

**For discussion
on 25 June 2007**

LEGISLATIVE COUNCIL PANEL ON ENVIRONMENTAL AFFAIRS

PWP Item No. 800TH – Retrofitting of noise barriers at Kwun Tong Bypass

PURPOSE

This paper seeks Members' support for the submission of proposal to upgrade **800TH** "Retrofitting of noise barriers at Kwun Tong Bypass" to Category A at the estimated cost of \$52.0 million in money-of-the-day (MOD) prices, prior to submission to the Public Works Subcommittee for consideration with a view to seeking the Finance Committee's funding approval.

PROPOSAL AND JUSTIFICATION

2. In November 2000, the Administration introduced a policy to address the noise impact of existing roads on neighbouring residents. Under this policy, direct engineering solutions by way of retrofitting of barriers and enclosures and resurfacing with low noise material will be implemented where practicable on existing roads with a traffic noise level exceeding the limit of 70 dB(A) L₁₀(1 hour)¹.

3. At present, about 1 300 dwellings adjacent to the section of Kwun Tong Bypass near Laguna City at Kwun Tong are exposed to excessive traffic noise of up to 77 dB(A) L₁₀(1 hour). In line with the policy, we propose to retrofit noise barriers on this road section in order to mitigate the noise impact. This project would reduce the existing traffic noise levels on the affected noise sensitive receivers by 1 to 4 dB(A) L₁₀ (1 hour) benefiting 1 100 dwellings at Laguna City, Kwun Tong.

¹ L₁₀(1 hour) is the noise level exceeded for 10% of a one-hour period, generally used for road noise at peak traffic flow. The noise limit of 70 dB(A) for residential premises as stipulated in the Hong Kong Planning Standards and Guidelines is adopted as the administrative guideline for retrofitting projects identified under the policy introduced in 2000.

4. The scope of **800TH** comprises –
- (a) retrofitting of vertical noise barriers of about 210 metres (m) in length and four metres in height along the verge of the westbound slip road from Kwun Tong Bypass to Wai Fat Road near Laguna Park, Kwun Tong;
 - (b) retrofitting of vertical noise barriers of about 260 m in length and four metres in height along the verge of the westbound carriageway of Kwun Tong Bypass near Laguna Park, Kwun Tong;
 - (c) retrofitting of single-leaf cantilevered noise barriers of about 480 m in length and six metres in height along the central divider of Kwun Tong Bypass near Laguna Park, Kwun Tong;
 - (d) associated road, drainage, street lighting and landscaping works; and
 - (e) implementation of an environmental monitoring and audit (EM&A) programme for works mentioned in items (a) to (d) above.

A layout plan with cross sections of the proposed works under **800TH** are at **Enclosure 1**. We plan to commence the construction works for **800TH** in June 2008 for completion in June 2010.

FINANCIAL IMPLICATIONS

5. We estimate the capital cost² of the proposed works to be \$52.0 million in MOD prices.

6. We estimate that the proposed works will create about 56 jobs (11 for professional/technical staff and another 45 for labourers) providing a total employment of 1 100 man-months.

INTERIM TRAFFIC ARRANGEMENT

7. Interim traffic arrangement will have to be introduced to facilitate the construction works. Both eastbound and westbound carriageway of Kwun Tong Bypass will be temporarily reduced from three lanes to two lanes, whereas

² These are the latest estimates. We will finalize the project costs and estimated new job opportunities and include a cost breakdown prior to submitting the proposal to the Public Works Subcommittee for consideration.

the westbound carriageway of slip road from Kwun Tong Bypass to Wai Fat Road will be temporarily reduced from two lanes to one lane when necessary during the construction period. The contractor will be required to maintain two lanes for each bound of carriageway for Kwun Tong Bypass and one lane for the westbound carriageway of slip road from Kwun Tong Bypass to Wai Fat Road at all times during the construction period. To facilitate the concreting works of noise barriers footing and/or the safe installation of the noise barriers, closure of two traffic lanes at nighttime for eastbound and westbound carriageway of Kwun Tong Bypass and full closure at nighttime for the westbound flyover carriageway from Lei Yue Mun Road to Kwun Tong Bypass as well as the slip road from Kwun Tong Bypass to Wai Fat Road westbound are occasionally required at different construction stages. Such nighttime closures will be minimized as far as practicable. During these full closures, the westbound traffic from Lei Yue Mun Road will be diverted via Wai Fat Road back to Kwun Tong Bypass and the westbound traffic from Tseung Kwan O Road will be diverted via Lei Yue Mun Road and Lam Tin Interchange back to Wai Fat Road.

8. We have conducted a traffic impact assessment for the project to assess the impacts of the temporary traffic diversion during the construction of the works. The traffic impact assessment has concluded that the proposed temporary traffic arrangement will not cause significant adverse impacts to road users.

ENVIRONMENTAL IMPLICATIONS

9. **800TH** is not a designated project under the Environmental Impact Assessment Ordinance. We completed the environmental study for the project in February 2007. We concluded that the project would not cause adverse long-term environmental impact.

10. The aesthetic designs of the vertical type and cantilevered type noise barriers are compatible with the environment. The proposed noise barrier panels for cantilevered type noise barriers are generally of transparent type and non-transparent type at the upper and lower parts respectively. For vertical type noise barriers, the proposed noise barrier panels are generally of transparent type. In line with the prevailing greening policy of the Government, we will enrich and plant more trees and shrubs in the existing planters adjacent to the slip road of Kwun Tong Bypass to enhance the landscape quality of the project. A drawing showing the perspective view of the noise barriers is at **Enclosure 2**. The aesthetic design was supported by the Kwun Tong District Council and the Advisory

Committee on the Appearance of Bridges and Associated Structures³ (ACABAS) as described in paragraphs 17 to 18 below.

11. For short-term construction impacts, we will control the noise, dust and site run-off nuisances to within the established standards and guidelines through the implementation of mitigation measures. We will also carry out the environmental monitoring and audit programme to ensure proper implementation of the recommendations of the environmental assessment.

12. We have considered measures in the planning and design stages to reduce the generation of construction and demolition (C&D) materials where possible. We have designed the noise barriers support/foundation on bridge in order to minimize the quantity of C&D materials generated from demolition of the existing structures. In addition, we will require the contractor to reuse suitable excavated materials and demolition materials as filling materials on site as far as possible in order to minimize their disposal to public fill reception facilities. We will encourage the contractor to maximize the use of recycled or recyclable C&D materials, as well as the use of non-timber formwork to further minimize the generation of construction waste.

13. We will require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. We will require the contractor to ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of public fill, C&D materials and C&D waste to public filling facilities and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

14. We estimate that the project will generate about 1 900 tonnes of C&D materials. Of these, we will reuse about 150 tonnes (7.9 %) on site, deliver 1 550 tonnes (81.6%) to public fill reception facilities⁴ for subsequent reuse. In addition, we will dispose of 200 tonnes (10.5 %) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites is

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

⁴ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of public fill in public fill reception facilities requires a license issued by the Director of Civil Engineering and Development.

estimated to be \$ 66,850 for the project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities, and \$125/tonne⁵ at landfills).

15. The proposed retrofitting of noise barriers will involve removal of 22 trees (all to be transplanted). All the trees to be removed are not important trees⁶. We will incorporate planting proposals as part of the project, including estimated quantities of 37 trees and 7 000 shrubs.

LAND ACQUISITION

16. The proposed works do not require any land resumption.

PUBLIC CONSULTATION

17. We consulted the Traffic and Transport Committee of the Kwun Tong District Council on 19 October 2006. We briefed Members of the above Committee on the details of the project, including the scope and design of the noise barrier panels, the temporary traffic arrangement during construction, and the implementation programme. Members of the above Committee supported the project.

18. We also consulted the ACABAS on the aesthetic design of the noise barriers on 19 December 2006 and 17 April 2007. The Committee accepted the proposed aesthetic design.

19. We gazetted the road scheme of **800TH** under the Roads (Works, Use and Compensation) Ordinance (the Ordinance) on 17 November 2006 and received one objection. After we briefed the residents and the members of the

⁵ The estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90/m³), nor the cost to provide new landfills (which are likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

⁶ “Important trees” refer to trees on 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 event;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.

Estate Owners' Committee (EOC) of Phases 1, 2 and 4 of Laguna City on 9 March 2007 on the implementation programme, scope, design and temporary traffic arrangement during construction, the EOC supported the project and asked for its early implementation. The objector withdrew his objection on 2 April 2007 unconditionally after the above consultation. The Permanent Secretary for the Environment, Transport and Works (Transport) authorised the road scheme of **800TH** under the Ordinance on 13 April 2007. The notices of authorisation were gazetted on 20 April 2007.

ADVICE SOUGHT

20. Members are invited to support our proposal to seek the Public Works Subcommittee's support tentatively scheduled in December 2007 for upgrading **800TH** to Category A, with a view to seeking Finance Committee's funding approval.

ATTACHMENT

- Enclosure 1 – Drawing Nos. HMW6800TH-SP0004 & CS0003
- Enclosure 2 – Drawing No. HMW6800TH-SP0002

Environmental Protection Department
June 2007

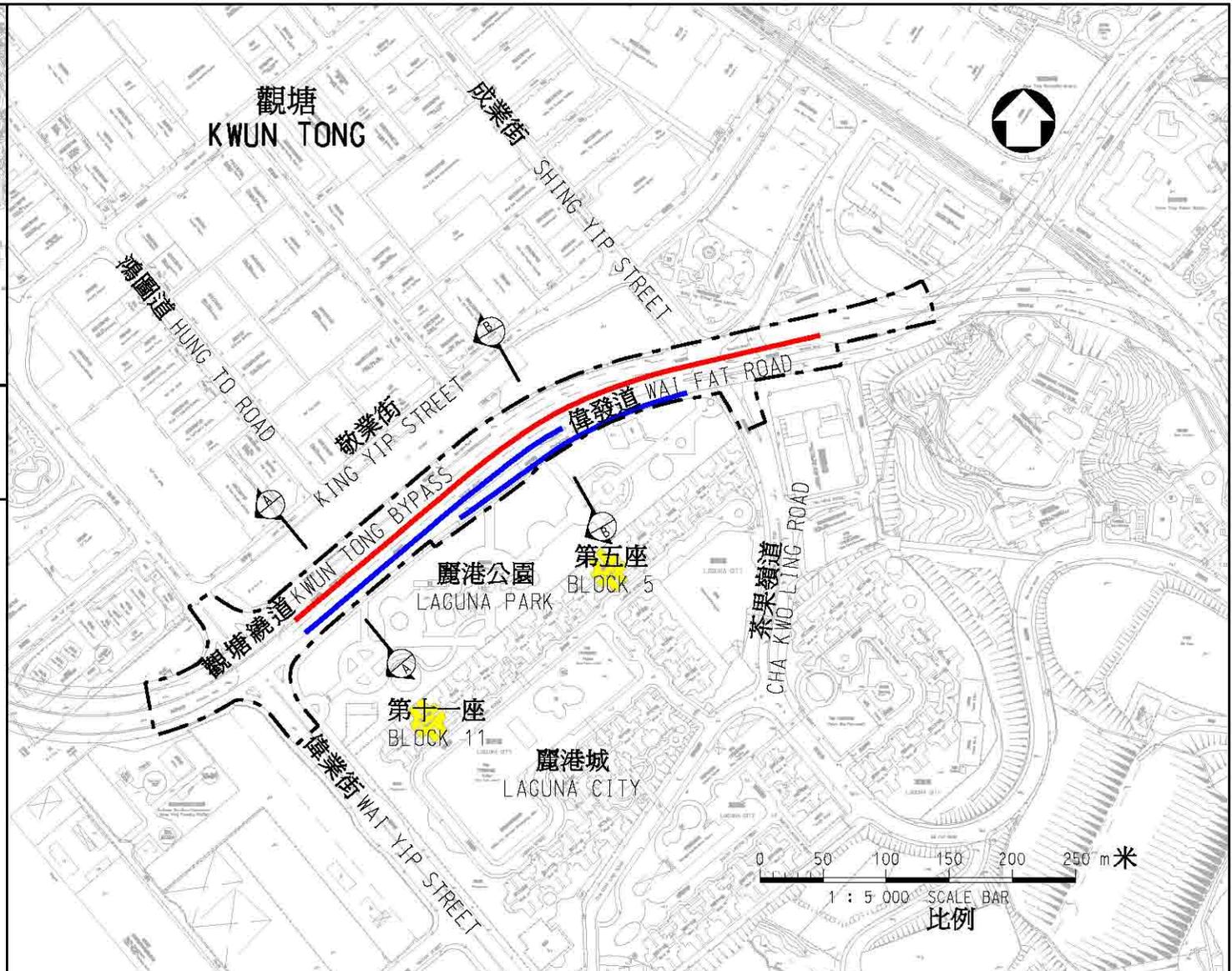


索引圖 KEY PLAN

比例 SCALE 1 : 75000

圖例 LEGEND :

-  施工範圍
LIMIT OF WORKS AREA
-  擬建4米高垂直式隔音屏障
PROPOSED 4m HIGH VERTICAL NOISE BARRIER
-  擬建6米高單懸臂式隔音屏障
PROPOSED 6m HIGH SINGLE-LEAF CANTILEVERED NOISE BARRIER



圖則名稱 drawing title

工務計劃項目第800TH 號
觀塘繞道加建隔音屏障工程 - 平面圖

PWP ITEM NO. 800TH RETROFITTING OF NOISE BARRIERS AT
KWUN TONG BYPASS - LAYOUT PLAN

設計 designed

SIGNED

S.M.CHUNG 14/05/07

繪圖 drawn

SIGNED

S.K.WONG 14/05/07

圖則編號 drawing no.

HMW6800TH-SP0004

比例 scale

1:5000
OR AS SHOWN

覆核 checked

SIGNED

K.T.CHEUNG 14/05/07

批准 approved

SIGNED

M.Y.MA 14/05/07

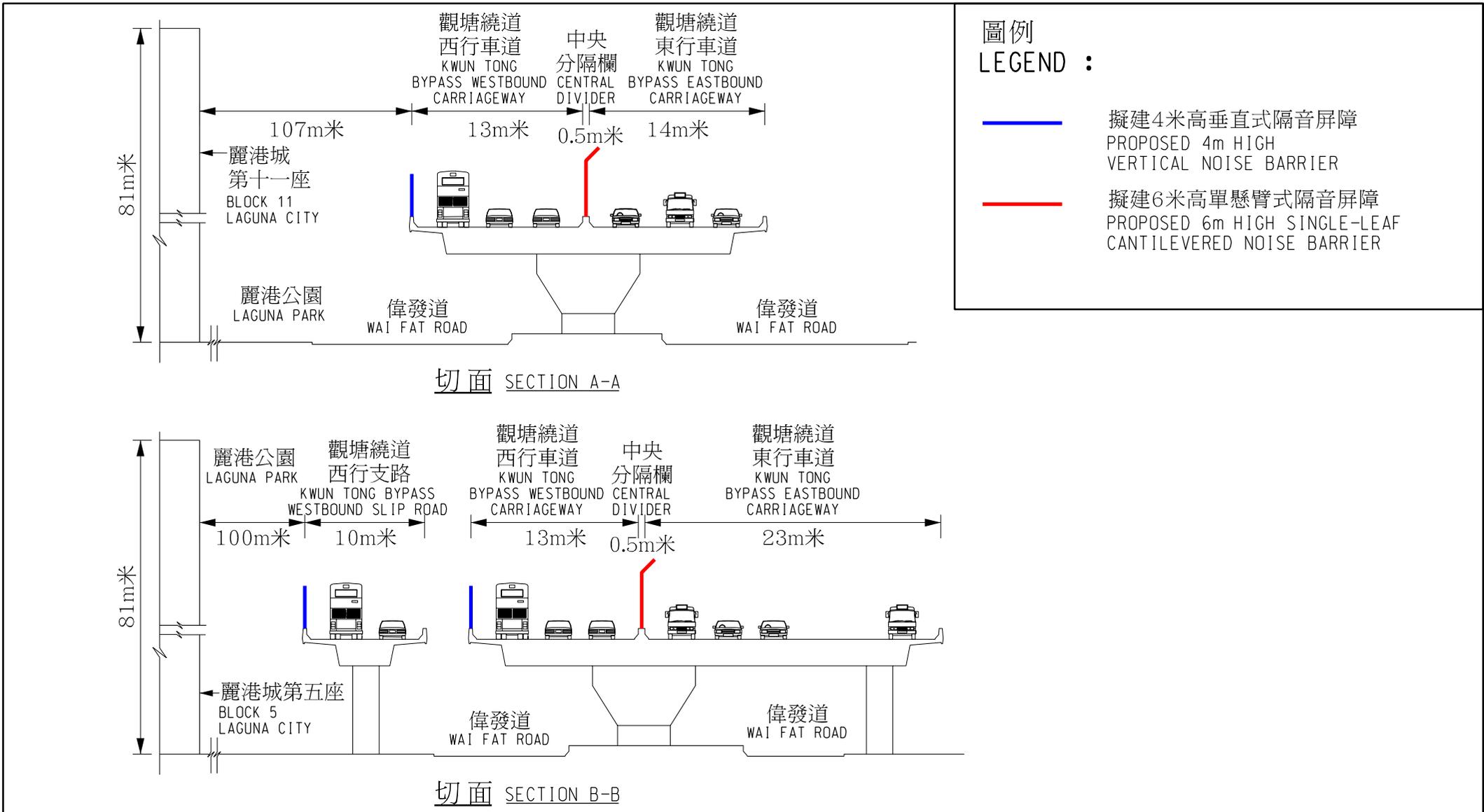
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HIGHWAYS
DEPARTMENT
HONG KONG

路
政
署
香
港

主要工程管理處
MAJOR WORKS
PROJECT MANAGEMENT OFFICE



圖則名稱 drawing title 工務計劃項目第800TH號 觀塘繞道加建隔音屏障工程 - 切面圖 PWP ITEM NO. 800TH RETROFITTING OF NOISE BARRIERS AT KWUN TONG BYPASS - SECTIONS	設計 designed SIGNED S.M.CHUNG 14/05/07	繪圖 drawn SIGNED Y.L.LAW 14/05/07	圖則編號 drawing no. HMW6800TH-CS0003	比例 scale 示意圖 DIAGRAMMATIC
	覆核 checked SIGNED K.T.CHEUNG 14/05/07	批准 approved SIGNED M.Y.MA 14/05/07	© 版權所有 COPYRIGHT RESERVED	
主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE			HIGHWAYS DEPARTMENT HONG KONG 路政署	



圖則名稱 drawing title

工務計劃項目第800TH號 - 觀塘繞道加建隔音屏障工程
- 透視觀景於擬建隔音屏障

PWP ITEM No. 800TH - RETROFITTING OF NOISE BARRIERS AT KWUN TONG BYPASS
- PERSPECTIVE VIEW TO PROPOSED NOISE BARRIER

設計 designed
SIGNED
S.M.CHUNG 14/05/07

繪圖 drawn
SIGNED
S.K.WONG 14/05/07

圖則編號 drawing no.
HMW6800TH-SP002

比例 scale
示意圖
DIAGRAMMATIC

覆核 checked
SIGNED
K.T.CHEUNG 14/05/07

批准 approved
SIGNED
M.Y.MA 14/05/07

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主要工程管理處
MAJOR WORKS
PROJECT MANAGEMENT OFFICE

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