGE CONNECTING TSUEN WAN PLAZA, SKYLINE PLAZA AND ADJACENT LANDSCAPING AREA
- ARTIST'S IMPRESSION OF PROPOSED FOOTBRIDGE

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比例 scale

A3

圖則編號 drawing no.

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WORKS DIVISION



HIGHWAYS
DEPARTMENT
HONG KONG

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**For discussion
on 23 March 2016**

Legislative Council Panel on Transport

**158TB – Elevated Walkway between Tong Ming Street and
Tong Tak Street, Tseung Kwan O**

PURPOSE

This paper seeks Members' views on the funding proposal for upgrading **158TB** "Elevated Walkway between Tong Ming Street and Tong Tak Street, Tseung Kwan O" (the Project) to Category A.

PROJECT SCOPE AND NATURE

2. The proposed scope of works under the Project includes –
 - (a) construction of an elevated walkway of about 180 m in length and about 5 m in clear width, connecting the existing footbridge across Tong Ming Street to the shopping mall above Tseung Kwan O (TKO) MTR Station;
 - (b) construction of a lift at the end of the proposed elevated walkway near Tong Tak Street;
 - (c) re-construction and expansion of the existing cycle parking area; and
 - (d) ancillary works including associated road, drainage, utilities, public lighting, landscaping, electrical and mechanical (E&M) works, etc.
3. A layout plan and artist's impression of the Project are at
Enclosure 1.
4. The Highways Department (HyD) has completed the detailed design of the Project. Subject to the funding approval of the Finance Committee within this legislative session, HyD plans to commence the construction works in the fourth quarter of 2016 for completion by mid-2019.

JUSTIFICATIONS

5. At present, residents of Sheung Tak Estate, Kwong Ming Court and Po Ming Court, as well as students of the schools nearby who wish to access to TKO MTR Station, mainly use the at-grade signalized crossing facilities at Tong Chun Street to cross Tong Ming Street and Tong Tak Street. According to the survey conducted by Transport Department (TD), about 8 500 pedestrians per hour cross Tong Ming Street at the junction of Tong Chun Street in morning peak hours. In view of heavy pedestrian flow at that junction, TD has extended the duration of the pedestrian traffic lights and implemented arrangements to restrict vehicles from turning at junction. However, these measures are insufficient to address the capacity issue of the pedestrian crossing at Tong Ming Street.

6. The area (including Sheung Tak Estate, Kwong Ming Court, Po Ming Court and the development projects in TKO South) has about 92 000 residents (including about 9 900 elderly and about 17 000 students) and about 14 000 employed population. The proposed elevated walkway forms part of the grade-separated pedestrian walkway system in TKO. This elevated walkway will enhance the local pedestrian walkway system, connecting many residential areas of TKO (including Sheung Tak Estate, Kwong Ming Court, Po Ming Court and the development projects in TKO South), schools and shopping centres with TKO MTR Station and public transport interchange. The proposed elevated walkway will provide a comfortable and convenient access for residents (especially the elderly) of TKO town centre.

7. The proposed elevated walkway can divert existing pedestrians from the at-grade road-crossing facilities at the junction of Tong Ming Street and Tong Chun Street, relieve congestion and enhance road safety. After completion of the Project, TD anticipates that about 3 000 pedestrians per hour will use the proposed elevated walkway in morning peak hours. Besides, the proposed reconstruction and expansion of cycle parking area will be implemented under the Project in order to increase the numbers of cycle parking spaces for use by the residents of the area.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the Project to be \$221.6 million in money-of-the-day (MOD) prices (please see paragraph 9 below), with the following breakdown –

		\$ million
(a)	Elevated Walkway	139.6
	(i) bridge structure	46.7
	(ii) foundation	92.9
(b)	Lift Tower	15.7
	(i) tower structure	6.2
	(ii) foundation	9.5
(c)	E&M works	3.7
	(i) lift car (1 no.)	3.3
	(ii) Electrical & Mechanical Services Trading Fund (EMSTF) ¹	0.4
(d)	Associated road, landscaping, drainage, public lighting works, etc.	7.1
(e)	Contingencies	16.6
	Sub-total	182.7 (in September 2015 prices)
(f)	Provision for price adjustment	38.9
	Total	221.6 (in MOD prices)

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

Year	\$ million (Sep 2015)	Price adjustment factor	\$ million (MOD)
2016 – 17	5.5	1.05775	5.8
2017 – 18	49.3	1.12122	55.3
2018 – 19	56.6	1.18849	67.3
2019 – 20	34.7	1.25980	43.7
2020 – 21	27.4	1.33539	36.6
2021 – 22	9.2	1.40549	12.9

¹ Upon its establishment from 1 August 1996 under the Trading Fund Ordinance, the EMSTF charges government departments for design and technical consultancy services for E&M installations. The services rendered for the project include carrying out the design and site supervision on all E&M installations and providing technical advice to the Government on all E&M works and their impacts on the project.

Year	\$ million (Sep 2015)	Price adjustment factor	\$ million (MOD)
	<u>182.7</u>		<u>221.6</u>

10. 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 2016 to 2022. The contract will provide for price adjustments.

PUBLIC CONSULTATION

11 HyD consulted the Traffic and Transport Committee (T&TC) of the Sai Kung District Council (SKDC) on 31 July 2008. The Committee expressed its support to the implementation of the Project. Subsequently, the SKDC has repeatedly requested the government for early implementation of the Project.

12. We gazetted the Project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 24 and 30 April 2009. During the statutory period, one objection was received. The concerns were mainly related to the necessity of the Project, the utilisation rate of the elevated walkway and the impact on the safety of students of schools nearby. In response to the issues raised in the objection, HyD amended the design of the elevated walkway.

13. Having considered the unresolved objection and the amendments by HyD, the Chief Executive-in-Council authorised the proposed works of the Project under the Ordinance in March 2010.

14. HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)² on the proposed aesthetic design of the elevated walkway and the lift tower of the Project. The Committee accepted the proposed aesthetic design.

2 ACABAS comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, the Architectural Services Department, the Highways Department, the Housing Department, the Civil Engineering and Development Department, and an academic institution to be invited by the Chairman of ACABAS (such as an architectural school from a local institution), is responsible for vetting the design of bridges and other structures associated with the highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

ENVIRONMENTAL IMPLICATIONS

15. The Project is not a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499). It will not cause long-term environmental impact. During construction, HyD will control construction noise, dust and site run-off nuisances to levels within established standards and guidelines through the implementation of mitigation measures as required. The required expenses of implementing the environmental mitigation measures have been included in the project estimates.

16. At the planning and design stages, HyD has considered measures to reduce the generation of construction waste where possible. Such measures include optimising the alignment of the Project, reducing the size of the foundations of the structures and adjusting the method of construction. In addition, HyD will require the contractor to reuse inert construction waste (e.g. excavated materials for backfilling) 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 facilities³. HyD will also 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 minimise the generation of construction waste.

17. At the construction stage, HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures, which will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. HyD will ensure that the day-to-day operations on site comply with the approved plan. HyD will require the contractor to separate inert construction waste from non-inert construction waste on site to facilitate their transportation to appropriate facilities for disposal. HyD will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively for disposal through a trip-ticket system.

18. HyD estimates that the Project will generate in total about 3 876 tonnes of construction waste. Of these, we will reuse about 906 tonnes (23.4%) of inert construction waste on site and deliver about 2 955 tonnes (76.2%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining 15 tonnes (0.4%) 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 about

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.

\$81,660 for the Project (the amount is based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation.

HERITAGE IMPLICATIONS

19. The Project 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.

TREE IMPLICATIONS

20. The Project does not require tree removal. HyD will incorporate planting proposals into the Project, including the planting of about 6 trees and 6 150 shrubs.

LAND ACQUISITION

21. The Project does not require land resumption.

TRAFFIC IMPLICATIONS

21. The Project will not cause any significant traffic impact during construction. HyD will implement temporary traffic arrangements (TTA) when temporary lane closure is required. HyD will also set up a Traffic Management Liaison Group comprising representatives of the Hong Kong Police Force, TD and other concerned government departments to assess the effectiveness of TTA. HyD will specify such requirements for implementing the TTA in the works contract to minimise the traffic impact during construction. HyD will also display publicity boards on site, giving details of the TTA and the anticipated completion dates of individual sections of works. In addition, HyD will set up a telephone hotline for public enquiries or complaints.

EMPLOYMENT OPPORTUNITIES

22. We estimate that the Project will create about 105 jobs (14 for professional/technical staff and 91 for labourers), providing a total employment of about 2 840 man-months.

BACKGROUND

24. We upgraded the Project to Category B in March 2006, and allocated an amount of about \$0.53 million under block allocation **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme” for ground investigation works. HyD has completed the ground investigation works in November 2006.

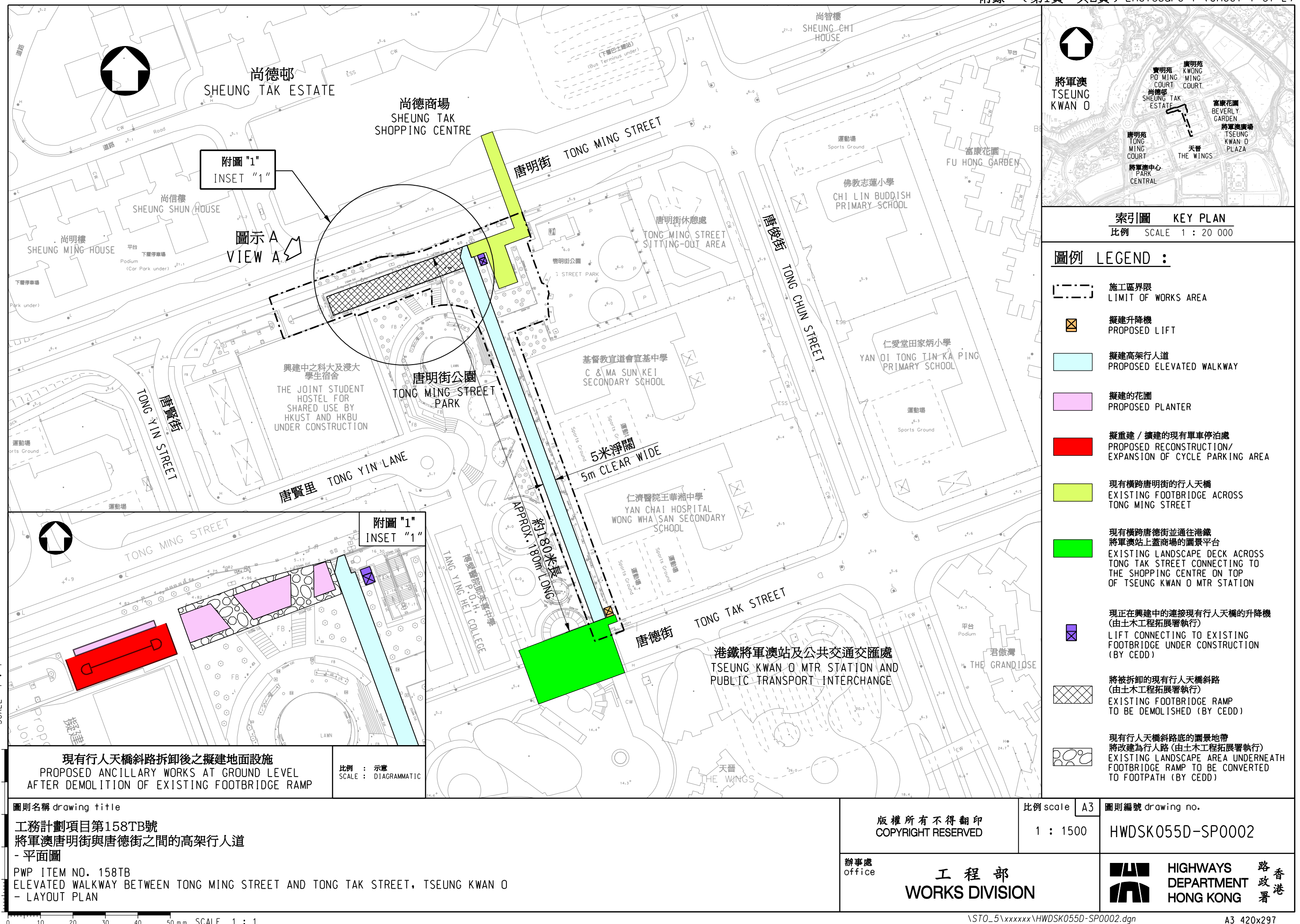
WAY FORWARD

25. Subject to the support of this Panel, we plan to seek the endorsement of the Legislative Council Public Works Subcommittee for upgrading the Project of **158TB** to Category A, and then to seek funding approval from the Finance Committee.

ADVICE SOUGHT

26. Members are invited to comment on and support our funding application.

Transport and Housing Bureau
March 2016





圖示 A
VIEW A

50 mm SCALE 1 : 1

圖則名稱 drawing title

工務計劃項目第158TB號
將軍澳唐明街與唐德街之間的高架行人道
- 擬建高架行人道構思圖

PWP ITEM NO. 158TB
ELEVATED WALKWAY BETWEEN TONG MING STREET AND TONG TAK STREET, TSEUNG KWAN O
- ARTIST'S IMPRESSION OF PROPOSED ELEVATED WALKWAY

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圖則編號 drawing no.

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