

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 706 – HIGHWAYS

#### Transport – Footbridges/pedestrian tunnels

**178TB – Lift and Pedestrian Walkway System between Castle Peak Road and Kung Yip Street, Kwai Chung**

**182TB – Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station**

Members are invited to recommend to the Finance Committee the upgrading of **178TB** and **182TB** to Category A at estimated cost of \$584.4 million and \$1,708.5 million in money-of-the-day prices respectively.

### PROBLEM

We need to construct a lift and pedestrian walkway system in Kwai Chung between Castle Peak Road and Kung Yip Street to enhance the accessibility of the area and an elevated pedestrian corridor in Yuen Long Town connecting with Long Ping Station to relieve congestion at at-grade footpaths of the district.

### PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade the following two projects to Category A –

- (a) Lift and Pedestrian Walkway System between Castle Peak Road and Kung Yip Street, Kwai Chung (viz. **178TB**). The estimated cost of the project is \$584.4 million in money-of-the-day (MOD) prices;

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- (b) Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station (viz. **182TB**). The estimated cost of the project is \$1,708.5 million in MOD prices.

\_\_\_\_\_ Details of the above projects are at Enclosures 1 and 2 respectively.

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Transport and Housing Bureau  
Highways Department  
May 2018

**178TB – Lift and Pedestrian Walkway System  
between Castle Peak Road and Kung Yip Street, Kwai Chung**

**PROJECT SCOPE AND NATURE**

The proposed scope of works under the project includes –

- (a) construction of a lift tower with two lifts of approximately 40 metres (m) in height at Kung Yip Street;
- (b) construction of a lift tower with one lift of approximately 12 m in height adjacent to the western footpath of Castle Peak Road – Kwai Chung;
- (c) construction of a lift tower with two lifts of approximately 40 m in height adjacent to the eastern footpath of Castle Peak Road – Kwai Chung;
- (d) construction of a covered elevated pedestrian walkway of approximately 3 m in clear width and 75 m in length to connect the lift towers mentioned in items (a), (b) and (c);
- (e) construction of a covered elevated pedestrian walkway of approximately 3 m in clear width and 50 m in length to connect the lift tower mentioned in item (c) and Shek Lei (I) Estate;
- (f) construction of two staircases to connect the elevated pedestrian walkway mentioned in item (d) and Castle Peak Road – Kwai Chung; and
- (g) ancillary works including associated geotechnical, road, drainage, utilities, landscaping, public lighting, and electrical and mechanical (E&M) works, etc.

\_\_\_\_\_ A layout plan and artist's impression of the project are at Annex 1 to Enclosure 1.

2. Subject to funding approval of the Finance Committee (FC) in this legislative session, the Highways Department (HyD) plans to commence the construction works in the first quarter of 2019 for completion in the second quarter of 2023.

### **JUSTIFICATIONS**

3. At present, residents of Shek Lei area need to take a circuitous route through the footpath of Shek Pai Street or the trail between Shek Lei (I) Estate and Greenknoll Court for travelling between Shek Lei area and Castle Peak Road – Kwai Chung. If residents would like to travel further to/ from Kwai Hing MTR Station via Kung Yip Street, they have to make use of the existing footbridge spanning across Castle Peak Road – Kwai Chung and the staircase between Castle Peak Road – Kwai Chung and Kung Yip Street.

4. There are many residential buildings and schools in Shek Lei area. The area currently has a population of about 18 000 residents (including about 3 600 elderly). We plan to implement the project for the convenience of the public (in particular the elderly and the disabled) for travelling between Shek Lei area, Castle Peak Road – Kwai Chung and Kung Yip Street, and to promote walking as an alternative to other means of transport.

5. The project will provide a comfortable, convenient, safe, environmentally friendly and barrier-free pedestrian access to the locals, facilitating the elderly and the disabled to travel between Shek Lei area, Castle Peak Road – Kwai Chung and Kung Yip Street. We expect that the usage rate of the proposed lift and pedestrian walkway system will be about 5 100 pedestrian trips per day.

### **FINANCIAL IMPLICATIONS**

6. We estimate the capital cost of the project to be \$584.4 million in MOD prices (please see paragraph 8 below), broken down as follows –

/(a) .....



		\$ million (in MOD prices)
(a)	Lift tower at Kung Yip Street	69.5
(b)	Lift towers and staircases at Castle Peak Road – Kwai Chung	89.0
(c)	Covered elevated walkways	63.4
(d)	Foundation works	144.7
(e)	Geotechnical works	50.9
(f)	Five lifts and associated E&M works	25.3
(g)	Associated road, drainage, utilities, landscaping, public lighting works, etc.	23.7
(h)	Consultants' fee for	4.2
	(i) contract administration	3.4
	(ii) management of resident site staff (RSS)	0.8
(e)	Remuneration of RSS	60.6
(f)	Contingencies	53.1
Total		<hr/> 584.4 <hr/>

7. The HyD proposes to engage consultants to undertake the contract management and site supervision for the project. A breakdown of the estimated consultants' fees and RSS costs by man-month is at Annex 2 to Enclosure 1.

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8. Subject to funding approval in this legislative session, we plan to phase the expenditure as follows –

<b>Year</b>	<b>\$ million (MOD)</b>
2018 – 2019	10.8
2019 – 2020	84.4
2020 – 2021	95.4
2021 – 2022	104.8
2022 – 2023	113.9
2023 – 2024	78.0
2024 – 2025	52.8
2025 – 2026	44.3
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	584.4
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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 2018 to 2026. Subject to funding approval, we will deliver the works under the New Engineering Contract (NEC) form<sup>1</sup>. The contract will provide for price adjustments.

10. We estimate the annual recurrent expenditure arising from the project to be \$7.44 million.

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

**PUBLIC CONSULTATION**

11. The Government established in 2009 a set of objective and transparent scoring criteria for assessing proposals for hillside escalator links and elevator systems (hillside escalator links) to determine the priority for conducting preliminary technical feasibility studies for the 20 proposals received at that time. In this regard, the Government consulted the Legislative Council (LegCo) Panel on Transport in May 2009. Upon completion of the assessment, the results were reported to the Panel on Transport in February 2010. Two proposals were screened out initially, and 18 others were ranked. The project is ranked sixth. The current progress of the above-mentioned 18 proposals is at Annex 3 to Enclosure 1.

12. The HyD consulted the Traffic and Transport Committee of the Kwai Tsing District Council on the project on 14 April 2016. The Committee expressed its support for the implementation of the project.

13. We gazetted the scheme and plan of the project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) on 25 August and 1 September 2017. During the statutory period, no objection was received and the scheme was thus authorised accordingly. The associated authorisation notice was gazetted on 17 and 24 November 2017.

14. The HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)<sup>2</sup> on the aesthetic design of the lift tower and covered elevated pedestrian walkway of the project. The Committee accepted the proposed aesthetic design.

15. We consulted the Legislative Council (LegCo) Panel on Transport on 27 April 2018. Members supported the project.

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<sup>2</sup> ACABAS, comprising 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 HyD, the Housing Department, the Civil Engineering and Development Department, and a representative from an architectural or relevant faculty from a local academic institution, is responsible for vetting the design of bridges and other structures associated with the public highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

**ENVIRONMENTAL IMPLICATIONS**

16. 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. The HyD will control construction noise, dust and site run-off nuisances to levels within established standards and guidelines through the implementation of appropriate mitigation measures. The expenses required for implementing the environmental mitigation measures have been included in the project estimates.

17. At the planning and design stages, the HyD has considered optimizing the alignment of the project and adjusting the method of construction to reduce the generation of construction waste as far as possible. In addition, the HyD will require the contractor to reuse inert construction waste (e.g. use of 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 facilities<sup>3</sup>. The 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.

18. At the construction stage, the HyD will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. The HyD will ensure that the day-to-day operations on site comply with the approved plan. The 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. The 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.

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<sup>3</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap 354N). Disposal of inert construction waste in public fill reception facilities requires a license issued by the Director of Civil Engineering and Development.

19. The HyD estimates that the project will generate in total 14 920 tonnes of construction waste. Of these, we will reuse 3 260 tonnes (21.8%) of inert construction waste on site and deliver 10 920 tonnes (73.2%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose the remaining 740 tonnes (5.0%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at public fill reception facilities and landfill sites is estimated to be about \$920,000 for the project (the amount is based on an unit charge rate of \$71 per tonne for disposal at public fill reception facilities and \$200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

## HERITAGE IMPLICATIONS

20. 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.

## LAND ACQUISITION

21. The project requires the resumption of about 1 324 square metres (m<sup>2</sup>) of private land and the creation of rights of temporary occupation of about 715 m<sup>2</sup> of private land. The compensation cost, estimated at \$3.8 million, will be charged to **Head 701 “Land Acquisition”**. A breakdown of estimated compensation cost is at Annex 4 to Enclosure 1. The project does not require land clearance.

## TRAFFIC IMPLICATIONS

22. The HyD has conducted traffic impact assessment for the project, covering the assessment of traffic impact during 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 local traffic network in the area concerned. To facilitate the related construction works, the HyD will implement TTA and set up a traffic management liaison group to discuss and vet the TTA. This group comprises representatives from the contractor, the Police Force, the Transport Department and other concerned government departments. The HyD will specify requirements for implementing the TTA into the works contracts to minimise the traffic impacts during construction. The HyD will also display publicity boards on site, providing details of the TTA and the anticipated completion dates of individual sections of works. In addition, the HyD will set up a telephone hotline for public enquiries or complaints.

/BACKGROUND .....

## BACKGROUND INFORMATION

23. 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 service and investigation works is about \$2.0 million, funded by block allocation **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme". These consultancy service and investigation works have been completed.

24. We engaged an engineering consultant to undertake the detailed design in November 2017. The estimated cost for the detailed design services in the said consultancy is about \$4.9 million, and will be funded by **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme".

25. In order to make way for the proposed facilities and strengthen the slopes nearby, the project will require removal of about 110 trees. According to established guidelines, tree preservation and removal proposal will be submitted to the Lands Department for approval. All trees to be removed are not important trees<sup>4</sup>. The HyD will incorporate planting proposals into the project, including the compensatory planting of about 110 new trees.

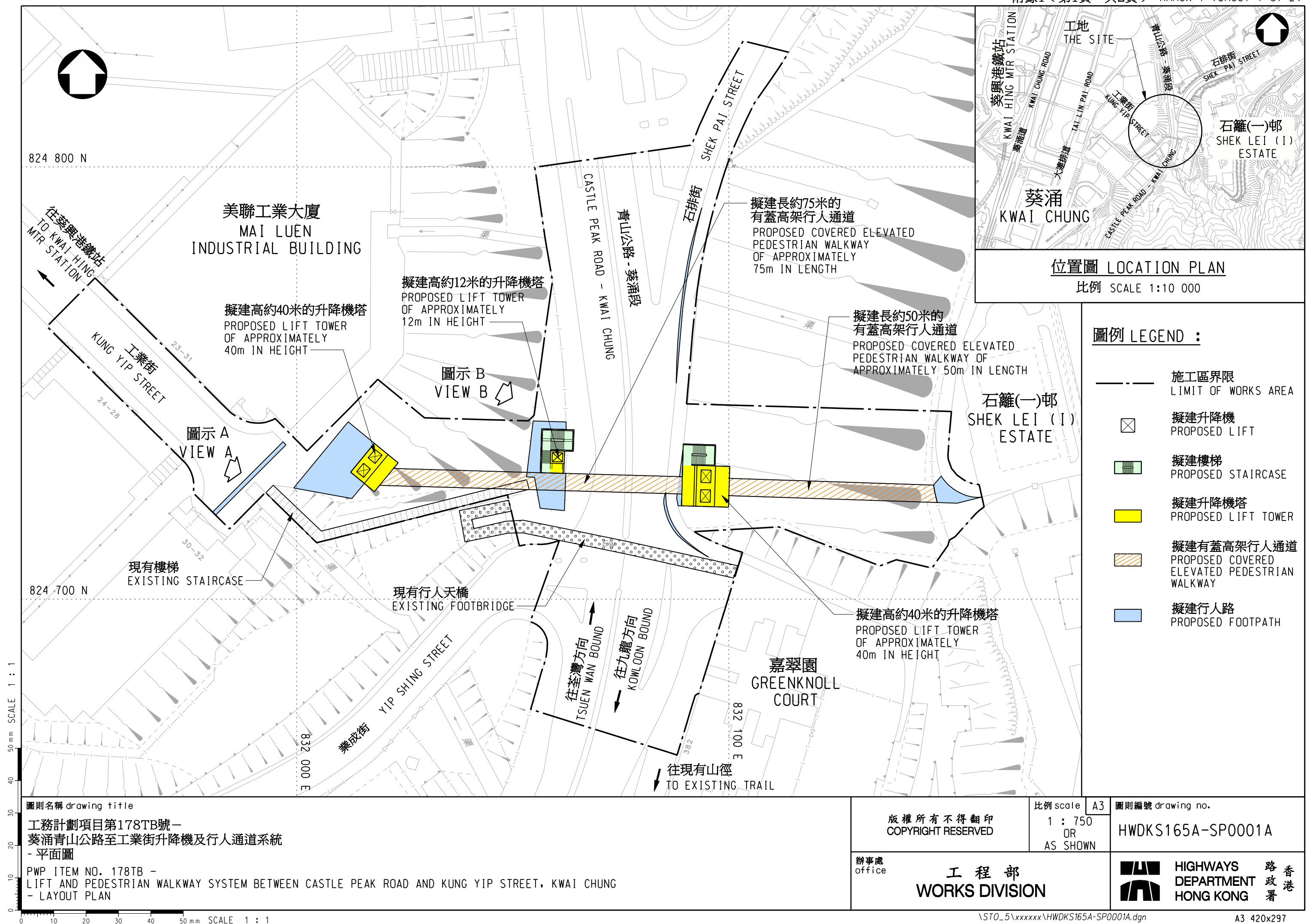
26. We estimate that the project will create about 170 jobs (138 for labourers and 32 for professional/technical staff), providing a total employment of about 6 500 man-months.

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<sup>4</sup> "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 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.







<p>圖則名稱 drawing title</p> <p>工務計劃項目第178TB號－ 葵涌青山公路至工業街升降機及行人通道系統 - 構思圖</p> <p>PWP ITEM NO. 178TB - LIFT AND PEDESTRIAN WALKWAY SYSTEM BETWEEN CASTLE PEAK ROAD AND KUNG YIP STREET, KWAI CHUNG - ARTIST'S IMPRESSION</p>	<p>版權所有不得翻印 COPYRIGHT RESERVED</p> <p>辦事處 office</p>	<p>比例 scale A3 不適用 NA</p>	<p>圖則編號 drawing no. HWDKS165A-SP0002A</p> <p>HIGHWAYS DEPARTMENT HONG KONG</p> <p>路 香港 政 署</p>
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**178TB – Lift and Pedestrian Walkway System between Castle Peak Road  
and Kung Yip Street, Kwai Chung**

**Breakdown of the estimates for consultants' fees and resident site staff costs  
(in September 2017 prices)**

			Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$million)
(a)	Consultants' fee for contract administration (Note 2)	Professional	–	–	–	2.6
		Technical	–	–	–	0.2
					Sub-total	2.8#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	95	38	1.6	12.0
		Technical	876	14	1.6	38.5
					Sub-total	50.5
	Comprising –					
(i)	Consultants' fees for management of RSS				0.7#	
(ii)	Remuneration of RSS				49.8#	
					<b>Total</b>	<b>53.3</b>

\* 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 salary point 38 = \$78,775 per month and MPS salary point 14 = \$27,485 per month).
2. The consultants' fee for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of the **178TB**. The construction phase of the assignment will only be executed subject to FC's approval to upgrade **178TB** to Category A.
3. The consultants' staff costs for site supervision is calculated based on the estimate prepared by the Director of Highways. The actual man-months and actual costs will be known after completion of the construction works.

**Remarks**

The cost figures in this Annex are shown in constant prices to correlate with MPS salary point of the same year. The figures marked with # are shown in MOD prices in paragraph 6 of this Enclosure.

**Current progress of the proposals of the HEL**

(Position as at 23 April 2018)

<b>Rank</b>	<b>Proposal</b>	<b>Progress of Project</b>
1	Pedestrian Link at Tsz Wan Shan	The pedestrian link is implemented under the Shatin to Central Link project and involves 15 facilities. The construction works commenced in July 2012. The pedestrian link has been opened for public use since October 2017.
2	Braemar Hill Pedestrian Link	<p>The preliminary technical feasibility study has been completed. The HyD has engaged consultants to carry out the investigation and preliminary design.</p> <p>The HyD consulted and obtained the support from the Planning, Works and Housing Committee of the Eastern District Council on the design scheme in September 2016. Prior to gazettal of the works, the HyD further consulted the residents on the design scheme and attended residents' meetings in November and December 2017. The HyD also briefed the Planning, Works and Housing Committee of the Eastern District Council on the project progress in February 2018. In view of the comments recently raised by various parties, the HyD is reviewing the design scheme with a view to obtaining a majority consensus for the project scheme.</p>
3	Lift and Pedestrian Walkway System at Cheung Hang Estate, Tsing Yi	The construction works commenced in February 2017 for completion in mid 2019.

Rank	Proposal	Progress of Project
4	Escalator Link and Pedestrian Walkway System at Pound Lane	<p>The preliminary technical feasibility study has been completed. The HyD has engaged consultants to carry out the investigation and preliminary design.</p> <p>The HyD consulted the Central and Western District Council (C&amp;WDC) and held a public forum on the refined proposal in 2015. The comments received have been collated and analyzed. In view of the diverse views, the HyD plans to consult the C&amp;WDC further on the project.</p>
5	Lift and Pedestrian Walkway System between Kwai Shing Circuit and Hing Shing Road	<p>The construction works commenced in June 2017 for completion in 2020.</p>
6	Lift and Pedestrian Walkway System between Castle Peak Road and Kung Yip Street	<p>The preliminary technical feasibility study has been completed. The HyD has engaged consultants to carry out the detailed design.</p> <p>The HyD consulted and obtained the support from the Traffic and Transport Committee of the Kwai Tsing District Council on the design scheme in April 2016. The Government published the notice of authorization to execute the proposed works under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) in November 2017.</p> <p>We will seek funding approval from the Finance Committee of the LegCo in 2017-18 legislative session with a view to commencing the construction of the project as soon as possible.</p>

Rank	Proposal	Progress of Project
7	Lift and Pedestrian Walkway System between Lai Cho Road and Wah Yiu Road	The preliminary technical feasibility study has been completed. The HyD has engaged consultants to carry out the investigation and preliminary design.
8	Pedestrian Link near Chuk Yuen North Estate	<p>The preliminary technical feasibility study has been completed. The HyD has engaged consultants to carry out the investigation and preliminary design.</p> <p>The HyD consulted and obtained the support from the Traffic and Transport Committee of the Wong Tai Sin District Council on the preliminary design in July 2016 and on the revised design in January 2018. The HyD is following up on the suggestions and views regarding the revised design of the project further raised by relevant stakeholders and is making preparation for the gazettal of the works.</p>
9	Lift and Pedestrian Walkway System at Waterloo Hill	The construction works commenced in December 2016 for completion in mid 2019.
10	Lift and Pedestrian Walkway System between Lai King Hill Road and Lai Cho Road	It was revealed in the preliminary technical feasibility study that the project involved two dangerous private slopes. The owners of the slopes have completed the repair works for the slopes in February 2018. The HyD is revisiting this proposal.

Rank	Proposal	Progress of Project
11	Lift and Pedestrian Walkway System between Tai Wo Hau Road and Wo Tong Tsui Street	The Government obtained funding approval from the Finance Committee of the LegCo in December 2017. The advance works for diversion of utilities commenced in January 2018. The main works are scheduled to commence in the fourth quarter of 2018 for completion in the fourth quarter of 2021.
12	Lift and Pedestrian Walkway System at Luen On Street	<p>The preliminary technical feasibility study has been completed. The HyD has engaged consultants to carry out the investigation and preliminary design.</p> <p>The HyD consulted and obtained support from the Traffic and Transport Committee of the Kwun Tong District Council on the preliminary design scheme in February 2018. As the proposal needs to span across private lots and is in close proximity to existing buildings, the HyD will consult the relevant residents as suggested by the Kwun Tong District Council.</p>
13	Yuet Wah Street Pedestrian Linkage	To complement the Kwun Tong Town Centre Redevelopment, the Civil Engineering and Development Department commenced construction for this project in April 2013. The Linkage has been completed and opened for public use since October 2015.
14 (same ranking)	Escalator Link System between Hong Sing Garden and Po Hong Road	The scope of the project has been determined, and the HyD will carry out the preliminary technical feasibility study.

Rank	Proposal	Progress of Project
14 (same ranking)	Lift and Pedestrian Walkway System between Lai King Hill Road and Princess Margaret Hospital	The HA commenced works in November 2015. The works have been completed and the facility has been opened for public use since January 2017.
16	Lift and Pedestrian Walkway System between Saddle Ridge Garden and Sai Sha Road	The scope of the project has been determined, and the HyD will carry out the preliminary technical feasibility study.
17	Lift and Pedestrian Walkway System between Hing Shing Road and Tai Wo Hau Road	The scope of the project has been determined, and the HyD will carry out the preliminary technical feasibility study.
18	Escalator Link System between Sha Tin Sui Wo Court and MTR Fo Tan Station	Since the proposal involves complicated land issues, the TD will liaise with relevant departments on the land matters.

**178TB – Lift and Pedestrian Walkway System between Castle Peak Road  
and Kung Yip Street, Kwai Chung**

**Breakdown of land resumption cost**

	(\$ million)
<b>(I) Estimated compensation costs</b>	<b>3.2</b>
<ul style="list-style-type: none"> <li>• compensation for resumption of private land (total area of about 1,324 m<sup>2</sup>)</li> <li>• compensation for creation of rights of temporary occupation of private land (total area of about 715 m<sup>2</sup>)</li> </ul>	
<b>(II) Contingency payment</b>	<b>0.6</b>
<b>Total</b>	<b>3.8</b>

**182TB – Elevated Pedestrian Corridor in Yuen Long Town  
connecting with Long Ping Station**

**PROJECT SCOPE AND NATURE**

The proposed scope of works under the project includes –

- (a) construction of a covered elevated pedestrian corridor of about 540 metres (m) long and 6 m clear width along the Yuen Long Town Nullah from the West Rail Long Ping Station to the south of Kau Yuk Road;
- (b) construction of six pedestrian connectivity platforms adjacent to Yuen Long On Ning Road, Castle Peak Road – Yuen Long and Kau Yuk Road with staircases, lifts and escalators to connect the covered elevated pedestrian corridor with the existing at-grade footpaths;
- (c) associated road, drainage, utilities, public lighting, landscaping, and electrical and mechanical (E&M) works; and
- (d) implementation of an environmental monitoring and audit (EM&A) programme for the works mentioned in items (a) to (c) above.

———— A layout plan, cross section and artistic impression of the project are at Annex 1 to Enclosure 2. Subject to funding approval of the Finance Committee (FC) in this legislative session, the project can be commenced in the second half of 2018 for anticipated completion in around 2023.

**JUSTIFICATION**

2. There are substantial pedestrian activities in the existing Yuen Long Town centre. Pedestrians walking along main streets (e.g. Yuen Long On Ning Road, Castle Peak Road – Yuen Long and Kau Yuk Road) in the district have to travel via narrow and congested footpaths so that they are at times forced onto the carriageway, resulting in potential safety problem. Currently, there are about 126 000 residents in the district. With the growth in population, stoppages or interruptions to pedestrian flow occur at some sections of at-grade footpaths. Therefore, there is an imminent need to relieve the prevailing congestion on at-grade footpaths and improve the pedestrian facilities to meet needs with a view to

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providing a more comfortable, more convenient and safer walking environment for the community. In the 2017 Policy Agenda, it was reaffirmed that the Government will strive to implement the project to relieve congestion at footpaths and improve the environment for pedestrians in the district.

3. The proposed elevated pedestrian corridor can provide a direct route connecting the West Rail Long Ping Station and the areas around On Ning Road, Castle Peak Road – Yuen Long and Kau Yuk Road in Yuen Long, which will improve local pedestrian circulation in and enhance accessibility of the Yuen Long Town centre.

4. Upon commissioning of the proposed elevated pedestrian corridor, the pedestrian flow on at-grade footpaths and at road crossing facilities in the Yuen Long Town centre will be diverted effectively for relieving congestion and improving road safety. We expect that the busiest section of the proposed elevated pedestrian corridor (i.e. the section across Castle Peak Road – Yuen Long) can attract about 11 000 pedestrian trips per hour during peak hours. The elevated pedestrian corridor of 6 m clear width can provide sufficient space for reasonable movement of pedestrians.

## FINANCIAL IMPLICATIONS

5. We estimate the capital cost of the project to be \$1,708.5 million in MOD prices (please see paragraph 8 below), broken down as follows –

<b>\$ million (in MOD prices)</b>		
(a)	Elevated pedestrian corridor	1,138.7
	(i) Bridge structure, lift tower, escalator and staircase structure	519.9
	(ii) Pedestrian connectivity platform structure	126.9
	(iii) Foundation	491.9
(b)	E&M works	59.2
	(i) Lift car (6 nos.)	22.0
	(ii) Escalator (12 nos.)	37.2
(c)	Modification of existing Yuen Long Town Nullah	46.0

/(d) .....

		<b>\$ million (in MOD prices)</b>
(d)	Associated road, drainage, public lighting and landscaping works, etc.	62.3
(e)	Environmental mitigation measures	30.1
(f)	Consultants' fee	20.0
(i)	Contract administration	7.5
(ii)	Management of resident site staff (RSS)	5.7
(iii)	EM&A programme and independent environmental checker	6.8
(g)	Remuneration of RSS	196.9
(h)	Contingencies	155.3
Total		<hr/> 1,708.5 <hr/>

6. The items described in paragraph 5(a) above cover the cost for the construction of the elevated pedestrian corridor of about 540 m long and 6 m clear width as well as a total of six pedestrian connectivity platforms, each with dimensions of about 28 m long and 32 m wide.

7. We propose to engage consultants to undertake contract administration, site supervision and EM&A programme for the project. A breakdown of the estimated consultants' fees and RSS costs by man-month is at Annex 2 to Enclosure 2.

8. Subject to funding approval in this legislative session, we plan to phase the expenditure as follows –

<b>Year</b>	<b>\$ million (MOD)</b>
2018 – 2019	91.4
2019 – 2020	178.0
2020 – 2021	203.4
2021 – 2022	299.4

/2022 – 2023 .....

<b>Year</b>	<b>\$ million (MOD)</b>
2022 – 2023	241.8
2023 – 2024	235.7
2024 – 2025	176.5
2025 – 2026	172.4
2026 – 2027	109.9
	<hr/>
	1,708.5
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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 2018 to 2027. Subject to funding approval, we will deliver the works under the New Engineering Contract (NEC) form<sup>1</sup> with provision for price adjustment in the contract. The Highways Department (HyD) plans to initiate parallel tendering for the construction contract in the second quarter of 2018 in order to start the construction works as soon as possible. The contract will be awarded only after obtaining funding approval from the FC.

10. We estimate the annual recurrent expenditure arising from the project to be about \$10.4 million.

## **PUBLIC CONSULTATION**

11. The HyD conducted the first phase of public engagement exercise on the pedestrian environment improvement scheme in Yuen Long Town between May 2009 and July 2010. Based on the public views collected, the HyD developed a series of small to medium-scale and large-scale improvement measures and consulted the Traffic and Transport Committee (T&TC) of Yuen Long District Council (YLDC) as well as the Legislative Council Panel on Transport on 24 September 2010 and 15 April 2011 respectively. Subsequently, the HyD conducted the second phase of public engagement exercise on some large-scale improvement measures (including the proposed elevated pedestrian corridor) between March and May 2013 and consulted the T&TC of YLDC through a workshop held on 16 April 2013. Both the first and second phases of the public engagement exercise showed that the public generally supported the implementation of the proposed elevated pedestrian corridor.

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

12. During the public engagement exercise in 2013, some local professional institutes comprising the Hong Kong Institute of Architects, the Hong Kong Institute of Planners, the Hong Kong Institute of Urban Design and the Hong Kong Institute of Landscape Architects (the Professional Institutes) proposed to widen the footpaths along both sides of the Yuen Long Town Nullah as an alternative to some sections of the elevated pedestrian corridor. The HyD then conducted a number of workshops with the Professional Institutes to develop an alternative scheme<sup>2</sup> based on the Professional Institutes' proposal. The HyD and the Professional Institutes' representatives consulted the T&TC of YLDC on 24 July 2014 on both the original scheme of the proposed elevated pedestrian corridor and the alternative scheme. After deliberation, the T&TC of YLDC supported the HyD's original scheme of elevated pedestrian corridor with the main considerations that the original scheme could divert the pedestrian flows on at-grade footpaths and road crossing facilities in the district for effectively relieving congestion at the footpaths, and enhance the accessibility to the elevated pedestrian corridor for the convenience of the elderly and disabled. The T&TC of YLDC also requested for early implementation of the project. The Professional Institutes' representatives expressed that they would respect the final decision of the T&TC of YLDC.

13. Upon completion of the feasibility study for the project in end 2014, the HyD consulted the T&TC of YLDC on 21 May 2015 on the design aspect of the elevated pedestrian corridor. Taking into account the comments collected, the HyD developed a design proposal of the elevated pedestrian corridor and consulted the T&TC of YLDC again on 10 March 2016. The T&TC of YLDC supported the design proposal and urged for early implementation of the project. Furthermore, the T&TC of YLDC requested the HyD to extend the elevated pedestrian corridor southward for about 260 m to Ma Tong Road as early as possible. In view of the fact that there is no traffic need for the proposed southward extension of the elevated pedestrian corridor in the short term as revealed from findings of relevant study, it is not justified at this stage to accept the request. However, the HyD will conduct pedestrian surveys at the concerned locations and review regularly on the need for such extension throughout the implementation of the project. The HyD will also allow a provision at the southern end of the elevated pedestrian corridor for extension when necessary.

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<sup>2</sup> The alternative scheme comprises construction of a footbridge connecting West Rail Long Ping Station to the south of Yuen Long On Ning Road, construction of a footbridge across Castle Peak Road – Yuen Long and widening of at-grade footpaths along both sides of the Yuen Long Town Nullah between Yuen Long On Ning Road and Kau Yuk Road.

14. We gazetted the road scheme for the proposed works of the project under the Roads (Works, Use and Compensation) Ordinance (Cap 370) on 28 October and 4 November 2016. No objection was received during the statutory period and the project was hence authorised. The relevant authorisation notice was gazetted on 20 and 27 January 2017.

15. The HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)<sup>3</sup> on the proposed aesthetic design of the elevated pedestrian corridor of the project. ACABAS accepted the proposed aesthetic design.

16. We consulted the LegCo Panel on Transport on the funding application for the project on 27 April 2018. Members generally supported the project.

## ENVIRONMENTAL IMPLICATIONS

17. The project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap 499) and an Environmental Permit (EP) is required for the construction and operation of the project. The EIA report for the project was approved in October 2016 and an EP was issued in February 2017 under the EIA Ordinance. The EIA report concluded that the environmental impact of the project can be controlled to within the criteria under the EIA Ordinance and the Technical Memorandum on the EIA Process.

18. The HyD shall implement the mitigation measures and EM&A programme recommended in the approved EIA report. For the construction phase, the recommended mitigation measures mainly include the adoption of quieter equipment and movable temporary noise barriers to minimise the noise impact brought about by the construction; regular water spraying for dust control; and the installation of temporary cofferdams to minimise impact on the water quality when carrying out construction works within the Yuen Long Town Nullah. For the operation phase, the mitigation measures mainly include optimising the aesthetic design of the elevated pedestrian corridor; and tree planting and provisioning of landscape areas. The HyD has included the cost for the implementation of the necessary environmental mitigation measures and the EM&A programme in the project estimate.

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<sup>3</sup> ACABAS, comprising 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 HyD, the Housing Department, the Civil Engineering and Development Department, and a representative from an architectural or relevant faculty from a local academic institution, is responsible for vetting the design of bridges and other structures associated with the public highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

19. At the planning and design stages, the HyD has considered all the proposed works and construction procedures to reduce generation of construction waste where possible. In addition, the HyD will require the contractor to reuse inert construction waste (e.g. use of materials excavated within site area for backfilling) on site or in other suitable construction sites as far as practicable, in order to minimise the disposal of inert construction waste to public fill reception facilities<sup>4</sup>. The HyD will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

20. At the construction stage, the HyD will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. The HyD will ensure that the day-to-day operations on site comply with the approved plan. The HyD will require the contractor to separate inert construction waste from non-inert construction waste on site for disposal at appropriate facilities. The 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.

21. We estimate that the project will generate in total about 79 400 tonnes of construction waste. Of these, we will reuse about 40 800 tonnes (51.4%) of inert construction waste on site and deliver 36 200 tonnes (45.6%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining 2 400 tonnes (3.0%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at public fill reception facilities and landfill sites is estimated to be \$3.05 million for the project (based on a unit charge rate of \$71 per tonne for disposal at public fill reception facilities and \$200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

## HERITAGE IMPLICATIONS

22. The project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

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<sup>4</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap 354N). Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

## LAND ACQUISITION

23. The project does not require acquisition or clearance of private land. However, the project requires creation of rights of temporary occupation of about 932 square metres (m<sup>2</sup>), and easements and other permanent rights of about 102 m<sup>2</sup> of land. The relevant land is vested in the Kowloon-Canton Railway Corporation pursuant to the Kowloon-Canton Railway Corporation Ordinance (Cap 372) for the operation of the Light Rail Transit by the MTR Corporation Limited.

## TRAFFIC IMPLICATIONS

24. The HyD has conducted traffic impact assessment for the project, covering the assessment of the traffic impact during the construction period. According to the findings of the assessment, with the implementation of appropriate temporary traffic arrangements (TTA), the construction works will not cause significant impact on the traffic network in the area concerned. To facilitate the construction works, the HyD will implement TTA and set up a traffic management liaison group to discuss and vet the TTA. This group comprises representatives of the Transport Department, the Hong Kong Police Force, other concerned government departments, concerned public transport operators and the contractor. The HyD will also consult the YLDC prior to the implementation of major TTA for the project. The HyD will specify requirements for implementing the TTA in the works contract to minimise the traffic impacts during construction. The HyD will also display publicity boards on site providing details of the TTA and the anticipated completion dates of individual sections of works. In addition, the HyD will set up a telephone hotline for public enquiries or complaints.

## BACKGROUND INFORMATION

25. We upgraded **182TB** to Category B in September 2013. The HyD engaged a consultant in December 2014 to undertake the investigation, design and ground investigation works. The total cost of the above consultancy service and investigation works is about \$17.7 million, funded by block allocation **Subhead 6100TX** “Highway works, studies and investigations for items in Category D of the Public Works Programme”. The investigation works of the project have been completed and the detailed design has also been substantially completed.

26. There are 125 trees within the project boundary. Among them, 87 trees will be preserved. The project will require removal of 38 trees, including 37 trees to be felled and one tree to be transplanted within the project boundary. All trees to be removed are not important trees<sup>5</sup>. The HyD will incorporate planting proposals into the project, including the planting of 37 trees and 28 460 shrubs, covering a planting area of about 2 000 m<sup>2</sup>.

27. We estimate that the project will create about 340 jobs (275 for labourers and 65 for professional/technical staff) providing a total employment of about 18 300 man-months.

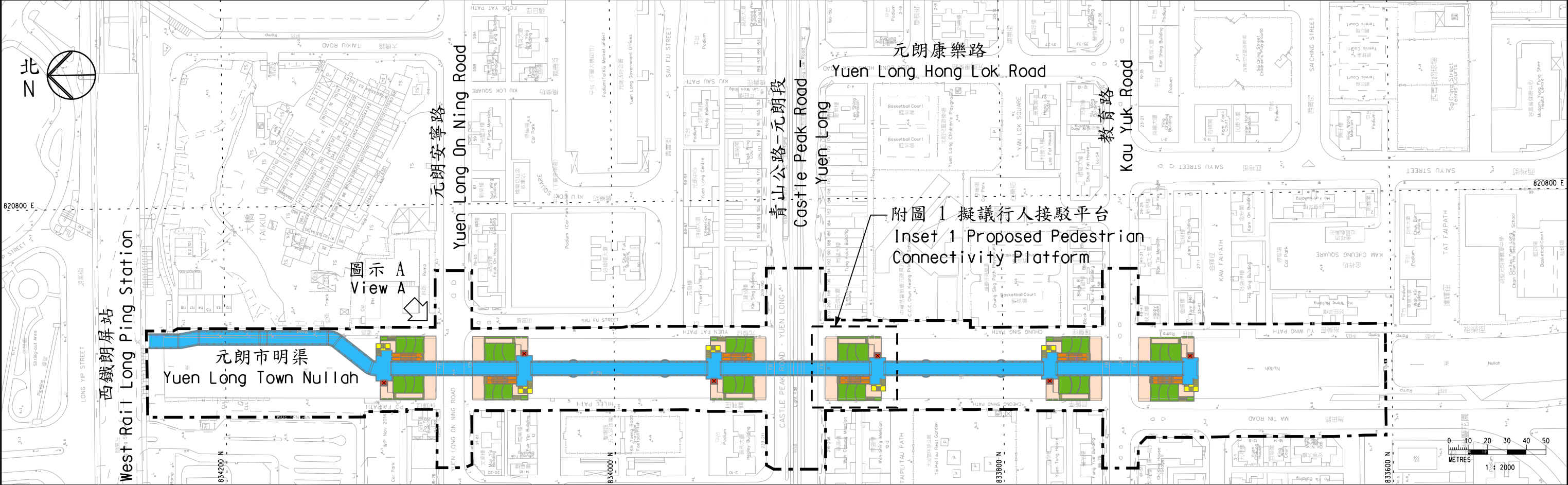
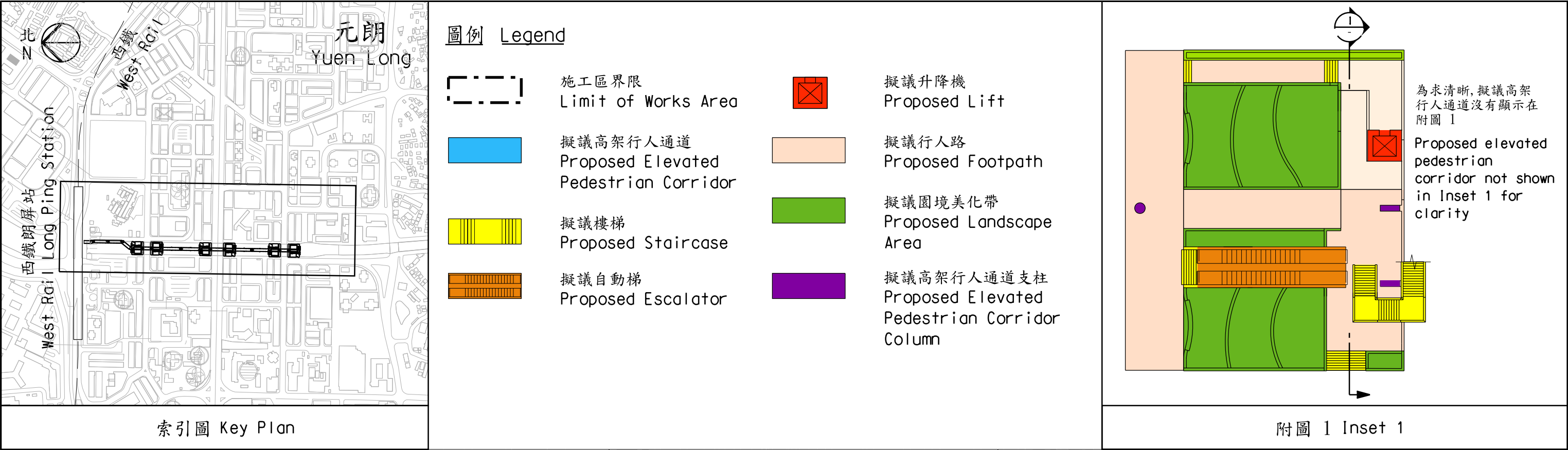
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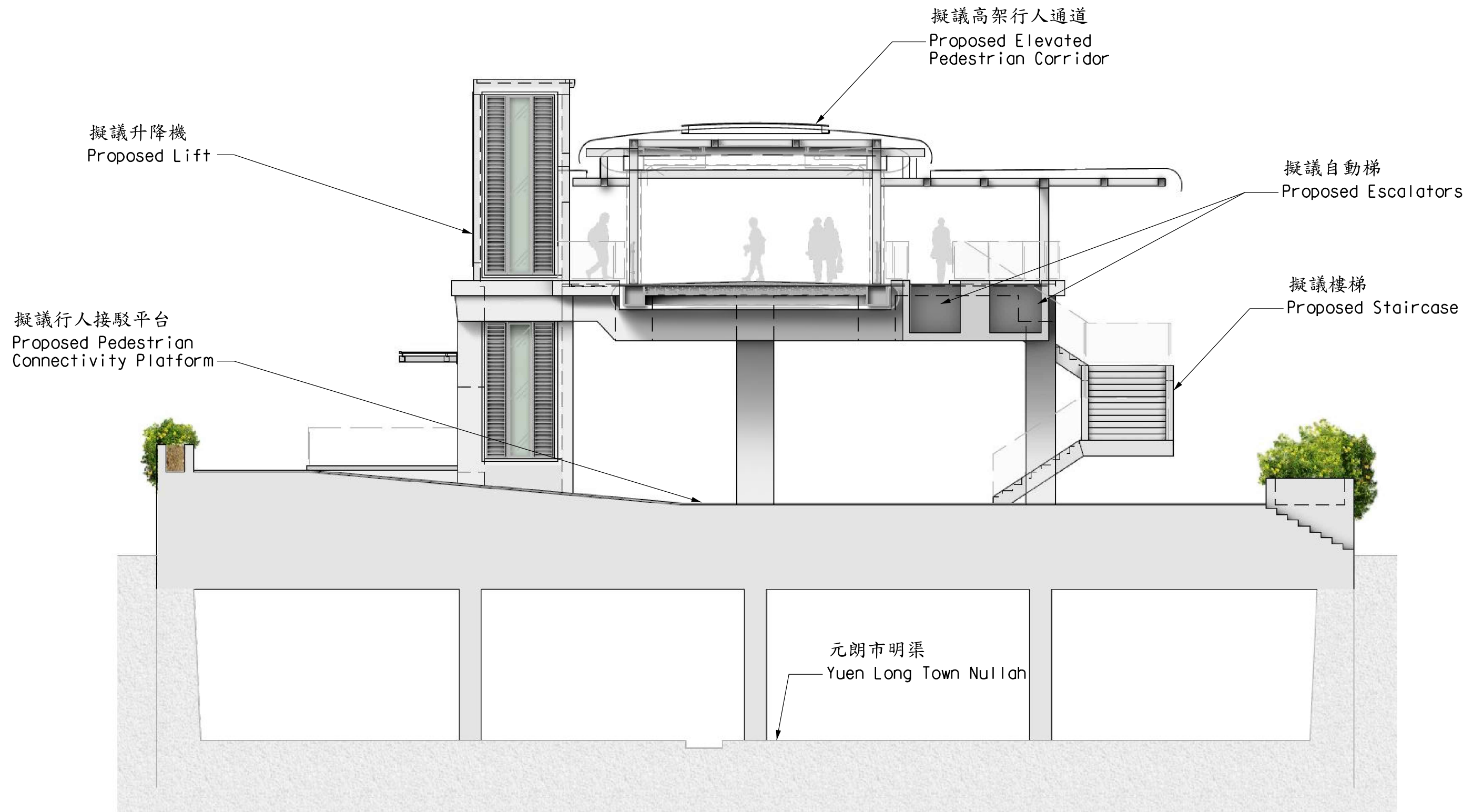
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<sup>5</sup> An “Important tree” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, trees as landmark of monastery or heritage monument, and trees in memory of important person or event;
- (c) trees of precious or rare species;
- (d) trees of outstanding forms (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 m (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m.







切面 I - I  
Section I - I

圖則名稱 drawing title

工務計劃項目第 182TB 號  
連接朗屏站的元朗市高架行人通道 - 切面圖

PWP Item No. 182TB

Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Cross Section

圖則編號 drawing no.

HMW6182TB-SK0037

比例 scale

示意圖  
DIAGRAMMATIC

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HIGHWAYS  
DEPARTMENT  
HONG KONG

路政署  
香港





元朗安寧路  
Yuen Long On Ning Road

圖示 A  
View A

圖則名稱 drawing title

工務計劃項目第 182TB 號  
連接朗屏站的元朗市高架行人通道 - 構思圖

PWP Item No. 182TB

Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Artistic Impression

圖則編號 drawing no.

HMW6182TB-SK0038

比例 scale

示意圖  
DIAGRAMMATIC

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HIGHWAYS  
DEPARTMENT  
HONG KONG

路政署  
香港

## Annex 2 to Enclosure 2

### 182TB – Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station

#### Breakdown of estimates for consultants' fees and resident site staff costs (in September 2017 prices)

		Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)	
(a) Consultants' fee for						
(i) Contract administration (Note 2)	Professional	—	—	—	4.2	} 5.9#
	Technical	—	—	—	1.7	
(ii) Environmental monitoring and audit programme (Note 3)	Professional	6	38	2.0	0.9	} 5.3#
	Technical	58	14	2.0	3.2	
(iii) Independent environmental checker (Note 3)	Professional	5	38	2.0	0.8	
	Technical	7	14	2.0	0.4	
				Sub-total	11.2	
(b) Resident site staff (RSS) costs (Note 4)	Professional	665	38	1.6	83.8	
	Technical	1 828	14	1.6	80.4	
				Sub-total	164.2	
Comprising –						
(i) Consultants' fees for management of RSS					4.4#	
(ii) Remuneration of RSS					159.8#	
				<b>Total</b>	<b>175.4</b>	

\* 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. A multiplier of 2.0 is applied to the average MPS salary point to estimate the full staff cost for the staff employed in the consultants' office (including the consultants' overheads and profit) (as at now, MPS salary point 38 = \$78,775 per month and MPS salary point 14 = \$27,485 per month).
2. The consultants' fee for contract administration is calculated in accordance with the existing consultancy agreement for the investigation, design and construction of **182TB**. The construction phase of the assignment will only be executed subject to FC's approval to upgrade **182TB** to Category A.
3. The actual man-months and actual costs will only be known after selection of the consultants.

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

**Remarks**

The cost figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in MOD prices in paragraph 5 of the main paper.