

NOTE FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

Supplementary Information on

458CL – Sha Tin New Town, stage 2 construction of Road T3

INTRODUCTION

In considering PWSC(2002-03)82 on **458CL** “Sha Tin New Town, stage 2 – construction of Road T3” at the PWSC meeting on 22 January 2003, the Administration undertook to –

- (a) consider the provision of indirect noise mitigation measures such as installation of insulation windows and air-conditioners for LAU Pak Lok Secondary School and Christian Alliance CHENG Wing Gee College;
- (b) provide a cross-section showing the distance and relative locations of the proposed elevated carriageway and LAU Pak Lok Secondary School; and
- (c) provide the basis and method for determining the different types of noise barriers to be installed at different sections of a road.

THE ADMINISTRATION’S RESPONSE

Indirect noise mitigation measures for LAU Pak Lok Secondary School and Christian Alliance CHENG Wing Gee College

2. As set out in PWSC(2002-03)82, we intend to adopt direct noise mitigation measures, through the installation of necessary noise barriers along Road T3 and its associated slip roads, near both LAU Pak Lok Secondary School and Christian Alliance CHENG Wing Gee College (the “Schools”). Such measures would reduce the noise generated from the road traffic at the Schools to a level within the statutory limits under the Environmental Impact Assessment (EIA) Ordinance.

3. As for indirect noise mitigation measures for the Schools, Christian Alliance CHENG Wing Gee College is already installed with noise insulation windows and air conditioners. As for LAU Pak Lok Secondary School, all the classrooms and two of the eight function rooms have recently been installed with air-conditioners. Territory Development Department will continue to liaise with the Education and Manpower Bureau to consider installing insulation windows and air conditioners to the remaining six function rooms of the school under the School Noise Abatement Programme.

4. A plan showing the layout of Road T3 in the vicinity of the Schools and the cross section showing the relative distances of the proposed new roads under the Road T3 project and LAU Pak Lok Secondary School is at the Enclosure.

Basis and method for determining the different types of noise barriers

5. If it is envisaged that traffic noise generated from a new road will exceed the statutory noise limits, we will adopt all practicable direct mitigation measures such as adjusting the alignment, applying low noise surface material and erecting barriers or enclosures to reduce the impact. The noise limits assessed at one metre from the external facade of a building stipulated under the EIA Ordinance are 65 dB(A) for schools and 70 dB(A) for residential premises. If the predicted noise levels still exceed the relevant limits at the noise sensitive receivers (NSRs) after exploring and adopting alignment adjustment and use of low noise surface material as practicable, we will explore the use of barriers or enclosures to abate the noise. The choice of different types of noise barriers or enclosures at different parts of the road depends on the predicted noise levels at the affected NSRs and the relative position of the NSRs and the road. In case the prevailing noise levels due to existing roads in the vicinity already exceeded the relevant limits, the new roads shall be designed so that the increase of the overall traffic noise level due to the new roads shall be less than 1 dB(A).

6. The factors that will affect the traffic noise level at different NSRs, which will in turn affect the choice of noise barriers or enclosures at various road sections, are –

- (a) the traffic volume, percentage of heavy vehicles and speed along the existing and new roads;
- (b) the geometry and gradient of the roads;

/(c)

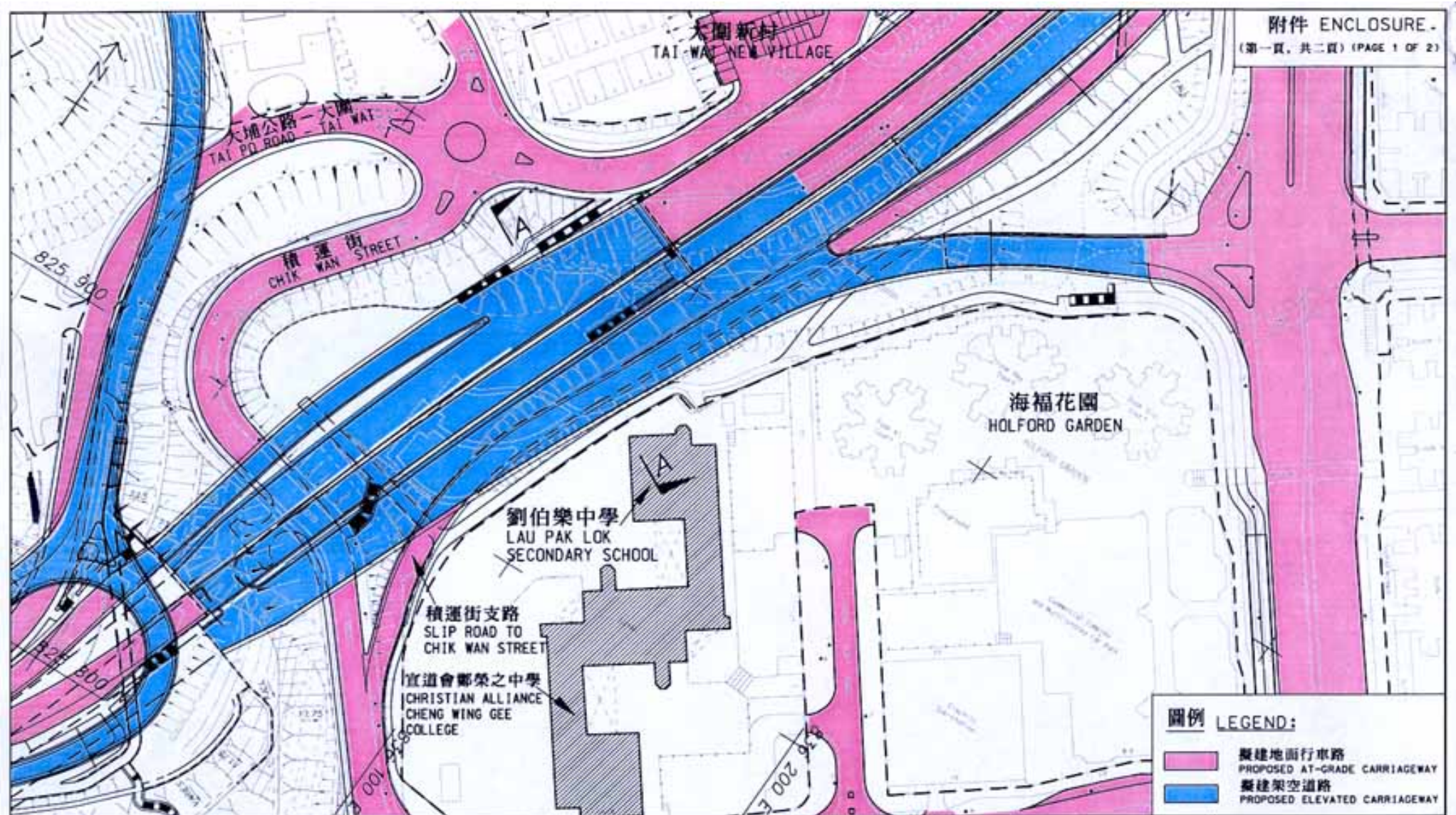
- (c) the relative vertical and horizontal distance of the road section to the NSRs; and
- (d) the shielding by topography and other building structures, if any, of the NSRs from the road section.

7. The determination of the type of noise barriers or enclosures to be installed along the different road sections of the project involves an iterative process (described in paragraph 8 below) in order to arrive at an optimal solution. Normally, the priority of choice is –

- (a) vertical noise barriers;
- (b) cantilever noise barriers;
- (c) semi-enclosures; and
- (d) full enclosures.

8. Unmitigated noise levels (i.e. without any noise mitigation measures) at each of the NSRs along the road are first evaluated. Where the unmitigated noise levels at nearby NSRs exceed the allowable noise limits, vertical noise barriers at the road sections would then be evaluated to mitigate the noise. The noise levels at these NSRs would be re-evaluated based on this configuration. If the predicted noise levels at the NSRs with the vertical noise barriers still exceed the allowable noise limits, cantilever noise barriers would be evaluated for better protection to the NSRs. If the noise levels still exceed the allowable noise limits, then the iterative process will continue with semi-enclosures and then full enclosures tested as appropriate. Once the type of noise barriers or enclosures has been determined, the extent of installation, the height in case of vertical noise barriers or the width of the cantilever arm in case of cantilever noise barriers would be further adjusted until we arrive at an optimal solution.

9. We have adopted the process described above in the design of the noise mitigation measures in the Road T3 project. Typically, we have optimised the noise barriers/enclosures layout such that the overall noise levels at the NSRs are in compliance with the EIA Ordinance.



圖例 LEGEND:

- 擬建地面行車路
PROPOSED AT-GRADE CARRIAGEWAY
- 擬建架空道路
PROPOSED ELEVATED CARRIAGEWAY

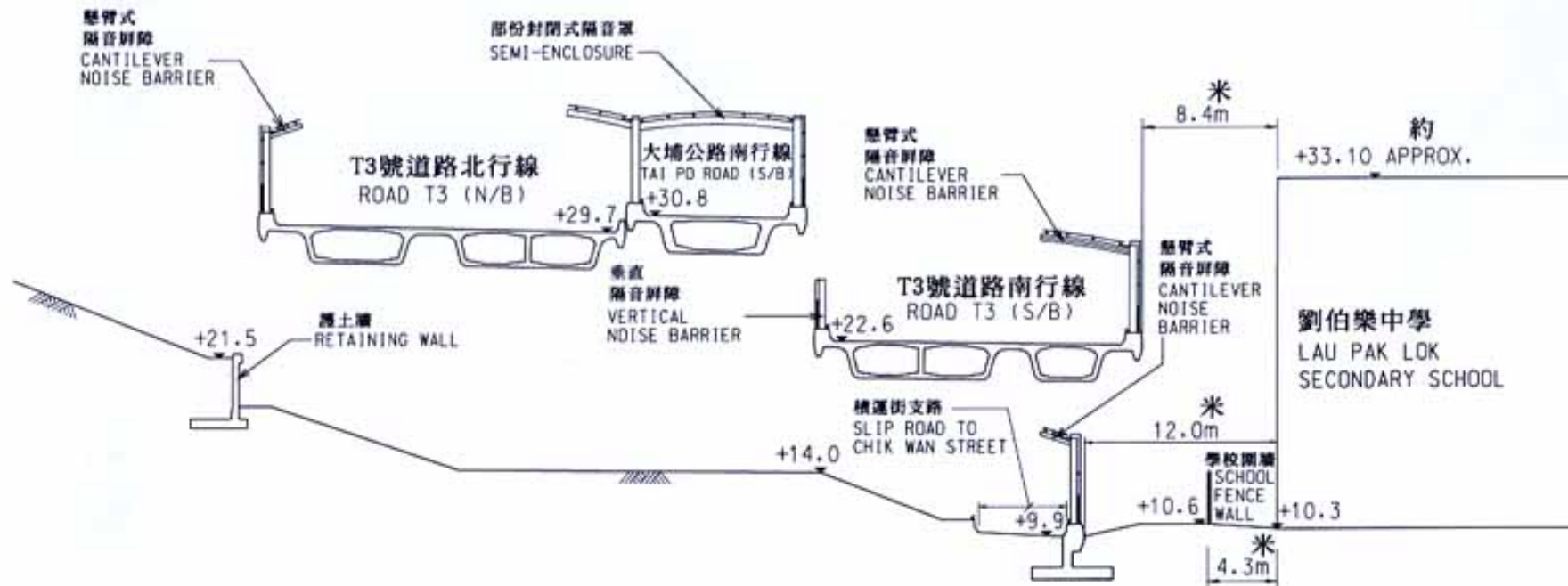
圖則名稱 drawing title 工務計劃項目第458CL號
沙田新市鎮第2階段工程 - T3號道路建造工程
近劉伯樂中學的道路工程
PWP ITEM NO. 458CL
SHA TIN NEW TOWN, STAGE 2 - CONSTRUCTION OF ROAD T3
ROADWORKS NEAR LAU PAK LOK SECONDARY SCHOOL

繪圖 drawn	簽署 initial	日期 date	比例 scale 1 : 1500
W K LEUNG	W	14.2.03	
核對 checked	簽署 initial	日期 date	圖則編號 drawing no. ST2031
T K LEE	T	14.2.03	
核准 approved	簽署 initial	日期 date	
C W KAM	C	14.2.03	

辦事處 office
新界東拓展處
NT EAST DEVELOPMENT OFFICE



拓展署
TERRITORY DEVELOPMENT
DEPARTMENT



切面 A - A
SECTION A - A

圖例 LEGEND:

— +33.10 水平 (米水平基準)
LEVEL (mPD)

圖則名稱 drawing title 工務計劃項目第458CL號
沙田新市鎮第2階段工程 - T3號道路建造工程
橫切面
PWP ITEM NO. 458CL
SHA TIN NEW TOWN, STAGE 2 - CONSTRUCTION OF ROAD T3
CROSS SECTION

繪圖 drawn W K LEUNG	簽署 initial [Signature]	日期 date 14.2.03	比例 scale N.T.S.	辦事處 office 新界東拓展處 NT EAST DEVELOPMENT OFFICE
核對 checked T K LEE	簽署 initial [Signature]	日期 date 14.2.03	圖則編號 drawing no. ST2032	拓展署 TERRITORY DEVELOPMENT DEPARTMENT
核准 approved C W KAM	簽署 initial [Signature]	日期 date 14.2.03		