

The Need for the Diamond Hill Stabling Sidings (DHS)

1 Operational Requirements for Stabling Sidings

The DHS is an essential element for the operation of the SCL. In order to meet the train stabling requirements, it has been established with the Railways Development Office (RDO) that additional stabling facilities would be required.

Some operational requirements for allowing proper function of the DHS are given below:

Table 1 Summary of Operational Requirements for Stabling Sidings

Operational Parameters	Requirements
(1) Site area	<ul style="list-style-type: none"> To achieve adequate length and width (including allowance for EVA, access roads, turn outs, staff accommodation, plant rooms, but excluding structures)
(2) Internal layout	<ul style="list-style-type: none"> Stabling tracks have already been arranged in a very space-efficient manner to fit into the Diamond Hill CDA Site and hence it is impossible to incorporate large structures between the stabling tracks.
(3) Location	<ul style="list-style-type: none"> A train stabling siding has to be near to the East West Line (EWL, comprising West Rail, Kowloon Southern Link, Tsim Sha Tsui Extension, SCL and MOL) alignment from Wu Kai Sha to Tuen Mun to allow efficient train launching in order to meet the service requirement.

Details for exploring the use of existing train depots and other alternative sites are discussed in **Sections 2 and 3** respectively.

2 Using Existing Train Depots

Investigation has also been conducted for using existing train depots so as to avoid having a new DHS for SCL. A summary of the findings is given below:

Existing MTR Train Depot Reasons that can not be adopt for SCL Train Stabling Sidings

Tai Wai Depot and Pat Heung Depot

The future EWL will have a journey time of about 70 minutes (Wu Kai Sha to Tuen Mun). Train launching can only start at 5:30am but each station along the line must have the arrival of the “first train” at or around 6:00am to allow morning train service to commence. With just 30 minutes after launching, the first train from Tai Wai Depot and Pat Heung Depot will not be able to reach the other end of the line (as stated above the single trip will take 70 minutes) and hence a third launching point is required. In addition, the stabling capacity at Pat Heung Depot and Tai Wai Depot is unbalanced and hence the stabling sidings must be located east of HUH to allow trains to be launched evenly to meet the morning service requirement.

There might be an argument for commencing the morning train launching earlier than 5:30am to resolve the launching issue above. This means further reduction of

the current tight maintenance window during non-traffic hours which will seriously affect the effectiveness and efficiency of essential maintenance activities (e.g. grinding of rail, inspection/maintenance of overhead line, repair of structures and trackside railway equipment, etc.) during non-traffic hours. There will be increasing chances of human errors and equipment failures if maintenance period is reduced from the current minimum.

Ho Tung Lau Depot

It is currently used as the depot for the East Rail and the fleet size will actually be increased after extending its service across the harbour (SCL Cross Harbour Section). There is already a lack of space along the East Rail Line for additional stabling and there is no room to accommodate any SCL EWL trains.

The East Rail Line signalling system is not compatible with SCL and hence it is not possible to stable the SCL trains in Ho Tung Lau Depot as they cannot run by themselves to the EWL line tracks.

Kowloon Bay Depot

It is currently used as the depot for the Kwun Tong Line. The EWL is an extension of the former KCR lines where the rolling stock, signalling and traction power supply systems are incompatible with the urban line systems. In addition, the ex-KCR trains are bigger and cannot fit into the Kwun Tong Line tunnels

3 Using Other Areas

Other than the existing train depots, the investigation has also covered a number of other sites further away. A summary of the findings is given below.

Other Areas

Reasons that can not be adopted for SCL Train Stabling Sidings

Hung Hom Freight Yard

Following the termination of freight services in the existing Hung Hom Freight Yard in June 2010 and cessation of container cargo operation in April 2011, there is a possibility for modifying the Freight Yard under the Metropolis development for use as the new SCL (TAW-HUH) stabling sidings. However, the existing column grids were not designed for stabling and the associated connection tracks to the SCL (TAW-HUH) mainline and would need to be modified to accommodate the different stabling configuration and facilities. In addition the distance between TAW and Hung Hom is such that if a train were disabled on the mainline, the time to retrieve the disabled train to these sidings would significantly impact the service frequency. As a result, it may be necessary to make appropriate changes in the Diamond Hill, Kai Tak and Hung Hom Stations and its associated alignment and facilities of this Project to suit the SCL operational arrangement. With these adjustments in place, the former freight yard can thus be as well considered as one possible site to accommodate the train stabling requirement

Other Areas**Reasons that can not be adopted for SCL Train Stabling Sidings**

	<p>for SCL. This option (i.e. the HHS), as a designated project under Item A4 of Schedule 2 of EIAO, is assessed in a separate EIA study prepared according to EIA Study Brief (http://www.epd.gov.hk/eia/register/study/latest/esb-233.pdf ESB-233/2011).</p>
Shatin Pass Quarry	<p>The approximate 8 ha disused quarry requires extensive site formation works. The site at +100mPD will require a 3.3km spur line bifurcating near the Toll Plaza of the Lion Rock road tunnel from the EWL track level at +0mPD. Such level difference will impose significant technical problem for track connection. The rock cavern option inside Lion Rock with over 100m depth below ground will have problems in providing fireman access and is not considered further. This site is therefore not suitable for use as the EWL stabling sidings.</p>
Hin Keng	<p>The site immediately south of Tai Wai Depot is large enough to accommodate the new EWL stabling facilities. However, this site will take up the existing leisure facilities including the Hin Tin Swimming Pool and the Hin Tin Playground. Furthermore, the entry / exit tracks will have to run parallel with the mainline for a long length until they can connect to the mainline in a straight section well into the Lion Rock Tunnel. These tracks will jeopardize the site for HIK, and will also run extremely close to two housing blocks of the Hin Keng Estate.</p>
Tai Shui Hang	<p>The site is located south of the MOL Tai Shui Hang Station and is opposite to the existing Shatin Sewerage Treatment Works. The site is however not sufficiently large to accommodate the stabling facilities. Even if the arrangement of the tracks and accommodation areas were to be adjusted, the limited headroom and the column arrangement of the Tate's Cairn Highway approach road viaducts do not permit straight stabling tracks to be constructed within the site. The site is therefore not suitable for use as the new EWL stabling sidings.</p>
Wu Kai Sha CDA Sites	<p>Two CDA sites north of Wu Kai Sha Station are yet to be developed, and the size of two sites combined is sufficient to accommodate the additional stabling sidings. However, the southern CDA site consists of a large number of lots, which have been acquired by a local developer. The northern site comprises of a golf club under a Short Term Tenancy and a number of Government Land Allocations (GLAs). Unless Government is willing to revoke the GLAs and resume the private lots, development of stabling sidings in the CDA sites will not be possible.</p>
Kai Tak	<p>As a result of the change in the alignment along Ma Tau Wai Road, the site reserved for the depot at Kai Tak has already been occupied by TKW. Also, the depot will be in direct conflict with the Lung Tsun Stone Bridge which was</p>

Other Areas**Reasons that can not be adopted for SCL Train Stabling Sidings**

uncovered in 2008 and is now proposed to be preserved in-situ by the Antiques and Monuments Office. The previously proposed site at Kai Tak is therefore no longer available for use as the new stabling sidings.

4 Engineering Implications of Constructing the DHS Underground

A summary of the engineering implications of constructing the DHS underground is given below.

- Programme** : The completion date for SCL would need to be delayed by approximately 9 to 12 months
- Excavated material** : Additional 250,000m³ of spoil material needs to be disposed due to the removal of the soil on site.
- Fire safety** : The DHS will become a basement and there are concerns about gaining access by fireman to the large basement during an emergency

5 The Diamond Hill CDA Site

Hence, it can be seen that it is essential to have separate stabling sidings for SCL (TAW-HUH) and there are no other appropriate sites, existing depots or other alternatives that could be adopted. The site at Diamond Hill CDA Site (i.e. the former Tai Hom Village) is the preferred location for the train stabling sidings. Without a separate stabling, the SCL would not be operational.