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CB(1)1758/08-09(02)

本局檔號 Our Ref. THB(T)CR 11/1016/99

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鐵路事宜小組委員會秘書
(經辦人：麥麗嫻女士)

麥女士：

西港島線

本年三月三十一日的立法會交通事務委員會鐵路事宜小組委員會會議上，委員要求當局及香港鐵路有限公司("港鐵公司")就以下事項提供補充資料：

一. 山道及般咸道通風井；
二. 爆破方法；及
三. 樹木保育工作。

現於**附件**付上當局及港鐵公司的綜合回覆(中文及英文版本)以供參閱。

運輸及房屋局局長

(陳志恩 代行)

二零零九年五月廿七日

Appendix A

Ventilation shafts at Hill Road and Bonham Road
Government Departments/MTRCL Joint Reply

Ventilation shafts are integral parts for an underground railway system. They are required for air exchanges between railway stations/tunnels and the external environment.

Environment Impacts of Ventilation Shafts

2. In accordance with the Environmental Impact Assessment (EIA) Ordinance, the MTR Corporation Limited (MTRCL) had submitted the EIA report of the West Island Line (WIL) to the Environmental Protection Department (EPD), followed by a public consultation process. The report was approved in December 2008. The report addressed the key environmental impacts during the construction and operation of the WIL, including air quality, noise, etc. As for the ventilation shafts, the EIA report stated that the air quality impact from the operation of ventilation shafts would not be considered as a key environmental issue.

3. Since MTR trains are powered by electricity, combustion of fossil fuels is not required and hence no harmful or hazardous gases will be discharged. The rail tracks and tunnels are cleaned regularly in order to maintain cleanliness. The air from ventilation shafts will not pose any problem to the air quality.

4. Besides, the MTRCL also conducted air quality tests by setting up a monitoring point at an existing ventilation shaft of the Central Station. The figures of the dust level obtained from the monitoring point is very close to those readings obtained from a nearby roadside air quality station set up by EPD (Please refer to Figure 1). This demonstrated that air from the ventilation shaft does not cause any adverse impacts on the air quality of the surrounding areas.

5. The MTRCL also carried out routine monitoring of the air quality inside railway stations and train compartments which showed that even during peak hours the air quality in stations and train compartments complied with the Level 1 standard of the “Practice Note for Managing Air Quality in Air-conditioned Public Transport Facilities – Railways” issued by the EPD, i.e.

hourly average of carbon dioxide concentration less than 2,500 parts per million (ppm) (Please refer to Figure 2). This indicated that the air quality inside the railway system is at good level.

6. Regarding noise, operation of all ventilation shafts are subject to the requirements stipulated in the Noise Control Ordinance. The stations and the plant rooms that house the ventilation fans of the WIL are in general below ground and far away from the openings of ventilation shaft. Given also that the air speed is not high and suitable acoustic systems will be installed, the noise impact to the public in the vicinity is insignificant and will be in compliance with the requirements under the Ordinance.

7. The MTRCL agrees to make every effort to fine-tune the design and to reduce the scale of the ventilation shaft with a view to ensuring the structure of the ventilation shafts will blend well in with the surroundings such that the visual impact will be minimized.

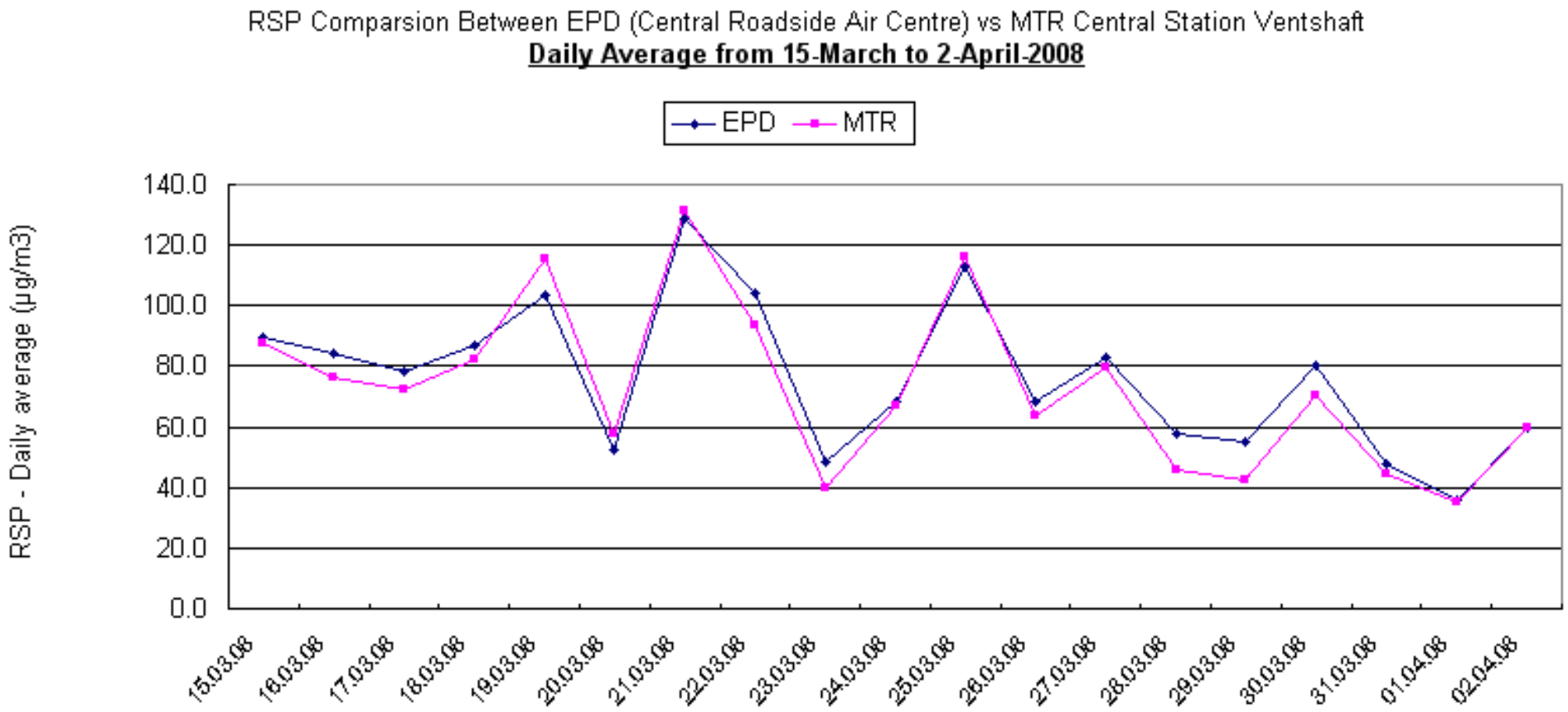
Alternative Locations

8. Western District is a densely populated area where little choices of suitable locations are available for the railway facilities. In considering locations for ventilation shaft, the MTRCL has taken into account the railway alignment, station location, constraint of existing structures, safe construction and topographical and other environmental constraints. Cost is not the major determining factor in both cases.

9. The MTRCL has also considered various alternative locations near Hill Road and Bonham Road for the ventilation shafts. The results showed that those alternatives are not preferred. The details are enclosed in Appendix 3.

Air quality at Central

Appendix 1



Air Quality

Appendix 2

- The indoor air quality of railway system is good

	Measurements taken by MTRCL during peak hours	Practice Notes for Managing Air Quality in Air-conditioned Public Transport Facilities issued by EPD
Central and Sheung Wan Stations	Below 1,500 ppm	"Good air quality of a railway facility at which there is no health concern identified": Average level of carbon dioxide in an hour is lower than 2,500 ppm
Train Compartments	Below 1,800 ppm	

Appendix 3

Locations for the ventilation shafts at Hill Road and Bonham Road

1. Ventilation shaft at Hill Road

Alternative Locations Studied	Assessment Results
Slope near Haking Wong Building of the University of Hong Kong (HKU) , Pokfulam Road	This proposed location is situated on a slope. For the construction of a ventilation shaft, an access road near the slope has to be occupied as works area. This will require a prolonged closure of a portion of the access road inside HKU campus. Adverse traffic impact to the community is anticipated and therefore, it is considered not acceptable. Besides, there would have a major technical difficulty as the ventilation shaft has to penetrate through the foundation of the retaining wall in front of the slope.
Des Voeux Road West near roundabout for trams at Whitty Street	Since this proposed location is situated over 350m away from the University Station, the ventilation effect will be limited. Moreover, substantial excavation along Hill Road, Queens Road West and Des Voeux Road West involving utilities and pipes diversion will be required for the construction of pedestrian tunnels between the station and the ventilation shaft. It will cause significant adverse traffic impact to the community during construction.

Temporary parking area at Shing Sai Road	Since this proposed location is situated over 400m away from the University Station, the ventilation effect will be limited. As the site is proposed for the re-provisioning for the existing Kennedy Town Swimming Pool, no space is available for any ventilation shaft in this site.
Inside Hill Road Garden	The sitting-out area will be significantly reduced. Residents nearby have raised concern to this proposal.
Open space at Pokfulam Road near Yam Pak Building	This location has been designed to house an electrical and mechanical building for the University Station and space are not available for another ventilation shaft.
Within the Centennial Campus of HKU	Since the campus is located above Pofulam Road, construction of a ventilation shaft within the campus will involve the excavation of an about 100m deep shaft. It requires a sizable supporting works area as well as substantial vehicular access for the delivery of construction plant and removal of spoil. This requirement cannot match the planning and works of the HKU Centennial Campus development.

2. Ventilation Shaft at Bonham Road

Alternative Locations	Assessment
King George V (KGV) Memorial Park Basketball Court	The MTRCL had proposed to place the ventilation shaft at the basketball court inside the KGV Memorial Park for providing ventilation for the section of the tunnels between the Sai Ying Pun (SYP) Station and the Sheung Wan Station. However, the views collected during early public consultations were that occupation of public open space should be minimized as there would be a lot of above-ground railway facilities such as entrances and ventilation shafts etc. which would occupy a lot of public open space in the district. The proposed ventilation shaft at the David Trench Rehabilitation Centre (DTRC) site is for providing ventilation for the section of the tunnels between the SYP Station and the University Station and it should be close to the western end of the SYP Station. Since the proposed alternative location is far away from the western end of the station, the ventilation effect will be limited. There is a proposal to place the ventilation shaft at the basketball court inside the KGV Memorial Park and reprovision the basketball court on top of the SYP entrance at Bonham Road. After detailed study, the MTRCL has confirmed that there is insufficient space to build a basketball court on top of the proposed SYP entrance.

KGV Memorial Park: Slope adjacent to High Street	To build the ventilation shaft at this proposed location would block the front façade of a Grade I historical building, Sai Ying Pun Community Complex, which is not desirbale from cultural heritage conservation viewpoint. In addition, it will also occupy the public open space and is close to a nursery inside the park. The proposed location is also far away from the western end of the SYP Station, the ventilation effect will be limited.
KGV Memorial Park: Slope near junction of Hospital Road and Eastern Street	Apart from the occupation of public open space and the limited ventilation effect due to the location being far away from the western end of the SYP Station, construction of ventilation shaft would affect the large trees and tree walls on the slope. Moreover, this location is in vicinity to the hospital facilities along Hospital Road and residential buildings on Eastern Street.

Appendix B

Drill-and-Blast Method
Government Departments/MTRCL Joint Reply

Drill-and-blast is one of the commonly used methods for underground excavation and construction of tunnels in rock in Hong Kong and overseas. The MTRCL is well experienced in using drill-and-blast to build underground railway stations and tunnels in densely populated areas, namely Causeway Bay Station, Quarry Bay Station, Taikoo Station, Fortress Hill Station, North Point Station and its modification under the Quarry Bay Relief project, as well as many tunnels on Hong Kong Island, Kowloon and New Territories.

2. The WIL is an underground railway which comprises rail tunnels, underground stations and pedestrian tunnels. When construction methods are considered, factors such as ground conditions, engineering feasibility, construction time, constraints of the environment, impact to the community, etc. have all to be taken into account.

3. The approved EIA report of the WIL has included a Quantitative Risk Assessment (QRA) which has assessed the risks associated with the storage, transport and use of explosives for the WIL construction. The results showed that the risks are within the acceptable limit of the risk guideline.

Construction Method for WIL

4. As most sections of the railway tunnels between the stations, pedestrian tunnels and entrances are located deep in rock, drill-and-blast is the suitable and the most effective construction method for most sections of the WIL. For the soft ground section between Sheung Wan and Sai Woo Lane, a tunnel boring machine will be employed for tunnel construction.

5. For stations located deep in rock such as Sai Ying Pun and University stations, blasting method is expected. Cut and cover construction method is expected to be used for Kennedy Town station as it is a relatively shallow station.

6. To meet the works schedule of the WIL project, blasting will be carried out in the morning and evening hours. Residents in the vicinity will be duly informed before blasting.

Appendix B

Supervision and Monitoring of Using Drill-and-Blast Method

7. For use of explosives, a Blasting Permit has to be obtained from the Mines Division of the Civil Engineering and Development Department (CEDD). The MTRCL will ensure strict compliance with the regulations of the Dangerous Goods Ordinance under the control of Mines Division of the CEDD, Fire Services Department and Hong Kong Police Force, and will enforce stringent risk control and safety measures to ensure the delivery, use and storage of explosives are safely operated during the construction period.

8. Suitably qualified professionals will be employed for the blasting operations and a set of stringent control measures in accordance with the Buildings Ordinance and relevant statutory requirements will be adopted. Monitoring points will be installed prior to the works to monitor possible impact to adjacent building structures.

9. Before the commencement of the construction of the WIL, a condition survey will be carried out to record the condition of the buildings in the proximity of the alignment of the WIL.

10. We understand the residents are concerned about blasting. The MTRCL will continue to communicate with the community on construction method especially the blasting.

Appendix C

Tree Preservation
Government Departments/MTRCL Joint Reply

In the WIL project, we treasure the urban landscape, the heritage and ecological values of all trees, especially tree walls, Old and Valuable Trees (OVTs) and large trees. The conservation of tree walls and OVTs in Central and Western District has been taken into consideration since the planning stage of the WIL. In order to preserve the precious tree walls at Forbes Street, the location of the Kennedy Town Station was shifted eastwards from the original location underneath Forbes Street Playground and the tree walls to a location underneath the existing Kennedy Town Swimming Pool.

2. We are endeavored to minimize its possible impact. Trees affected by the construction works will be transplanted whenever practical. Trees that are recommended to be felled include those either in poor health, form, structure, ubiquitous or weed species, or have practical difficulties for transplanting. Details of the trees in the vicinity of the WIL works area such as the size and species of the trees are made available on the website of the MTRCL. The web site is www.mtr.com.hk.

3. During construction of the WIL, The MTRCL will employ extensive protection measures to minimize impact on the trees. Certified arborists will be appointed to oversee all arboricultural works in WIL project.

4. Besides, after completion of the WIL, the MTRCL will, at the re-provisioned recreational areas and public space, re-plant in the district at least the same number of trees to compensate the felled trees resulting from construction of the WIL. New trees of good quality and size will be planted. A detailed study of the feasibility and suitability of transplanting locations has been carried out by the horticulture consultant. Several locations have been recommended in Central and Western District for transplanting, including the roadside planters along Connaught Road West and Shing Sai Road, King George V Memorial Park, Fung Mat Road, DSD Pumping Station in Sheung Wan and Pok Fu Lam Road Playground.