For discussion **PWSC(2020-21)6**
on 13 May 2020

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS

Transport – Roads
875TH – Noise enclosures at Gascoigne Road Flyover
853TH – Widening of Castle Peak Road – Castle Peak Bay
850TH – New Wang Tong River Bridge

Transport – Footbridges and pedestrian tunnels
190TB – Retrofitting of escalators for footbridge across Castle Peak Road – Kwai Chung near MTR Tai Wo Hau Station Exit B

Members are invited to recommend to the Finance Committee the upgrading of **875TH**, **853TH**, **850TH** and **190TB** to Category A at estimated cost of $482.4 million, $755.2 million, $99.7 million and $49.0 million in money-of-the-day prices respectively.

PROBLEM

We need to carry out the following works –

(a) construct two full noise enclosures at Gascoigne Road Flyover where construction of the Central Kowloon Route is underway;

(b) widen the section of Castle Peak Road – Castle Peak Bay between Hoi Wing Road and Hong Kong Gold Coast Phase I , Tuen Mun to cope with future traffic demand;

(c) construct a new bridge to replace the existing Wang Tong River Bridge in Mui Wo to enhance road safety

/by …..

by widening the river crossing and segregating pedestrians from cyclists; and

(d) retrofit covered two-way escalators at the footbridge across Castle Peak Road – Kwai Chung near MTR Tai Wo Hau Station Exit B to provide a more comfortable route for pedestrians accessing the MTR station and bus stop nearby via the footbridge.

PROPOSAL

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

(a) Noise enclosures at Gascoigne Road Flyover. The estimated cost of the project is $482.4 million in money-of-the-day (MOD) prices (viz. **875TH**);

(b) Widening of Castle Peak Road – Castle Peak Bay. The estimated cost of the project is $755.2 million in MOD prices (viz. **853TH**);

(c) New Wang Tong River Bridge. The estimated cost of the project is $99.7 million in MOD prices (viz. **850TH**); and

(d) Retrofitting of escalators for footbridge across Castle Peak Road – Kwai Chung near MTR Tai Wo Hau Station Exit B. The estimated cost of the project is $49 million in MOD prices (viz. **190TB**).

——— Details of the above projects are at the **Enclosures 1 to 4**.

Transport and Housing Bureau
May 2020

875TH – Noise enclosures at Gascoigne Road Flyover

PROJECT SCOPE AND NATURE

The proposed scope of works under this project includes –

(a) construction of an approximately 100 metres length of full noise enclosure covering a section of Gascoigne Road Flyover (GRF) fronting Blocks 1 and 5 of Prosperous Garden (PG);

(b) construction of an approximately 40 metres length of full noise enclosure covering a section of GRF fronting Yaumati Catholic Primary School (YMTCPS) with 30 metres length of vertical openings on the side farther away from YMTCPS; and

(c) ancillary works including electrical and mechanical, roads, public utilities, public lighting, landscape, slope and geotechnical works.

A layout plan, cross-section 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) within this legislative session, we plan to commence the construction works in the first quarter of 2021 for completion by 2025 so as to tie in with the completion and commissioning of **461TH** – "Central Kowloon Route – Main Works" (the CKR project) which is under construction.

JUSTIFICATION

3. We consulted the Legislative Council Panel on Transport on the funding application for the CKR project on 17 March 2017. While Members generally supported the implementation of the CKR, they demanded that the requests from the residents regarding the construction of full noise enclosure along GRF fronting PG be addressed, viz (i) replacing the approximately 100 metres length of the proposed noise enclosure of a section of GRF fronting Blocks 1 and 5 of PG, which originally covers only the eastbound traffic lane, with a full enclosure; and (ii) extending the proposed full enclosure fronting Block 3 of PG northward to beyond YMTCPS.

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4. The two proposed additional noise enclosures are not mitigation measures required under the Environmental Permit (EP) for the CKR project, and hence are not within the scope of works under the CKR project. The implementation of the two additional noise enclosures would require gazettal and authorisation of the amended road scheme to be obtained again under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) prior to the commencement of road works with an amended noise enclosure design. On 7 June 2017, the Secretary for Transport and Housing provided a written response to the LegCo Panel on Transport regarding the above requests and put forward a compromise scheme to implement the two proposed noise enclosures under a separate Public Works Programme item as soon as possible (see LC Paper No. CB(4)1191/16-17(01) for details).

5. After the FC approved the funding application for the CKR project on 20 October 2017, the Highways Department (HyD) had promptly taken follow-up action and engaged consultants to conduct relevant investigation study. The design of the noise enclosures had then been further developed on the basis of the compromise scheme and the proposed works for the project as set out in paragraph 1 above were formulated. The project will comprise the construction of an approximately 100 metres length of full noise enclosure covering a section of GRF fronting Blocks 1 and 5 of PG, with a span length ranging from 35 metres to 50 metres and height of 20 metres approximately; and also the construction of an approximately 40 metres length of full noise enclosure covering a section of GRF fronting YMTCPS with 30 metres length of vertical openings on the side farther away from YMTCPS. For the latter enclosure, the span length and height are about 65 metres and 15 metres respectively. For Members' reference, the area shaded in green colour at **Annexes 1 and 2 of Enclosure 1** illustrates the locations and works area of the two additional noise enclosures in connection with the CKR project currently under construction. Upon completion, the noise enclosures under the CKR project would reduce the traffic noise level at the road sections concerned and alleviate the concerns from residents nearby over the air quality in the area.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be $482.4 million in money-of-the-day (MOD) prices (please see paragraph 8 below), with the following breakdown –

		$ million (in MOD prices)
(a)	Noise enclosures	401.7
	(i) superstructure	364.5
	(ii) foundation	37.2

/(b) …..

			$ million (in MOD prices)
(b)	Ancillary works		21.6
	(i) electrical and mechanical works, and fire services installation and equipment	14.8	
	(ii) roadworks, slope works and others	6.8	
(c)	Consultants' fees		1.4
	(i) contract administration	1.2	
	(ii) management of resident site staff (RSS)	0.2	
(d)	Remuneration of RSS		22.1
(e)	Contingencies		35.6
	Total		482.4

7. The HyD proposes to engage consultants to undertake the contract management and site supervision work for the project. A breakdown of the estimated consultants' fees and RSS costs by man-months is at **Annex 3 to Enclosure 1**.

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

Year	**$ million (in MOD prices)**
2020 – 2021	10.0
2021 – 2022	43.5

/**Year** …..

Year	$ million (in MOD prices)
2022 – 2023	131.3
2023 – 2024	116.2
2024 – 2025	75.2
2025 – 2026	52.3
2026 – 2027	38.5
2027 – 2028	15.4
	482.4

9. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2020 to 2028. Subject to funding approval, we will deliver the proposed works under a re-measurement contract because the quantities of works may vary depending on actual site conditions. The contract will provide for price adjustments.

10. We estimate the annual recurrent expenditure arising from the project to be $2.15 million.

/**PUBLIC** …..

PUBLIC CONSULTATION

11. The HyD conducted public consultations with the local community in August and September 2018 and obtained their general support on the project. The HyD also consulted the Yau Tsim Mong District Council on the project on 27 September 2018. Members generally expressed support for the early implementation of the relevant works.

12. We gazetted the scheme and plan of the project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) on 15 and 22 March 2019. During the statutory period, no objection was received and the project was hence authorised for implementation. The relevant authorisation notice was gazetted on 31 May and 7 June 2019.

13. The HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)[1] on the aesthetic design of the project. The Committee accepted the proposed aesthetic design.

14. We consulted the Legislative Council Panel on Transport on the project on 17 January 2020. Members generally supported the project. In response to Members' enquiry on the justification for implementing the project, we will provide supplementary information to the Panel on Transport.

ENVIRONMENTAL IMPLICATIONS

15. The project is not a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499). The HyD has completed a preliminary environmental review (PER) for the project. The PER concluded and the Director of Environmental Protection agreed that the project would not cause any long-term adverse environmental impact and the project would mitigate the traffic noise impact.

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1 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 Department of Architecture or relevant department from a local institution. ACABAS 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.

16. To contain environmental impacts of the construction works, the HyD shall implement the mitigation measures recommended in the PER during the construction phase, which include the adoption of quality powered mechanical equipment and temporary noise barriers to minimise the noise impact brought about by the construction; regular water spraying for dust control; and the use of temporary drains to collect site runoff for on-site treatment before discharge. We will also carry out regular inspections to ensure that these mitigation measures and good site practices are properly implemented on site. The cost for implementation of the relevant measures has been included in the project estimate.

17. During the planning and design stages, the HyD has considered the design and construction procedures of the proposed works 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[2]. The HyD will encourage the contractor to maximise the recycling of or the use of recyclable inert construction waste, and the use of non-timber formwork.

18. During the construction stage, the HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures. The plan shall 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 and will require the contractor to separate the inert portion from the non-inert portion of construction waste on site for disposal at appropriate facilities. The HyD will monitor the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

19. The HyD estimates that the project will generate a total of about 5 950 tonnes of construction waste. Of these, about 1 200 tonnes (20.2%) of inert construction waste will be reused on site and 4 735 tonnes (79.5%) of inert construction waste will be delivered to public fill reception facilities for subsequent reuse. The remaining 15 tonnes (0.3%) of non-inert construction waste will be disposed at landfills. The total cost of the delivery and disposal of construction waste at public fill reception facilities and landfill sites is estimated to be about $340,000 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 …..

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2 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 at public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

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 does not require acquisition of private land.

TRAFFIC IMPLICATIONS

22. The project will not cause significant traffic impact during construction. To facilitate the related construction works, the HyD will implement temporary traffic arrangements (TTA) and discuss and vet the TTA via the traffic management liaison group established under the CKR project. This group comprises representatives of the contractor, the Hong Kong Police Force, the Transport Department, public transport operators and other relevant government departments. The HyD will specify requirements for implementing the TTA in the works contracts to minimise the traffic impact during construction. The HyD will also display publicity boards on site to provide details of the TTA and the anticipated completion dates of individual sections of works. In addition, the HyD has also established a CKR project telephone hotline for public enquiries or complaints.

BACKGROUND INFORMATION

23. We upgraded the project to Category B in September 2017, and engaged consultants to carry out site investigation, surveys, impact assessments and preliminary design in February 2018. The total cost of the above consultancy service and investigation works was about $2.8 million and was funded by block allocation **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme". The consultancy service and investigation works have been completed.

/24. …..

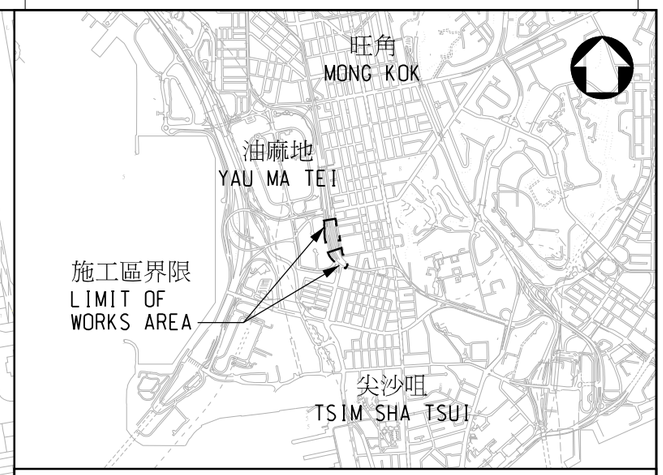
24. Subsequently, the HyD engaged consultants in October 2019 to undertake detailed design for the project. The total cost of the above consultancy service and detailed design work was about $2.35 million and was funded by block allocation **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme". The detailed design of the project has been substantially completed.

25. The project does not require tree removal.

26. We estimate that the project will create about 75 jobs (60 for labourers and 15 for professional/technical staff), providing a total employment of about 3 750 man-months.

圖例 LEGEND:

- 施工區界限 LIMIT OF WORKS AREA
- 擬建密封式隔音罩（有垂直開口） PROPOSED FULL NOISE ENCLOSURE (WITH VERTICAL OPENING)
- 擬建密封式隔音罩 PROPOSED FULL NOISE ENCLOSURE



位置圖 LOCATION PLAN
比例 SCALE 1:40000 @A3

麗翔道 LAI CHEUNG ROAD
835 200 E
835 400 E
819 200 N
835 000 E
835 600 E
819 000 N
油麻地天主教小學 YAUMATI CATHOLIC PRIMARY SCHOOL
東莞街 TUNG KUN STREET
開口 OPENING
高架道路 ELEVATED ROAD
CHING PING STREET 澄平街
FERRY STREET 渡船街
駿發花園 PROSPEROUS GARDEN
眾坊街 PUBLIC SQUARE STREET
前油麻地警署 FORMER YAU MA TEI POLICE STATION
油麻地警署 YAU MA TEI POLICE STATION
御金·國峯 THE CORONATION
欣翔道 YAN CHEUNG ROAD
工務計劃項目第 461TH 號將會興建的隔音罩 NOISE ENCLOSURES TO BE CONSTRUCTED BY PWP ITEM NO. 461TH
變電站 ELECTRIC SUBSTATION
甘肅街 KANSU STREET
0 50 100 m
1 : 2 000 SCALE BAR

圖則名稱 plan title

工務計劃項目第 875TH 號
加士居道天橋隔音罩 - 平面圖

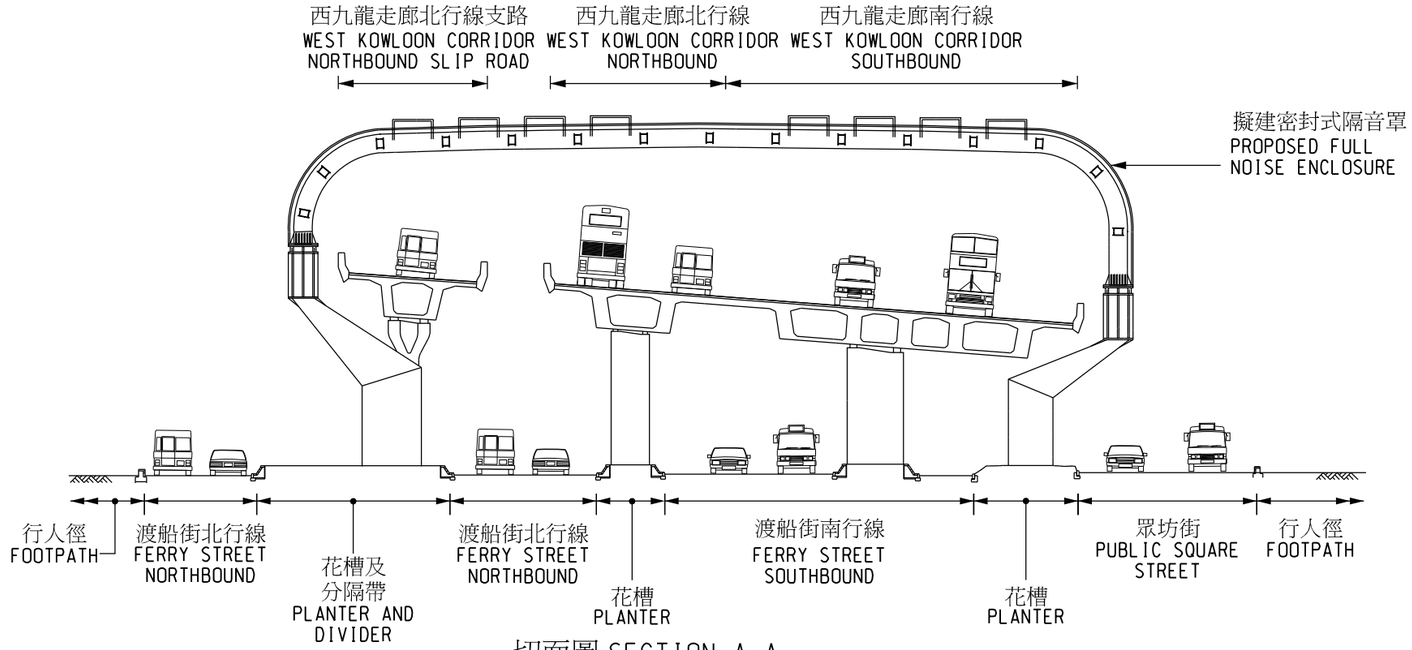
PWP ITEM NO. 875TH
NOISE ENCLOSURES AT GASCOIGNE ROAD FLYOVER - LAYOUT PLAN

圖則編號 plan no. HMW6875TH-L-SK0001

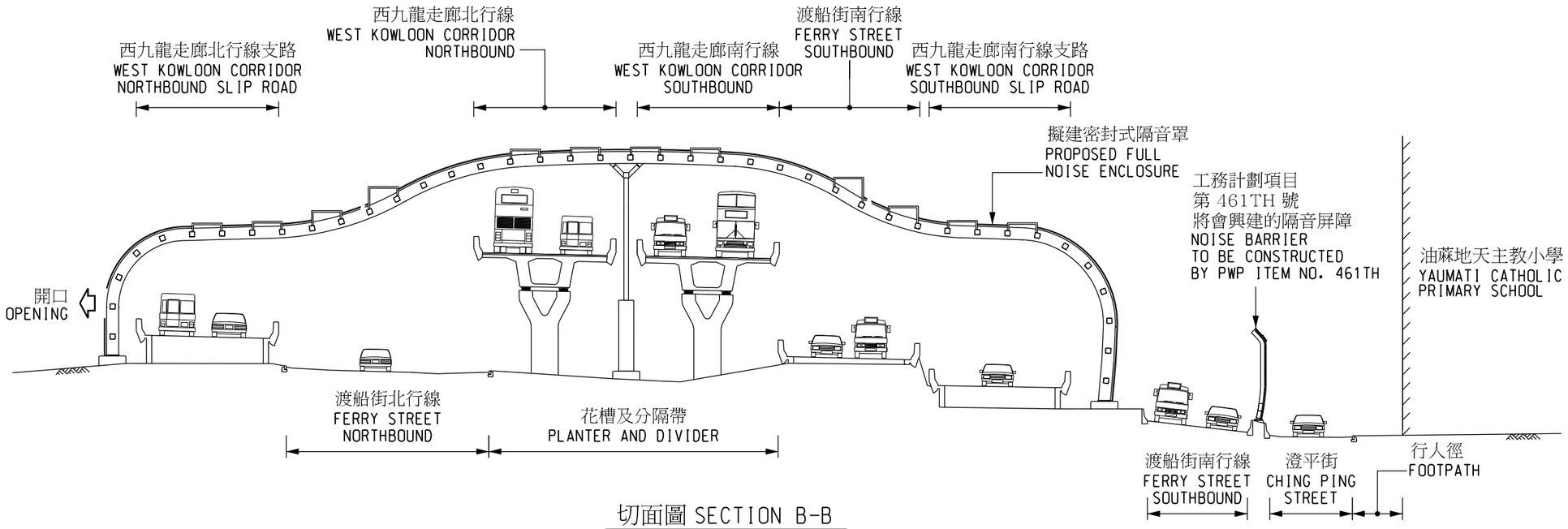
比例 scale 1:2000 @ A3 或如圖示 OR AS SHOWN

HIGHWAYS DEPARTMENT HONG KONG 香港路政署

A3 420 x 297



切面圖 SECTION A-A



切面圖 SECTION B-B

圖則名稱 plan title

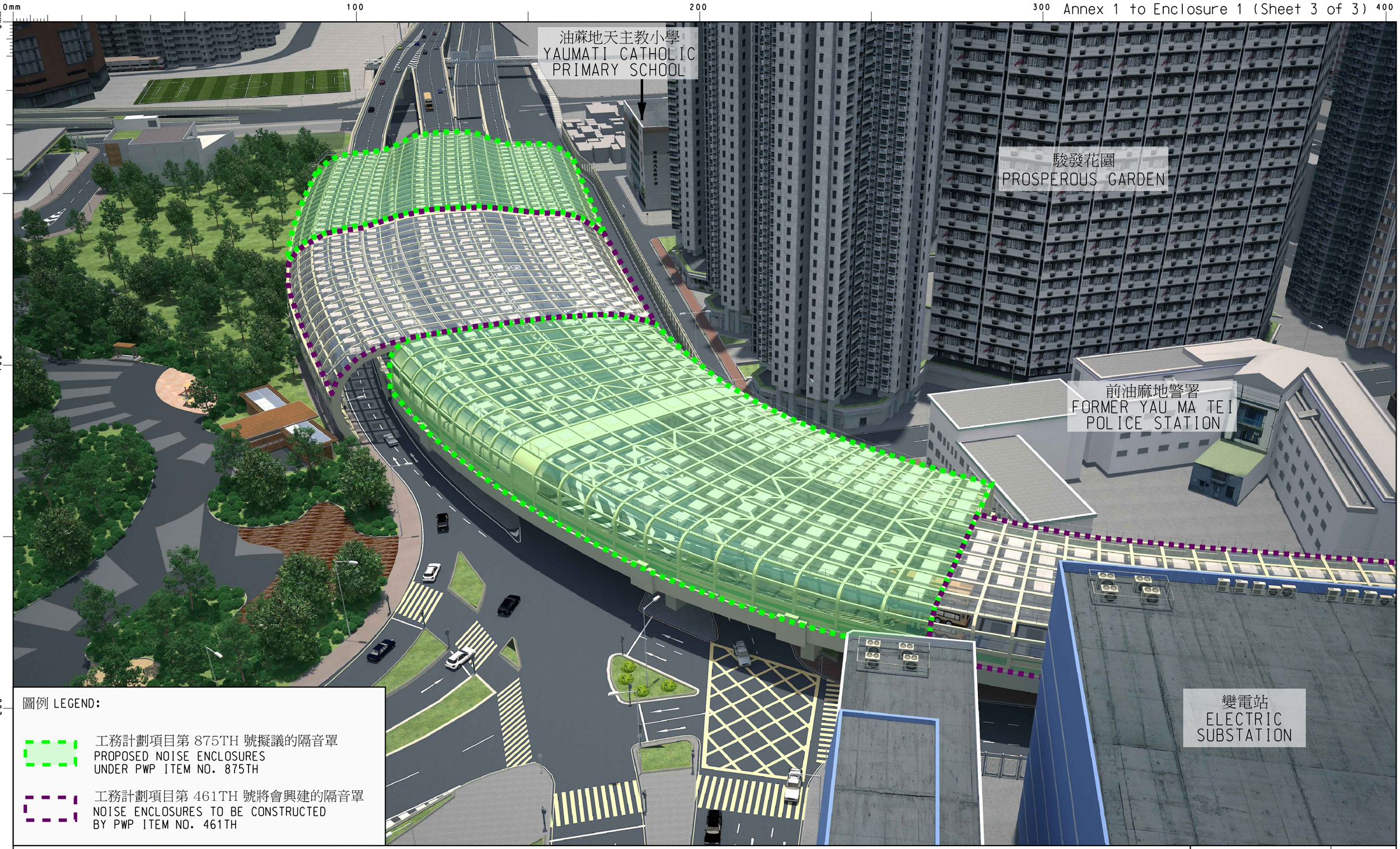
工務計劃項目第 875TH 號
加士居道天橋隔音罩 - 切面圖

PWP ITEM NO. 875TH
NOISE ENCLOSURES AT GASCOIGNE ROAD FLYOVER - SECTIONS

圖則編號 plan no.	比例 scale
HMW6875TH-L-SK0002	示意圖 DIAGRAMMATIC

HIGHWAYS DEPARTMENT HONG KONG 香港路政署

A3 420 x 297



圖例 LEGEND:

工務計劃項目第 875TH 號擬議的隔音罩
PROPOSED NOISE ENCLOSURES UNDER PWP ITEM NO. 875TH

工務計劃項目第 461TH 號將會興建的隔音罩
NOISE ENCLOSURES TO BE CONSTRUCTED BY PWP ITEM NO. 461TH

圖則名稱 plan title

工務計劃項目第 875TH 號
加士居道天橋隔音罩 - 構思圖
PWP ITEM NO. 875TH
NOISE ENCLOSURES AT GASCOIGNE ROAD FLYOVER - ARTIST'S IMPRESSION OF PROPOSED WORKS

圖則編號 plan no.
HMW6875TH-L-SK0003

比例 scale
示意圖
DIAGRAMMATIC

HIGHWAYS DEPARTMENT HONG KONG
路政署 香港

A3 420 x 297

圖例 LEGEND:

工務計劃項目第 875TH 號擬議的噪音緩減措施
PROPOSED NOISE MITIGATION MEASURES
UNDER PWP ITEM NO. 875TH

密封式隔音罩
FULL NOISE ENCLOSURE

工務計劃項目第 461TH 號將會保留興建的噪音緩減措施
RETAINED NOISE MITIGATION MEASURES
TO BE CONSTRUCTED BY PWP ITEM NO. 461TH

密封式隔音罩
FULL NOISE ENCLOSURES

半密封式隔音罩
PROPOSED SEMI-ENCLOSURE

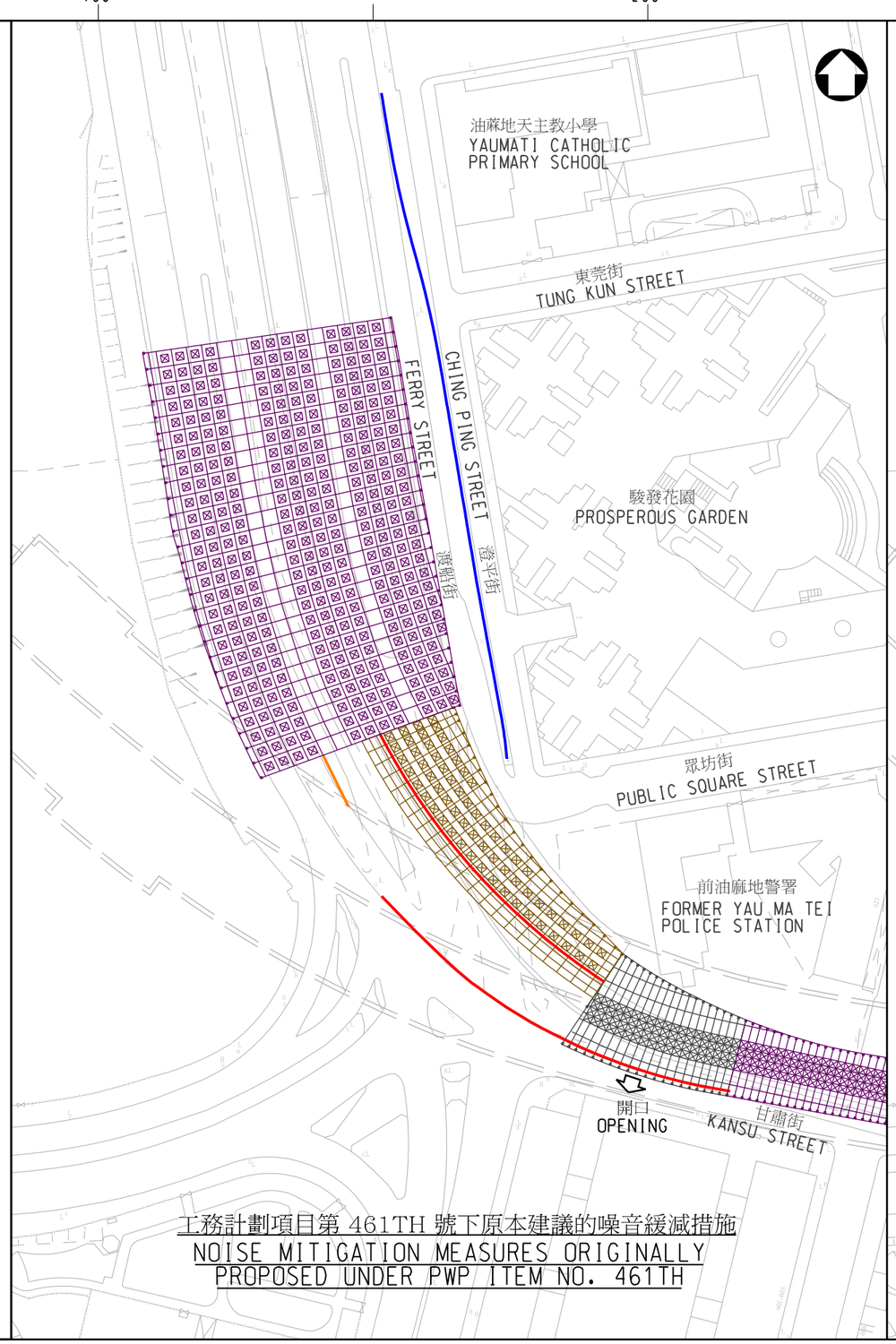
因實施工務計劃項目第 875TH 號而作出的變更
CHANGES DUE TO IMPLEMENTATION OF
PWP ITEM NO. 875TH

工務計劃項目第 461TH 號下原本建議的
直立式隔音屏障(將刪去)
ORIGINALLY PROPOSED
VERTICAL NOISE BARRIERS UNDER
PWP ITEM NO. 461TH (TO BE DELETED)

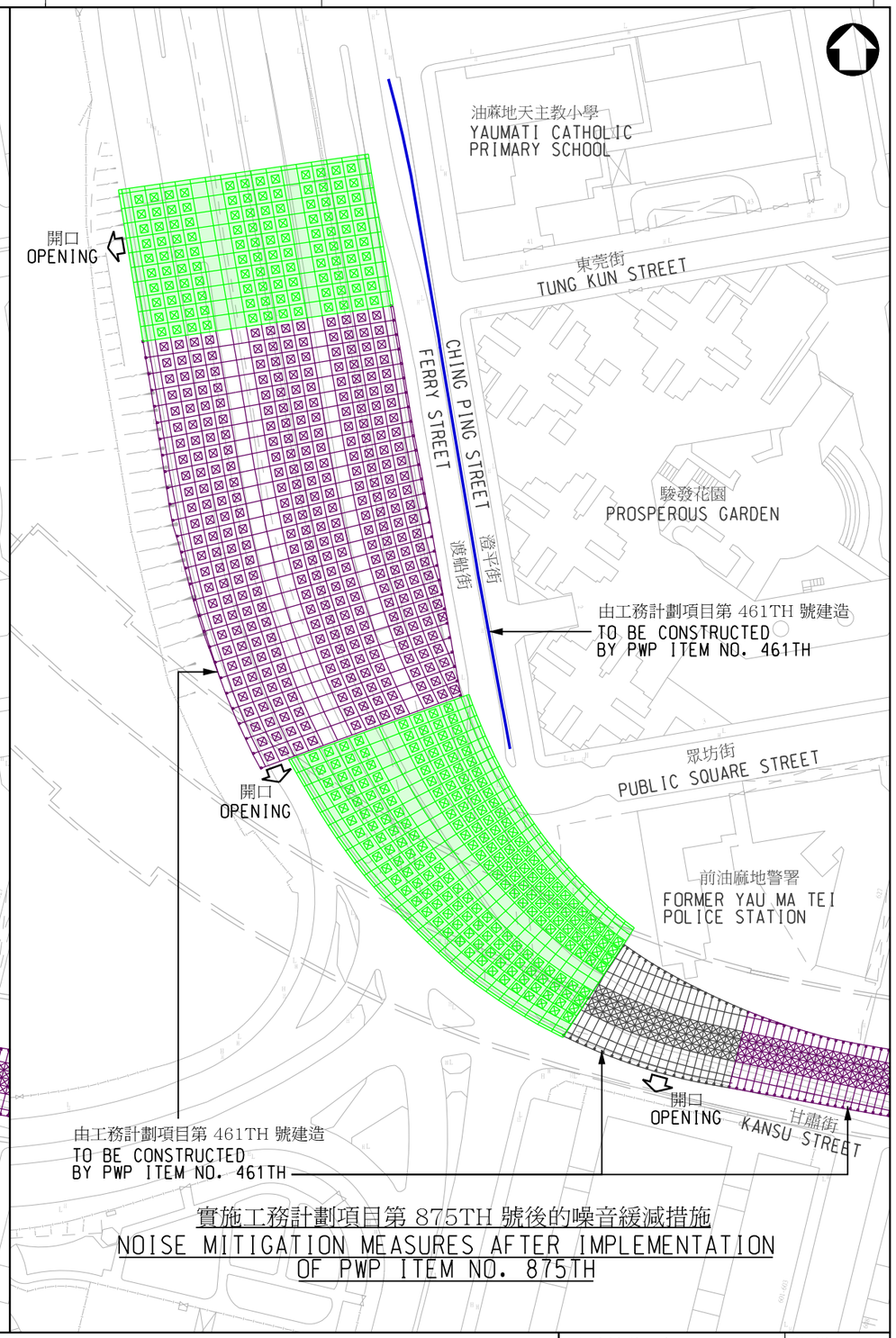
工務計劃項目第 461TH 號下原本建議的
懸臂式隔音屏障(將調整走線)
ORIGINALLY PROPOSED
CANTILEVER NOISE BARRIER UNDER
PWP ITEM NO. 461TH
(TO BE REALIGNED)

工務計劃項目第 461TH 號下原本建議的
懸臂式隔音屏障(將刪去)
ORIGINALLY PROPOSED
CANTILEVER NOISE BARRIER UNDER
PWP ITEM NO. 461TH (TO BE DELETED)

工務計劃項目第 461TH 號下原本建議的
半密封式隔音罩(將刪去)
ORIGINALLY PROPOSED
SEMI-ENCLOSURE UNDER
PWP ITEM NO. 461TH (TO BE DELETED)



工務計劃項目第 461TH 號下原本建議的噪音緩減措施
NOISE MITIGATION MEASURES ORIGINALLY
PROPOSED UNDER PWP ITEM NO. 461TH



實施工務計劃項目第 875TH 號後的噪音緩減措施
NOISE MITIGATION MEASURES AFTER IMPLEMENTATION
OF PWP ITEM NO. 875TH

圖則名稱 plan title

工務計劃項目第 875TH 號
加士居道天橋隔音罩 - 與工務計劃項目第 461TH 號原本建議的噪音緩減措施的比對

PWP ITEM NO. 875TH
NOISE ENCLOSURES AT GASCOIGNE ROAD FLYOVER - COMPARISON WITH NOISE MITIGATION MEASURES ORIGINALLY PROPOSED UNDER PWP ITEM NO. 461TH

圖則編號 plan no.
HMW6875TH-L-SK0004

比例 scale
示意圖
DIAGRAMMATIC

HIGHWAYS DEPARTMENT HONG KONG 香港路政署

A3 420 x 297

875TH – Noise Enclosures at Gascoigne Road Flyover

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2019 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	–	–	–	0.5
		Technical	–	–	–	0.5
					Sub-total	1.0#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	53	38	1.6	7.3
		Technical	225	14	1.6	10.9
					Sub-total	18.2
	Comprising –					
	(i) consultants' fee for management of RSS					0.2#
	(ii) remuneration of RSS					18.0#
					Total	**19.2**

* MPS – Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $85,870 per month and MPS salary point 14 = $30,235 per month).

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

3. The actual man-months and actual costs 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 6 of Enclosure 1.

853TH – Widening of Castle Peak Road – Castle Peak Bay

PROJECT SCOPE AND NATURE

The proposed scope of works under this project includes –

(a) widening of the section of Castle Peak Road – Castle Peak Bay (CPR – CPB) between Hoi Wing Road and Hong Kong Gold Coast Phase I, Tuen Mun (approximately 1.9 kilometres (km) long) from the current single two-lane carriageway to a dual two-lane carriageway;

(b) improvement to nine existing road junctions and a roundabout[1] at the above road section;

(c) modification of an existing footbridge near Sam Shing Estate and construction of lifts; and

(d) ancillary works including drainage, traffic aids, public lighting, environmental mitigation measures, landscaping, slope, retaining walls, electrical and mechanical as well as other ancillary works.

A layout plan and cross-section plan of the project are at **Annex 1 to Enclosure 2**.

2. Subject to funding approval of the Finance Committee (FC) within this legislative session, we plan to commence the construction works in the second half of this year for completion by the second quarter of 2024. To meet the programme, the Highways Department (HyD) plans to initiate parallel tendering of the works contract in order to start the construction works as early as possible. The contract will only be awarded after obtaining funding approval from the FC.

/**JUSTIFICATION** …..

1 The nine existing road junctions include (1) Castle Peak Road / Hoi Wing Road; (2) Castle Peak Road / Sam Shing Street (near Hoi Wing Road); (3) Castle Peak Road / Sam Shing Street (near Castle Peak Beach); (4) Castle Peak Road / Tsing Yan Street; (5) Castle Peak Road / Tsing Yung Street; (6) Castle Peak Road / Golden Beach Path; (7) Castle Peak Road / to Gold Coast; (8) Castle Peak Road / access road to Crossroads Foundation; and (9) So Kwan Wat / Kwun Tsing Road. The roundabout is located at Castle Peak Road / Tsing Ying Road.

JUSTIFICATION

3. CPR (about 16 km long) connects Tsuen Wan and Tuen Mun. It runs parallel to Tuen Mun Road and serves the east-west traffic movements in the northwest New Territories. We completed the improvement works to the section of CPR from Siu Lam to So Kwun Tan (about 2.8 km long) in November 2000, the improvement works to the section of CPR from Ka Loon Tsuen to Siu Lam (about 2.8 km long) in April 2007, and the widening works to the section of CPR from Tsuen Wan Area 2 to Ka Loon Tsuen (about 8.5 km long) in June 2007. The project is to widen the section of CPR - CPB between Hoi Wing Road and Hong Kong Gold Coast Phase I, Tuen Mun (about 1.9 km long) from the current single two-lane carriageway of approximately 10.3 metres wide to a dual two-lane carriageway consistent with the configurations of those upgraded road sections of CPR so as to enhance the effectiveness of CPR in easing traffic and cope with the future traffic demand.

4. At present, the volume/capacity (v/c) ratio[2] of the relevant road section has reached 0.88 during morning peak hours on weekdays, indicating only slight spare capacity for this road section. According to traffic impact assessment, we anticipate that the traffic demand of relevant road section will increase significantly with the developments in Tuen Mun area, leading to traffic congestion. Therefore, we need to widen the abovementioned road section of CPR - CPB to dual two-lane carriageway with a view to relieving the traffic congestion and coping with future traffic demand. Upon completion of the project, it is anticipated that the v/c ratios of CPR - CPB during morning peak hours in 2024 and 2031 will be improved as follows –

Year	**v/c ratio of CPR-CPB**	
	Without the project	**With the project**
At present (2020)	0.88	-
2024	1.08	0.54
2031	1.20	0.63

5. Furthermore, for the concerned section of CPR-CPB which is currently a single two-lane carriageway, traffic congestion will be inevitable in the event of traffic incident or emergency works (for example, repair of water main burst). The project will strengthen the resilience of the relevant road section to

/traffic …..

2 A preferable v/c ratio is 0.85. A v/c ratio equals to or less than 1.0 is considered acceptable. A v/c ratio between 1.0 and 1.2 indicates a manageable degree of congestion. A v/c ratio above 1.2 indicates more serious congestion.

traffic incident or emergency works. The project also comprises improvement to nine existing road junctions and a roundabout to enhance the road safety; modification to an existing footbridge near Sam Shing Estate and construction of lifts to provide barrier-free access facilities; provision of noise barriers, noise semi-enclosures and low noise road surfacing to mitigate the noise impact on nearby residents; and construction of retaining walls in view of the road widening.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be $755.2 million in money-of-the-day (MOD) prices (please see paragraph 8 below), with the following breakdown –

			$ million (in MOD prices)
(a)	Roads, drains and waterworks		231.4
(b)	Noise mitigation measures		112.5
(c)	Modification of footbridge		26.5
(d)	Retaining walls and slope works		202.4
(e)	Landscaping works		19.4
(f)	Public lighting facilities		5.5
(g)	Consultants' fee for		15.8
	(i) contract administration	6.8	
	(ii) management of resident site staff (RSS)	9.0	
(h)	Remuneration of RSS		74.7
(i)	Contingencies		67.0
	Total		755.2

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

/8. …..

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

Year	$ million (in MOD prices)
2020 – 21	20.0
2021 – 22	122.7
2022 – 23	170.8
2023 – 24	188.9
2024 – 25	139.9
2025 – 26	74.5
2026 – 27	23.7
2027 – 28	14.7
	755.2

9. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2020 to 2028. Subject to funding approval, we will award the contracts using the New Engineering Contract (NEC)[3] form, and the contract will provide for price adjustments.

10. We estimate the annual recurrent expenditure arising from the project to be about $8.99 million.

PUBLIC CONSULTATION

11. The HyD consulted the Traffic and Transport Committee (T&TC) of Tuen Mun District Council (TMDC) on the project on 16 November 2012 and 13 September 2013. The T&TC had no in-principle objection to the project. Having taken into account the views from the T&TC, the HyD further developed an improved scheme and consulted the T&TC and its working group again in 2014 and 2015. As detailed in paragraph 13 below, the project was subject to a case of judicial review in September 2015. Subsequent to the conclusion of the judicial review case in May 2019, the HyD reported the progress of the project to the T&TC

/on …..

3 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.

on 6 September 2019. The T&TC generally expressed support for the early implementation of the proposed works.

12. We gazetted the scheme and plan of the project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 10 and 17 January 2014. During the statutory period, 281 objections were received with most of them in the form of standard letters. The objections mainly concerned the need, traffic and road design, and environmental impact of the project. In response to the objectors' views, we suggested modifying the design. The Chief Executive-in-Council has, after considering the modified design and the objections, authorised the project in accordance with the Ordinance on 2 June 2015. The relevant authorisation notice was gazetted on 3 July 2015 and 10 July 2015.

13. In September 2015, implementation of the project was suspended due to the judicial review, rendering the project unable to go ahead with the original schedule of tendering in 2015 and construction from 2016 to 2019. The applicant of the judicial review (case number: HCAL 177/2015) mainly considered that the Government had not adopted the latest Air Quality Index to conduct environmental review. The High Court handed down its judgement on the judicial review on 17 May 2019, which was in favour of the Government. The HyD promptly resumed the implementation of the project since then and the latest working timetable is set out in paragraph 2 above.

14. The HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)[4] on the aesthetic design of the noise mitigation measures and the retaining walls of the project. The Committee accepted the proposed aesthetic designs.

15. We consulted the Legislative Council Panel on Transport on the project on 20 March 2020. Members generally supported the project. In response to Members' enquiries on the basis of population and traffic assumptions of the project, change in the v/c ratio of the relevant road section and the effectiveness of widened CPR in diverting traffic of Tuen Mun Road, we will provide supplementary information to the Panel on Transport. Besides, some Members raised of learning the request for dropping the proposed noise barrier fronting the

/Hong …..

4 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 Department of Architecture and relevant department from a local institution. ACABAS 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.

Hong Kong Gold Coast Phase I (HKGCI) from its residents. The noise barrier concerned is one of the recommended mitigation measures of the project and has been authorised under the Ordinance. Dropping the noise barrier concerned would require gazettal and authorisation in accordance with the Ordinance. The HyD met with the residents concerned on 6 April 2020 to explain and discuss the matter. Subject to the majority views of owners of the estate, the HyD will consider taking follow up actions according to relevant procedures (including consultation with the District Council where necessary and gazettal under the Ordinance). In order not to delay implementation of the project, we propose to seek funding approval for the project in parallel to following up on the noise barrier fronting HKGCI.

ENVIRONMENTAL IMPLICATIONS

16. The project is not a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499). The HyD has completed a preliminary environmental review (PER) for the project . The PER concluded and the Director of Environmental Protection agreed that the project would not cause long-term environmental impact.

17. To contain environmental impacts of the construction work, the HyD shall implement the mitigation measures recommended in the PER during the construction phase, which include the adoption of quality powered mechanical equipment and temporary noise barriers to minimise the noise impact brought about by the construction; regular water spraying for dust control; and the use of temporary drains to collect site runoff for on-site treatment before discharge. We will also carry out regular inspections to ensure that these mitigation measures and good site practices are properly implemented on site. The cost for implementation of the relevant measures has been included in the project estimate.

18. During the planning and design stages, the HyD has considered the design and construction procedures of the proposed works 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[5]. The HyD will encourage the contractor to maximise the recycling of or the use of recyclable inert construction waste, and the use of non-timber formwork.

/19. …..

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5 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 at public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

19. During the construction stage, the HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures. The plan shall 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 and will require the contractor to separate the inert portion from the non-inert portion of construction waste on site for disposal at appropriate facilities. The HyD will monitor the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

20. The HyD estimates that the project will generate a total of about 70 160 tonnes of construction waste. Of these, about 20 880 tonnes (29.8%) of inert construction waste will be reused on site and about 48 760 tonnes (69.5%) of inert construction waste will be delivered to public fill reception facilities for subsequent reuse. The remaining non-inert construction waste of about 520 tonnes (0.7%) will be disposed at landfills. The total cost of the delivery and disposal of construction waste at public fill reception facilities and landfill sites is estimated to be about $3.57 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

21. 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.

LAND ACQUISITION

22. The project does not require resumption of private land. That said, the relevant grantees need to return about 2 778 m^2 of land to the Government, and clear about 73 100 m^2 of Government land in accordance with the lease conditions for the construction works. The cost of land clearance, estimated to be $288,000, will be charged to **Head 701** "Land Acquisition". A breakdown of the estimated land clearance cost is at **Annex 3 to Enclosure 2**.

TRAFFIC IMPLICATIONS

23. The project will not cause significant traffic impact during construction. To facilitate the related construction works, the HyD will implement temporary traffic arrangements (TTA) and set up a traffic management liaison group to discuss and vet the TTA. This group comprises representatives of the contractor, the Hong Kong Police Force, the Transport Department, public transport operators and other relevant government departments. The HyD will specify requirements for implementing the TTA in the works contracts to minimise the traffic impact during construction. The HyD will also display publicity boards on site to provide 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

24. We upgraded the project to Category B in July 2011, and engaged consultants to carry out site investigation and detailed design in November 2013. The total cost of the above consultancy service was about $9.83 million and was funded by block allocation **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme". The relevant site investigation and detailed design have been substantially completed.

25. There are about 692 trees within the project boundary of which 403 will be preserved. In order to make way for the proposed road widening, 72 trees will be transplanted to other locations within the site and the remaining 217 trees assessed to be unsuitable for transplant after tree survey will be felled. All trees affected by the project are commonly found in Hong Kong and they are not large or important trees[6]. The HyD will incorporate planting proposals into the project, including the compensatory planting of about 88 new trees and 218 palm trees.

/26. …..

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6 "Important trees" refers to trees set out in the Register of Old and Valuable Trees, or any other tree that meets 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 person or event;

(c) trees of precious or rare species;

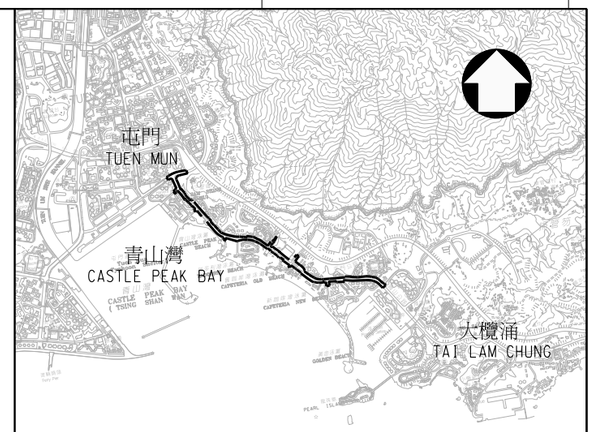
(d) trees of outstanding forms (taking account of overall tree size, shape and any special feature) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or

(e) trees with trunk diameter of or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread of or exceeding 25 m.

26. We estimate that the project will create about 190 jobs (150 for labourers and 40 for professional/technical staff), providing a total employment of about 7 600 man-months.

圖例 LEGEND:

- 施工區界限 WORKS BOUNDARY
- 擬重建/擴闊的行車道 PROPOSED RECONSTRUCTION/WIDENING OF CARRIAGEWAY
- 擬重建的行人路 PROPOSED RECONSTRUCTION OF FOOTPATH
- 擬建半密閉式隔音罩 PROPOSED NOISE SEMI-ENCLOSURES
- 擬建懸臂式隔音屏障 PROPOSED CANTILEVER NOISE BARRIERS
- 擬建護土牆 PROPOSED RETAINING WALLS
- 擬建升降機 PROPOSED LIFT



索引圖 KEY PLAN
比例 SCALE 1 : 50 000

海榮路 HOI WING ROAD
擬建升降機 PROPOSED LIFT
827000N
擬建升降機 PROPOSED LIFT
三聖邨 SAM SHING ESTATE
三聖墟 SAM SHING HUI
屯門公路 TUEN MUN ROAD
青山公路－青山灣段 CASTLE PEAK ROAD - CASTLE PEAK BAY
青山灣 CASTLE PEAK BAY
香港黃金海岸 HONG KONG GOLD COAST
管青路 KWUN TSING ROAD
816000E
826000N
817000E
0 50 100 150 200 250 m
1 : 5 000 SCALE BAR

圖則名稱 drawing title
工務計劃項目第6853TH號
青山公路青山灣段擴闊工程
平面圖
PWP ITEM No. 6853TH
WIDENING OF CASTLE PEAK ROAD - CASTLE PEAK BAY
LAYOUT PLAN

圖則編號 drawing no. HMW6853TH-SK0025
比例 scale 1:5000

HIGHWAYS DEPARTMENT HONG KONG 香港路政署

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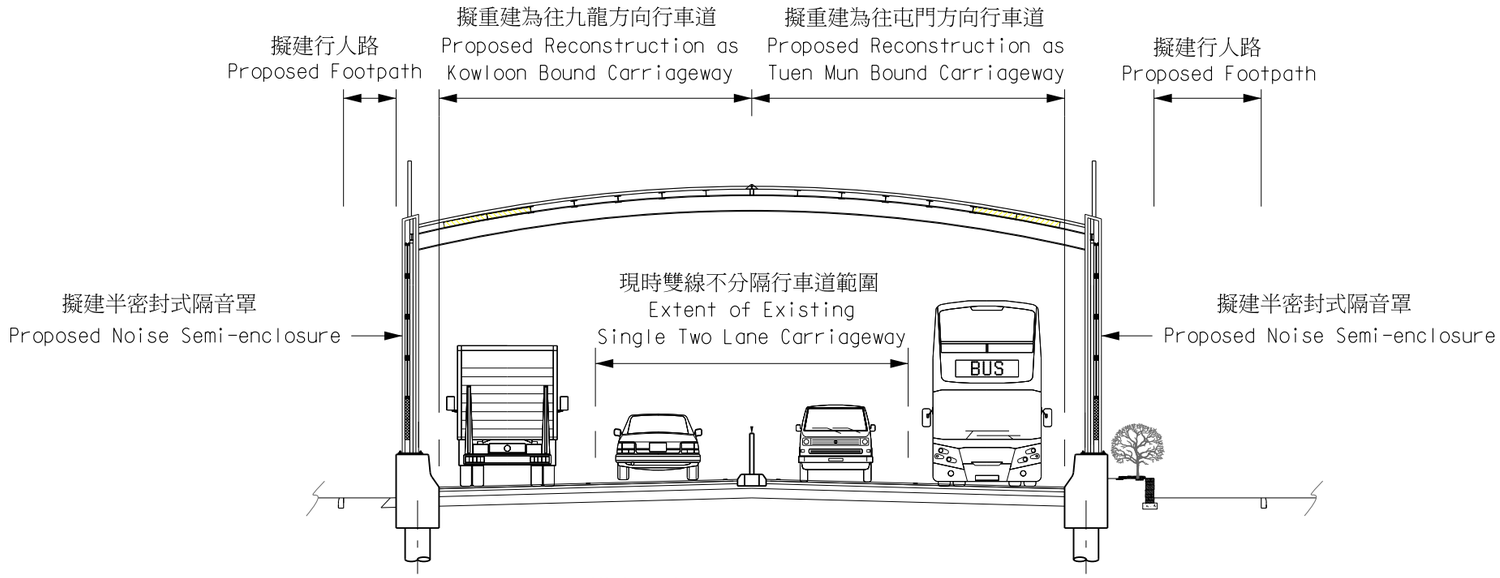
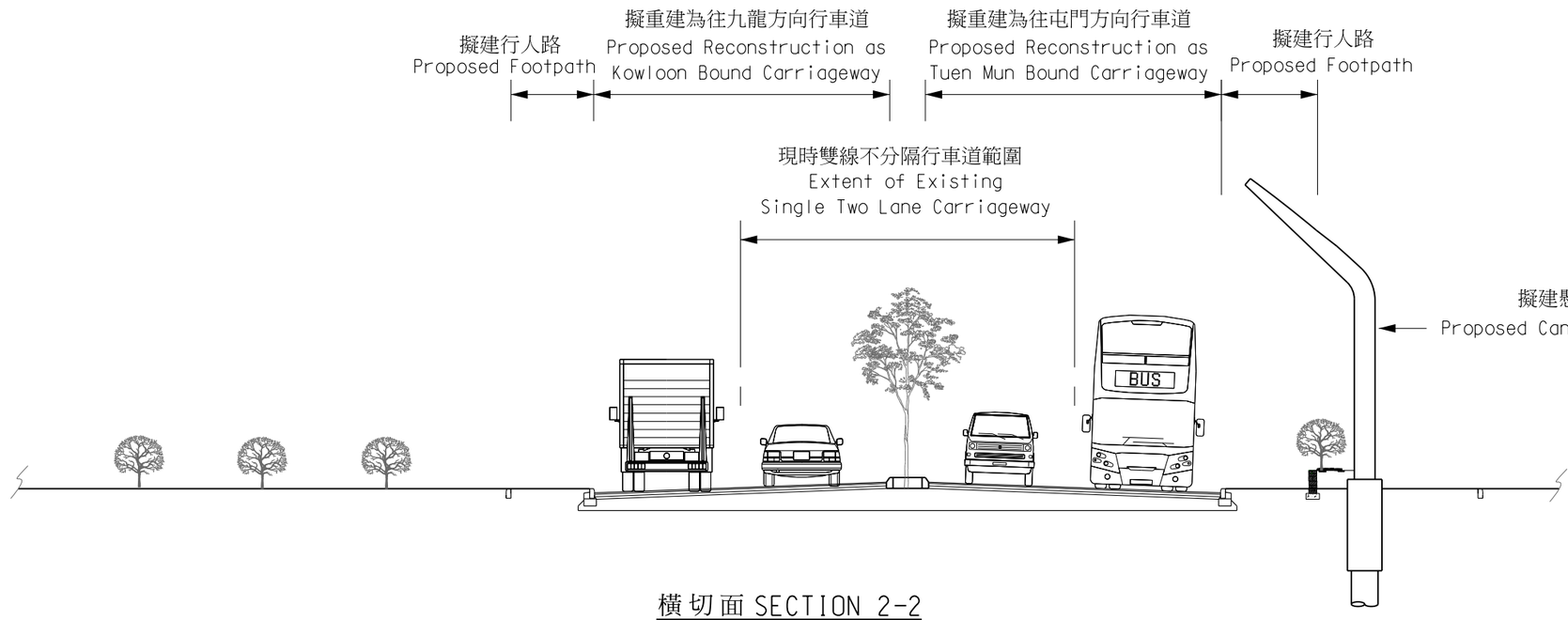
A3 420 x 297



橫切面 SECTION 1-1



橫切面 SECTION 2-2

圖則名稱 drawing title
工務計劃項目第6853TH號
青山公路青山灣段擴闊工程
橫切面圖
PWP ITEM NO. 6853TH
WIDENING OF CASTLE PEAK ROAD - CASTLE PEAK BAY
CROSS SECTIONS

圖則編號 drawing no.
HMW6853TH-SK0026

比例 scale
示意圖
DIAGRAMMATIC

HIGHWAYS DEPARTMENT HONG KONG
路政署 香港

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A3 420 x 297

853TH – Widening of Castle Peak Road – Castle Peak Bay

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2019 prices)

		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a) Consultants' fee for contract administration (Note 2)	Professional		–	–	4.0
	Technical		–	–	1.7
				Sub-total	5.7#
(b) Resident site staff (RSS) costs (Note 3)	Professional	133	38	1.6	18.3
	Technical	1078	14	1.6	52.1
				Sub-total	70.4
Comprising –					
(i) consultants' fees for management of RSS					7.6#
(ii) remuneration of RSS					62.8#
				Total	**76.1**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $85,870 per month and MPS salary point 14 = $30,235 per month).

2. The consultant's staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of the project. The construction phase of the assignment in respect of works will only be executed subject to FC's approval to upgrade the project to Category A.

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

Remarks

The cost figures in this Annex are shown in constant prices to correspond to the MPS salary point of the same year. The figures marked with # are shown in MOD prices in paragraph 6 of Enclosure 2.

853TH – Widening of Castle Peak Road – Castle Peak Bay

Breakdown of land clearance cost

			$ million
(I)	**Estimated cost for land clearance**		0.25
(a)	Ex-gratia allowance for crops compensation and miscellaneous permanent improvements to farms	0.25	
(II)	**Interest and Contingency Payment**		0.038
		Total	0.288
			(say 0.288)

850TH – New Wang Tong River Bridge

PROJECT SCOPE AND NATURE

The proposed scope of works under this project includes –

(a) construction of a twin-bridge of approximately 35 metres in length comprising a footbridge and a cycle bridge with clear widths of 2 metres and 3.5 metres respectively across Wang Tong River in Mui Wo, and demolition of the existing Wang Tong River Bridge;

(b) construction of approach footpaths and cycle tracks at the two ends of the proposed twin-bridge to connect with existing roads;

(c) construction of a cycle parking area at the northern end of the proposed twin-bridge;

(d) ancillary works including associated demolition, geotechnical, drainage, public utilities, public lighting and landscaping works, etc.; and

(e) implementation of an environmental monitoring and audit (EM&A) programme for the works mentioned in the above items (a) to (d).

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

2. Subject to funding approval of the Finance Committee (FC) within this legislative session, we plan to commence the construction works in the third quarter of this year for completion by the first quarter of 2024. To meet the programme, the Highways Department (HyD) has initiated parallel tendering of the works contract in October 2019 in order to start the construction works as early as possible. The contract will only be awarded after obtaining funding approval from the FC.

/**JUSTIFICATION**

JUSTIFICATION

3. The existing Wang Tong River Bridge serves as an essential public access between Wang Tong and Silver Mine Bay Beach in Mui Wo and the area to the south of Wang Tong River. The existing Wang Tong River Bridge is only about 1.8 metres in clear width. Such narrow deck width gives rise to road safety concerns as pedestrians and cyclists often compete for road space, particularly during peak hours and holidays.

4. Besides, the Civil Engineering and Development Department (CEDD) has commenced the project "Improvement works at Mui Wo" since 2014 to improve the environment and facilities in the area, and enhance the attractiveness of Mui Wo to tourists and visitors. The CEDD has completed phase 1 of "Improvement works at Mui Wo" in June 2017, which comprises the construction of a 230 metres long segregated pedestrian walkway and cycle track along the waterfront between Mui Wo Cooked Food Market and River Silver, and a 35 metres long footbridge across River Silver to segregate pedestrians from cyclists. The project will complement the improvement works at Mui Wo to provide safer and more comprehensive cycle track and footpath networks connecting Mui Wo Ferry Pier to Wang Tong and Silver Mine Bay Beach areas to meet the needs of local residents and tourists.

5. The project will replace the existing Wang Tong River Bridge with a new twin-bridge to widen the river crossing to accommodate a new footpath cum cycle track, segregating pedestrians from cyclists, so as to enhance road safety. We expect that the hourly usage rate of the proposed twin-bridge will be about 650 pedestrian trips and 250 cyclist trips during peak hours.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be $99.7 million in money-of-the-day (MOD) prices (please see paragraph 8 below), with the following breakdown –

		$ million (in MOD prices)
(a)	Twin-bridge	54.6
	(i) Bridge structure	27.7
	(ii) Foundation	26.9

/(b) …..

(b)	Footpath, cycle track and cycle parking area	3.4
(c)	Demolition of existing footbridge	2.6
(d)	Geotechnical works (including river walls and retaining walls at the two ends of the twin-bridge)	12.9
(e)	Associated drainage, public utilities, public lighting and landscaping works, etc.	9.7
(f)	Environmental mitigation measures	3.8
(g)	Consultants' fee (EM&A)	3.7
(h)	Contingencies	9.0
	Total	99.7

7. The HyD proposes to engage consultants to undertake the EM&A programme for the project. A breakdown of the estimated consultants' fee by man-months is at **Annex 2 to Enclosure 3**.

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

Year	**$ million (in MOD prices)**
2020-2021	9.0
2021-2022	21.1
2022-2023	28.5
2023-2024	19.8
2024-2025	13.1
2025-2026	5.0
2026-2027	3.2
	99.7

/9. …..

9. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2020 to 2027. Subject to funding approval, we will deliver the proposed works under a re-measurement contract because the quantities of works may vary depending on actual site conditions. The contract will provide for price adjustments.

10. We estimate the annual recurrent expenditure arising from the project to be about $390,000.

PUBLIC CONSULTATION

11. The HyD consulted the Traffic and Transport Committee of the Islands District Council on the project on 22 May 2017. The Committee expressed support for the implementation of the project.

12. We gazetted the scheme and plan of the project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) on 23 and 30 November 2018. During the statutory period, no objection was received and the project was hence authorised for implementation. The relevant authorisation notice was gazetted on 22 February and 1 March 2019.

13. The HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)[1] on the aesthetic design of the twin-bridge of the project. The Committee accepted the proposed aesthetic design.

14. We consulted the Legislative Council Panel on Transport on the project on 20 December 2019. Members generally supported the project. In response to Members' enquiry on the breakdown of and the justifications for the estimated cost of the project, we provided supplementary information to the Panel on Transport on 20 January 2020.

/ENVIRONMENTAL …..

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1 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 Department of Architecture and relevant department from a local institution. ACABAS 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

15. 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 its construction works. The EIA report for the project was approved on 23 September 2016 and an EP was issued on 23 March 2018 under the EIA Ordinance. The EIA report concluded that with the implementation of the recommended mitigation measures, the environmental impact of the project could be controlled to within the criteria under the EIA Ordinance and the Technical Memorandum on the EIA Process.

16. The HyD shall implement the mitigation measures and EM&A programme during the construction phase, which include the adoption of quality powered mechanical equipment and 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 excavation or dredging works within Wang Tong River, and demolition of piers and abutments of existing bridge. The cost for implementation of the relevant measures and the EM&A programme has been included in the project estimate.

17. During the planning and design stages, the HyD has considered the design and construction procedures of the proposed works 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[2]. The HyD will encourage the contractor to maximise the recycling of or the use of recyclable inert construction waste, and the use of non-timber formwork.

18. During the construction stage, the HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures. The plan shall 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 and will require the contractor to separate the inert portion from the non-inert portion of construction waste on site for disposal at appropriate facilities. The HyD will monitor the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

/19. …..

2 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 a total of about 2 302 tonnes of construction waste. Of these, about 806 tonnes (35.0%) of inert construction waste will be reused on site and about 1 332 tonnes (57.9%) of inert construction waste will be delivered to public fill reception facilities for subsequent reuse. The remaining non-inert construction waste of about 164 tonnes (7.1%) will be disposed at landfills. The total cost of the delivery and disposal of construction waste at public fill reception facilities and landfill sites is estimated to be about $130,000 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)).

20. In addition, the HyD estimates that the proposed works will generate about 87 m^3 of marine sediment, which will be disposed of at designated site allocated by the Marine Fill Committee (MFC) or other disposal sites agreed by the MFC and the Environmental Protection Department.

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.

LAND ACQUISITION

22. The project does not require acquisition of private land.

TRAFFIC IMPLICATIONS

23. The project will not cause significant traffic impact during construction. To facilitate the related construction works, the HyD will implement temporary traffic arrangements (TTA) and set up a traffic management liaison group to discuss and vet the TTA. This group comprises representatives of the contractor, the Hong Kong Police Force, the Transport Department and other relevant government departments. The HyD will specify requirements for implementing the TTA in the works contracts to minimise the traffic impact during construction. The HyD will also display publicity boards on site to provide 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

24. We upgraded the project to Category B in September 2011, and engaged a term contractor in December 2012 to undertake the ground investigation works. The total cost of the investigation works was about $270,000 and was funded by block allocation **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme". The investigation works have been completed.

25. We engaged engineering consultants in June 2014 to undertake the environmental and drainage impact assessment studies. The total cost of the above consultancy service was about $2.2 million and was funded by block allocation **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme". The consultancy service has been completed.

26. There are about 24 trees within the project boundary of which 17 be preserved. In order to make way for the proposed facilities, the project will require the removal of about 7 trees. According to the established guidelines, tree preservation and removal proposal will be submitted to the Lands Department for approval. All trees affected by the project are not important trees[3]. The HyD will incorporate planting proposals into the project, including the compensatory planting of about 7 new trees.

27. We estimate that the project will create about 35 jobs (30 for labourers and 5 for professional/technical staff), providing a total employment of about 1 150 man-months.

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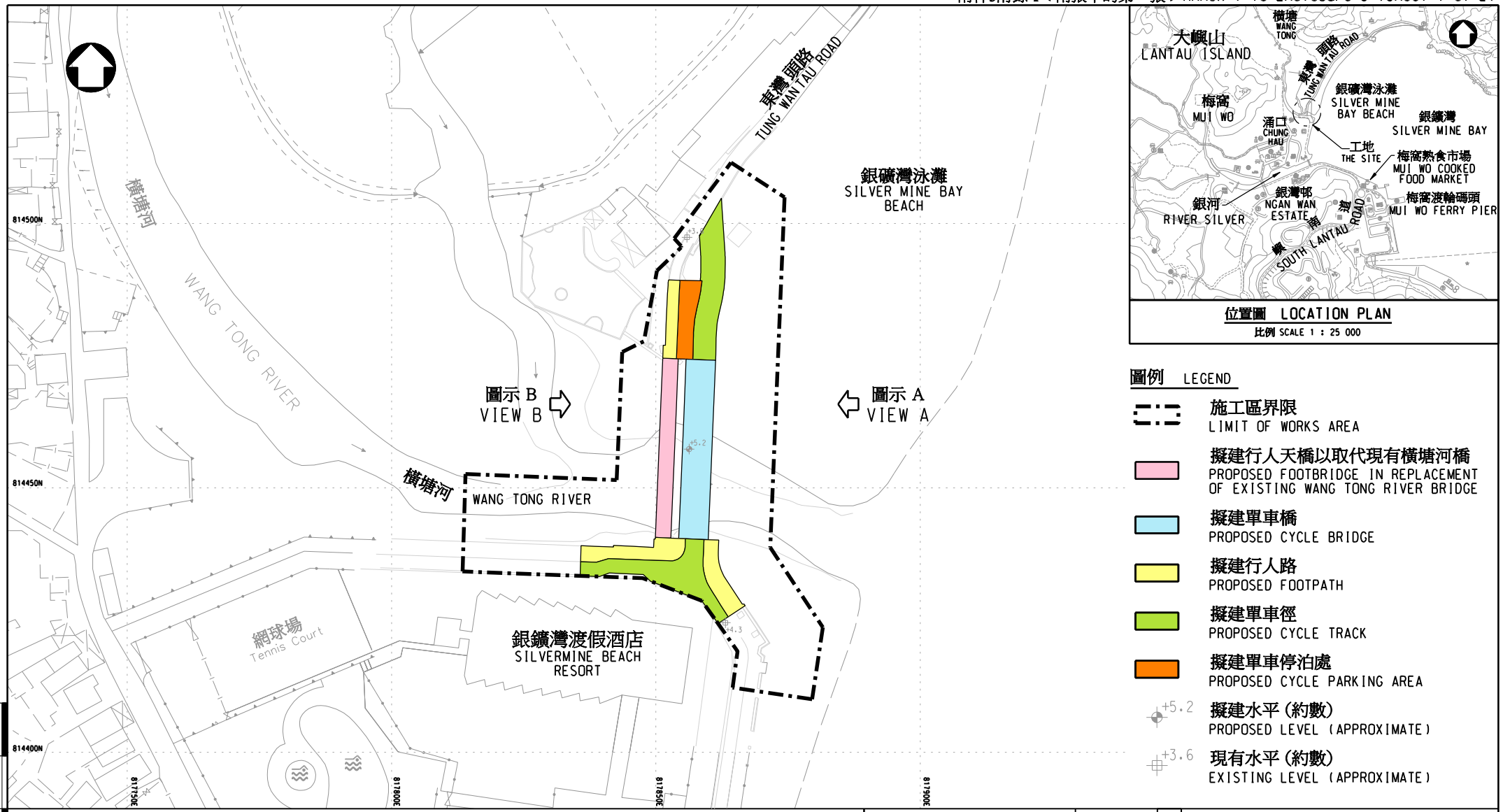
3 "Important trees" refers to trees set out in the Register of Old and Valuable Trees, or any other tree that meets one or more of the following criteria –

(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 person or event;
(c) trees of precious or rare species;
(d) trees of outstanding forms (taking account of overall tree size, shape and any special feature) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter of or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread of or exceeding 25 m.



位置圖 LOCATION PLAN
比例 SCALE 1 : 25 000

圖例 LEGEND

- 施工區界限 LIMIT OF WORKS AREA
- 擬建行人天橋以取代現有橫塘河橋 PROPOSED FOOTBRIDGE IN REPLACEMENT OF EXISTING WANG TONG RIVER BRIDGE
- 擬建單車橋 PROPOSED CYCLE BRIDGE
- 擬建行人路 PROPOSED FOOTPATH
- 擬建單車徑 PROPOSED CYCLE TRACK
- 擬建單車停泊處 PROPOSED CYCLE PARKING AREA
- +5.2 擬建水平 (約數) PROPOSED LEVEL (APPROXIMATE)
- +3.6 現有水平 (約數) EXISTING LEVEL (APPROXIMATE)

圖則名稱 drawing title

工務計劃項目第850TH號
新橫塘河橋 - 平面圖
PWP ITEM NO. 850TH
NEW WANG TONG RIVER BRIDGE - LAYOUT PLAN

比例 scale A4
1 : 1 000
或如圖示
OR AS SHOWN

圖則編號 drawing no.
HWDIS101A-SP0001

辦事處 office
工 程 部
WORKS DIVISION

HIGHWAYS DEPARTMENT HONG KONG 香港路政署

SCALE 1 : 1
0 10 20 30 40 50 mm

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A4 210x297

圖示 A
VIEW A

圖示 B
VIEW B

圖則名稱 drawing title

工務計劃項目第850TH號
新橫塘河橋 - 構思圖

PWP ITEM NO. 850TH
NEW WANG TONG RIVER BRIDGE - ARTIST'S IMPRESSION

比例scale A4
或如圖示
N/A

圖則編號 drawing no.
HWDIS101A-SP0002

辦事處 office
工 程 部
WORKS DIVISION

HIGHWAYS DEPARTMENT HONG KONG 香港路政署

SCALE 1 : 1
0 10 20 30 40 50 mm

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A4 210x297

Annex 2 to Enclosure 3

850TH－New Wang Tong River Bridge

Breakdown of the estimates for consultants' fees (in September 2019 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($million)
(a) Consultants' fee for						
(i)	Environmental monitoring and audit programme (Note 2)	Professional	5	38	2.0	0.8
		Technical	29	14	2.0	1.7
(ii)	Independent environmental checker (Note 2)	Professional	2	38	2.0	0.3
		Technical	7	14	2.0	0.4
					Total	**3.2 #**

* MPS = Master Pay Scale

Notes

1. 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 of now, MPS salary point 38 = $85,870 per month and MPS salary point 14 = $30,235 per month).

2. The actual man-months and actual fees will only be known after selection of the consultants.

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 Enclosure 3.

190TB - Retrofitting of escalators for footbridge across Castle Peak Road - Kwai Chung near MTR Tai Wo Hau Station Exit B

PROJECT SCOPE AND NATURE

The proposed scope of works under this project includes –

(a) construction of covered two-way escalators of approximately 1 metre in clear width at the existing footbridge No. NF77 across Castle Peak Road – Kwai Chung near MTR Tai Wo Hau Station Exit B;

(b) construction of a covered staircase, walkway cover and footpath;

(c) demolition of an existing covered staircase and a section of the existing walkway cover; and

(d) ancillary works including drainage, public utilities, landscaping, public lighting and electrical and mechanical works, as well as installation of street furniture and traffic aids.

A layout plan and artist's impression of the project are at **Annex 1 to Enclosure 4**.

2. Subject to funding approval of the Finance Committee (FC) within this legislative session, we plan to commence the construction works by the third quarter of 2020 for completion by the fourth quarter of 2022. To meet the programme, the Highways Department (HyD) has initiated parallel tendering of the works contract in September 2019 in order to start the construction works as early as possible. The contract will only be awarded after obtaining funding approval from the FC.

JUSTIFICATION

3. Footbridge No. NF77 spans across Castle Peak Road – Kwai Chung. At present, there is a staircase at the northern side of the footbridge linking to the footpath at ground level (i.e. next to MTR Tai Wo Hau Station Exit B) and a lift for accessing the footpath at ground level as well as the concourse of MTR Tai Wo Hau Station. There is also a major bus stop nearby of more than 10 bus routes. The southern side of the footbridge links to Tai Wo Hau Estate and connects to the nearby Kwai Chung Estate, schools as well as other community, recreational and commercial facilities, etc.

/4. …..

4. According to a survey conducted by the Transport Department in January 2019, the estimated pedestrian flow in both directions during peak hours on weekdays at Footbridge No. NF77 was close to 7 000 per hour. Although the lift at the northern side of the footbridge connects the footbridge to the footpath at ground level and the concourse of MTR Tai Wo Hau Station, it is provided mainly for access by disabled persons or those in need. Due to its limited capacity, the waiting time of the lift is relatively long. Most people would therefore opt to take the staircase to commute between the footbridge and the footpath, causing the staircase to be crowded. In order to mitigate the crowded situation, the Government proposes to retrofit escalators for the footbridge to facilitate access by the public.

5. The project will provide covered two-way escalators at the northern side of Footbridge No. NF77 to provide a more comfortable route for pedestrians accessing the MTR station and bus stop via the footbridge, including residents in Tai Wo Hau Estate and Kwai Chung Estate. We estimate that the proposed escalators can attract about 29 000 users a day.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be $49.0 million in money-of-the-day (MOD) prices (please see paragraph 7 below), with the following breakdown –

		$ million (in MOD prices)	
(a)	Escalators and staircase		35.7
	(i) Structure	13.0	
	(ii) Foundation	14.9	
	(iii) Electrical and mechanical works	7.8	
(b)	Demolition of existing footpath cover, construction of temporary footpath cover and construction of new footpath cover		5.8
(c)	Associated road, drainage, public utilities, landscaping, public lighting works, etc.		2.5

/(d) …..

		$ million (in MOD prices)
(d)	Electrical & Mechanical Services Trading Fund	0.6
(e)	Contingencies	4.4
	Total	49.0

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

Year	**$ million (in MOD prices)**
2020-2021	8.7
2021-2022	15.7
2022-2023	14.7
2023-2024	5.9
2024-2025	2.5
2025-2026	1.5
	49.0

8. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2020 to 2026. Subject to funding approval, we will deliver the works under a re-measurement contract because the quantities of works may vary depending on actual site conditions. The contract will provide for price adjustment.

9. We estimate the annual recurrent expenditure arising from the project to be about $440,000.

PUBLIC CONSULTATION

10. The HyD consulted the Traffic and Transport Committees of the Tsuen Wan and Kwai Tsing District Councils on the project on 6 November and 14 December 2017 respectively. Both Committees expressed support for the early implementation of the project.

11. We gazetted the scheme and plan of the project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 21 and 28 September 2018. During the statutory period, one objection was received. The objection was about the need of the project and the inconvenience it would cause during the construction period. While the HyD met the objector on 13 January 2019 and explained the need of the project and the temporary detouring arrangement during the construction period, the objection remained unresolved. We have then submitted the project to the Executive Council for consideration. The Chief Executive-in-Council has, after considering the objection, authorised the project in accordance with Cap. 370 on 14 May 2019. The relevant authorisation notice was gazetted on 31 May and 6 June 2019.

12. The HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)[1] on the aesthetic design of the covered two-way escalators, the covered staircase and the covered walkway of the project. The Committee accepted the proposed aesthetic design.

13. We consulted the Legislative Council Panel on Transport on the project on 20 December 2019. Members generally supported the project.

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. The HyD will control construction noise, dust and site run-off nuisances to levels within established standards and guidelines through the

/implementation …..

1 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 Department of Architecture and relevant department from a local institution. ACABAS 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.

implementation of appropriate mitigation measures. The costs for implementing the relevant measures have been included in the project estimates.

15. During the planning and design stages, the HyD has considered the design and construction procedures of the proposed works 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[2]. The HyD will encourage the contractor to maximise the recycling of or the use of recyclable inert construction waste, and the use of non-timber formwork.

16. During the construction stage, the HyD will require the contractor to submit for the Government's approval a plan setting out the waste management measures. The plan shall 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 and will require the contractor to separate the inert portion from the non-inert portion of construction waste on site for disposal at appropriate facilities. The HyD will monitor the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

17. The HyD estimates that the project will generate a total of 2 115 tonnes of construction waste. Of these, 520 tonnes (24.6%) of inert construction waste will be reused on site and 1 390 tonnes (65.7%) of inert construction waste will be delivered to public fill reception facilities for subsequent reuse. The remaining 205 tonnes (9.7%) of non-inert construction waste will be disposed at landfills. The total cost for the delivery and disposal of construction waste at public fill reception facilities and landfill sites is estimated to be about $140,000 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 …..

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2 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 at public fill reception facilities requires a licence 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.

LAND ACQUISITION

19. The project does not require acquisition of private land.

TRAFFIC IMPLICATIONS

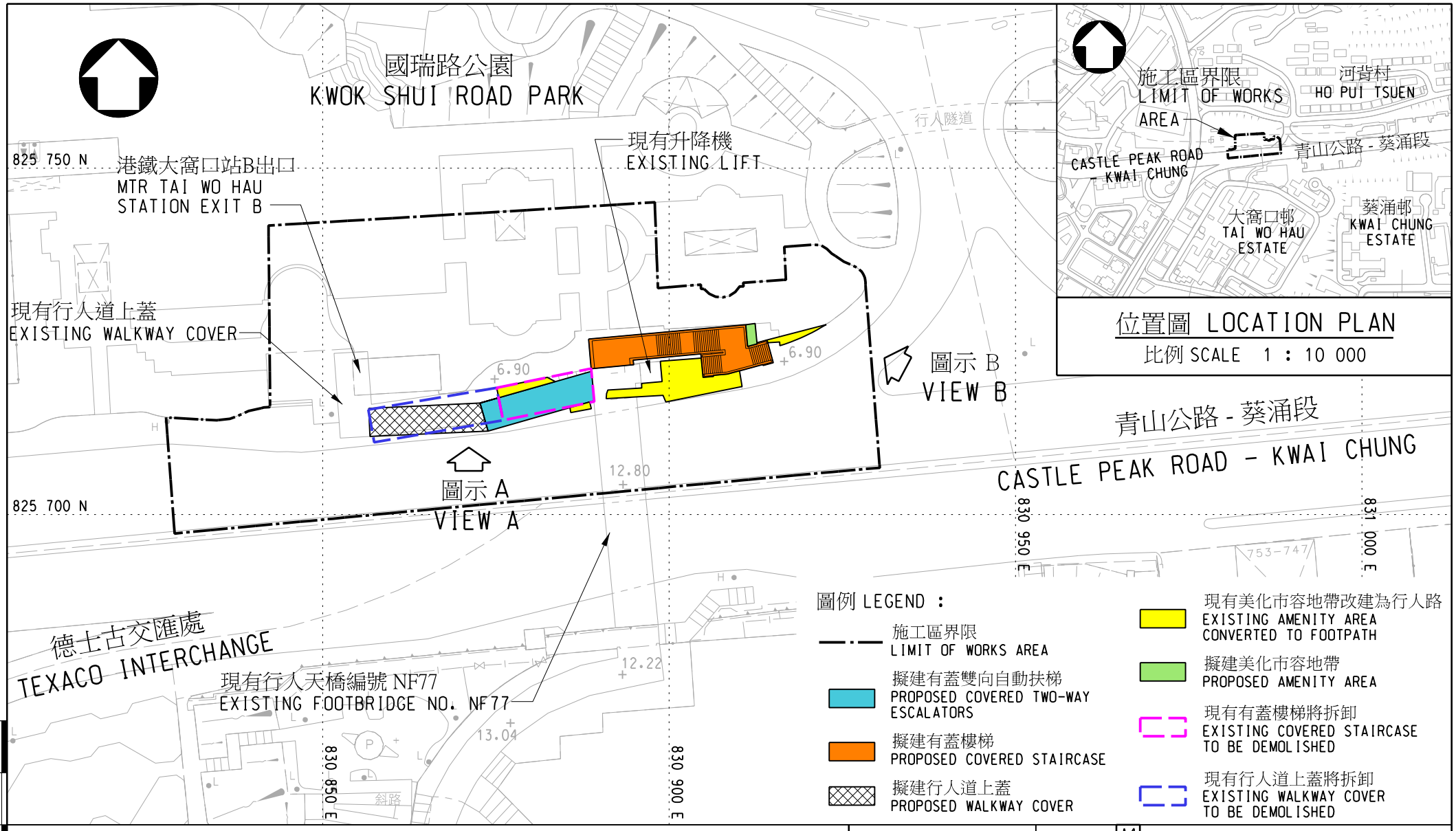
20. The project will not cause significant traffic impact during construction. To facilitate the related construction works, the HyD will implement temporary traffic arrangements (TTA) and set up a traffic management liaison group to discuss and vet the TTA. This group comprises representatives of the contractor, the Hong Kong Police Force, the Transport Department, public transport operators and other relevant government departments. The HyD will specify requirements for implementing the TTA in the works contracts to minimise the traffic impact during construction. The HyD will also display publicity boards on site to provide 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

21. We upgraded the project to Category B in September 2016, and engaged a term contractor to undertake the ground investigation works in April 2017. The total cost of the above investigation works was about $150,000 and was funded by block allocation **Subhead 6100TX** "Highway works, studies and investigations for items in Category D of the Public Works Programme". The investigation works have been completed.

22. The project does not require tree removal.

23. We estimate that the project will create about 25 jobs (20 for labourers and 5 for professional/technical staff), providing a total employment of about 600 man-months.



位置圖 LOCATION PLAN

比例 SCALE 1 : 10 000

圖例 LEGEND :

- 施工區界限 LIMIT OF WORKS AREA
- 擬建有蓋雙向自動扶梯 PROPOSED COVERED TWO-WAY ESCALATORS
- 擬建有蓋樓梯 PROPOSED COVERED STAIRCASE
- 擬建行人道上蓋 PROPOSED WALKWAY COVER
- 現有美化市容地帶改建為行人路 EXISTING AMENITY AREA CONVERTED TO FOOTPATH
- 擬建美化市容地帶 PROPOSED AMENITY AREA
- 現有有蓋樓梯將拆卸 EXISTING COVERED STAIRCASE TO BE DEMOLISHED
- 現有行人道上蓋將拆卸 EXISTING WALKWAY COVER TO BE DEMOLISHED

0 10 20 30 40 50 mm SCALE 1 : 1

圖則名稱 drawing title

工務計劃項目第6190TB號
橫跨青山公路-葵涌段近港鐵大窩口站B出口的行人天橋加建自動扶梯
- 平面圖
PWP ITEM NO. 6190TB
RETROFITTING OF ESCALATORS FOR FOOTBRIDGE ACROSS CASTLE PEAK ROAD - KWAI CHUNG NEAR MTR TAI WO HAU STATION EXIT B - LAYOUT PLAN

比例 scale A4
1 : 750
OR
AS SHOWN

圖則編號 drawing no.
HWDKS145B-SP0001

辦事處 office
工 程 部
WORKS DIVISION

HIGHWAYS DEPARTMENT HONG KONG 香港 路政 署

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A4 297x210

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6190TB號
橫跨青山公路-葵涌段近港鐵大窩口站B出口的行人天橋加建自動扶梯
- 構思圖
PWP ITEM NO. 6190TB
RETROFITTING OF ESCALATORS FOR FOOTBRIDGE ACROSS CASTLE PEAK ROAD - KWAI CHUNG NEAR MTR TAI WO HAU STATION EXIT B - ARTIST'S IMPRESSION

比例 scale A4
不適用
NA

圖則編號 drawing no.
HWDKS145B-SP0002

辦事處 office
工 程 部
WORKS DIVISION

HIGHWAYS DEPARTMENT HONG KONG 香港 路政署

0 10 20 30 40 50 mm SCALE 1 : 1

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