SHATIN TO CENTRAL LINK
PROTECTION WORKS AT CAUSEWAY BAY TYPHOON SHELTER
PROJECT PROFILE
APRIL 2010

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1 BASIC INFORMATION

1.1 PROJECT TITLE

Shatin to Central Link Protection Works at Causeway Bay Typhoon Shelter.

1.2 PURPOSE AND NATURE OF THE PROJECT

The purpose of the project is to temporarily reclaim land for the SCL protection works.

The Shatin to Central Link (SCL) is one of the ten large-scale infrastructure projects announced by the Chief Executive in his 2007-2008 Policy Address. MTR Corporation Limited has been entrusted to plan and design for this project.

The SCL on the Hong Kong Island side will have programme and works interfaces with the planned Central - Wanchai Bypass and Island Eastern Corridor (CWB) project of the Highways Department. Having regard to the significant interface issues with the CWB project, some protection works at the Causeway Bay Typhoon Shelter (CBTS) (hereinafter known as "the Protection Works") to be undertaken by Highways Department together with the main CWB works is proposed as illustrated in **Figure 1.1**.

The Protection Works serve to protect the feasibility of the construction of the SCL in the future. As CWB could be operational during the construction of SCL, the Protection Works will allow the construction of the SCL without damaging or unduly affecting the CWB tunnel. This arrangement will also minimise public nuisance and impact to the surrounding environment as it can reduce the reclamation area for future construction of the SCL after the CWB is completed. However, the Protection Works cannot serve to function for any railway service or operation.

This project profile is prepared to provide available preliminary design information as well as an initial review of key environmental issues of the Protection Works for the application of Environmental Impact Assessment (EIA) Study Brief under S5(1)(a) of the Environmental Impact Assessment Ordinance (EIAO).

1.3 NAME OF THE PROJECT PROPONENT

MTR Corporation Limited

1.4 LOCATION AND SCALE OF PROJECT AND HISTORY OF THE SITE

The SCL Protection Works within the CBTS comprises a section of the twin track railway tunnel above the proposed Central Wanchai Bypass (CWB). The length of the SCL Protection Works is approximately 160m long and it is located entirely offshore within the CBTS. Upon implementation of the SCL in the future, the south end of the Protection Works will be extended from the temporary reclamation to connect with the South Ventilation Building (SOV) at the existing Police Officers' Club and the north end of the Protection Works will be continued in cut and cover construction to connect to an Immersed Tube Tunnel (IMT) beneath the harbour (see **Figure 1.2**).

The proposed CWB under the SCL will be constructed within the temporary reclamation area. At the closest point, the crown of the CWB tunnel is about 3m beneath the formation of the SCL tunnels. The envisaged construction method of the railway tunnel is similar to CWB, i.e. by temporary reclamation (including seawall construction, associated dredging and filling), diaphragm walls and bottom-up construction. The scope of the Protection Works is limited to civil and structural elements.

The temporary reclamation for the Protection Works occupies about 0.7ha of Government foreshore and sea-bed (of which 0.3ha is already authorized under CWB, i.e. additional reclamation of 0.4ha is required, see **Figure 1.2**). In addition, the southeast corner of the CBTS will need to be dredged to provide space for temporary relocation of anchorage area due to the additional temporary reclamation for the Protection Works (see **Figure 1.3**). About 2.6ha of Government foreshore and sea-bed (of which 1.45ha is already covered under CWB gazette) will be affected by the temporary reclamation with the construction of about 334 m of temporary seawall and dredging works for the temporary mooring space at the southeast corner of CBTS.

The temporary reclamation will be removed once the Protection Works is completed except a small area at the southwest corner of the reclamation which will be retained to enable construction of the future SCL tunnels connecting to the proposed South Ventilation Building (the Police Officer Club site). This section of the temporary reclamation will be removed upon completion of the concerned tunnel works.

The temporary reclamation for the Protection Works will also require relocation of the temporary Royal Hong Kong Yacht Club (RHKYC) jetty within the CWB temporary reclamation to a new location.

1.5 NUMBER AND TYPES OF DESIGNATED PROJECTS

The SCL Protection Works is a Designated Project (DP) under the EIAO falling into the following categories:

- A dredging operation which is less than 100m from a seawater intake point (i.e. the cooling water intake as shown on **Figure 1.2**) under Item C.12 (b), Part I of Schedule 2 of the EIAO

1.6 NAME AND TELEPHONE NUMBER OF CONTACT PERSONS

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Head of Sustainability Development
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2 OUTLINE OF PLANNING AND IMPLEMENTATON PROGRAMME

2.1 PROJECT PLANNING AND IMPLEMENTATION

The Protection Works will be planned and designed by MTR Corporation Limited in-house departments together with external consultants, and is envisaged to be undertaken by the CWB contractor.

2.2 PROJECT PROGRAMME

The construction of the Protection Works is tentatively scheduled to commence in 2011 and be substantially completed by 2013 with a small reclaimed area at the southwest corner being removed in 2017 upon completion of the SCL tunnels connecting to the proposed South Ventilation Building.

2.3 PROJECT INTERFACE

Major committed and planned projects that may interface with the project are listed in the table below.

Location	Potential Interfacing Projects
Causeway Bay Typhoon Shelter	• CWB • SCL

3 POSSIBLE IMPACTS ON THE ENVIRONMENT

3.1 POTENTIAL ENVIRONMENTAL IMPACTS: CONSTRUCTION PHASE

The following sections describe the potential environmental impacts during the construction phase, which will be alleviated by effective and pragmatic mitigation measures designed according to the assessed levels of impact.

3.1.1 Air Quality

Potential air quality impacts may arise from fugitive dust emissions generated by construction activities such as reclamation, demolition and construction of structures, movement of construction traffic over the site area, and wind erosion of open sites and stockpiling areas etc.

3.1.2 Noise

The powered mechanical equipment (PME) used for the temporary reclamation, dredging, and tunnel construction will potentially generate airborne construction noise.

Construction of bored tunnel by TBM will not be adopted for the works; hence, groundborne construction noise impact is not anticipated.

3.1.3 Water Quality

Water quality impacts may arise from the following potential sources during construction of the Project:

- Run off due to erosion of exposed surfaces, accidental spillage from plant maintenance etc, materials handling and other works activities;
- Construction workforce sewage;
- Dredging works may disturb the marine bottom sediment;
- Loss of fill materials into the water column during filling activities causing an increased SS level, and;
- Release of sediment-bound contaminants such as heavy metals and nutrients into the water column;

3.1.4 Waste Management

Wastes generated by the construction works may include excavated spoil and sediment, surplus construction materials, chemical wastes, used products and general refuse from workers. The possible presence of contaminated sediments that may require dredging and disposal will need to be assessed.

3.1.5 Hazard

The Protection Works will not run into any consultation zone of Potentially Hazardous Installations. Under the current scheme, explosives would not be required for the construction of the Protection Works. No hazard issues are anticipated.

3.1.6 Ecology

Generally the ecological impacts associated with the Protection Works will be minimal given that the majority of the works will be undertaken within the disturbed areas of CWB works sites and CBTS with low ecological value.

3.1.7 Historical and Cultural Heritage Impacts

Potential impacts on historical and cultural heritage resources during the construction phase may arise due to activities associated with plant operation and change of the setting of the site.

No Declared Monuments or sites of historical and cultural significance (e.g. Noonday Gun at Causeway Bay Typhoon Shelter) are expected to be affected by the proposed scheme.

3.1.8 Land Contamination

The Protection Works is located within newly reclaimed land at CBTS. No land contamination issue is expected.

3.1.9 Landscape and Visual Impact

The reclamation and associated dredging, cut and cover construction and excavation, temporary noise barriers for the works sites (if necessary) and illumination within the construction sites may create short-term visual impacts.

3.2 POTENTIAL ENVIRONMENTAL IMPACTS: OPERATIONAL PHASE

3.2.1 The tunnel structure constructed under the Protection Works will not serve any function for railway service or operation upon completion of the works. Moreover, as the structure will be located below seabed, no environmental impacts, including air quality, noise, waste, water quality, land contamination, ecology, hazard, historical and cultural heritage, landscape and visual issues are expected.

4 MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT

The major sensitive receivers and sensitive parts of the natural environment, which might be affected by the Project, are listed below. The list of sensitive receivers is not exhaustive and will be reviewed during the EIA stage.

Types	**Sensitive Receivers**
Residential Developments	• Residential properties along Victoria Park Road and Gloucester Road • Excelsior Hotel • Elizabeth House
Water Courses	• Victoria Harbour • CBTS • WSD Saltwater Pumping Stations • Cooling water intakes at CBTS
Site of Cultural Heritage	• Floating Tin Hau Temple in the CBTS • Noonday Gun situated at the coast near CBTS • Kellett Island Archaeological Site • Royal Hong Kong Yacht Club

5 ENVIRONMENTAL PROTECTION MEASURES AND IMPLICATIONS

5.1 POTENTIAL MEASURES TO MINIMIZE ENVIRONMENTAL IMPACTS

Potential measures are outlined below to minimise environmental impacts. These measures will be further reviewed during the EIA process.

5.1.1 Construction Phase

Air Quality

Good site practices and relevant dust control measures set out in the Air Pollution Control (Construction Dust) Regulations will be implemented to control the dust impacts on the nearby sensitive receivers. With the mitigation measures in place, it is expected that the construction dust impact will be minimized to acceptable levels.

Noise

A package of mitigation measures will be designed to control construction noise impacts. General good site practices will help to control noise impacts. These include:

i) Care in the placement and orientation of noisy plant away from sensitive receivers;

ii) Careful planning of construction sequence; and

iii) Regular maintenance of plant and equipment.

Further mitigation measures such as the use of quiet plant and noise barriers would be devised during the EIA process to help control daytime noise impacts to within the stipulated construction noise criterion should they be necessary.

Water Quality

Water quality impact mitigation measures such as drainage facilities to control site runoff, wheel washing facilities, proper toilet facilities and comprehensive waste management procedures will be implemented in accordance with the Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN 1/94).

Measures for mitigating water quality impacts associated with marine works such as construction of seawall prior to main dredging works where possible, dredging by closed grab dredger and deployment of silt curtain.

Waste Management

Standard waste management measures and good site practices in waste handling, disposal and transportation would be implemented. Potential disposal outlets and opportunities for re-use for the excavated materials will be studied in details.

The requirements and procedures for dredged mud disposal under the Environment, Transport and Works Bureau Technical Circular No. 34/2002 would be followed.

Ecology

Mitigation measures to reduce water quality impact to the marine environment should be implemented if necessary.

Historical and Cultural Heritage

Since historical and cultural heritage resources are located at considerable distance from the proposed works area, specific mitigation measures are considered not necessary at this stage.

Landscape and Visual Impact

Since the Protection Works will be constructed at newly reclaimed land of temporary in nature with limited landscape resources, specific measures for mitigating landscape impacts may not be necessary.

Measures for mitigating potential visual impact may include minimizing temporary works areas and control of night-time lighting.

5.1.2 Operational Phase

Adverse environmental impacts are not expected and hence no mitigation measures are necessary.

5.2 POTENTIAL SEVERITY, DISTRIBUTION AND DURATION OF ENVIRONMENTAL EFFECTS

It is anticipated that the Protection Works will commence in 2011 and be substantially completed by 2013 with a small reclaimed area at the southwest corner being removed in 2017 upon completion of the SCL tunnels connecting to the proposed South Ventilation Building. Construction dust, noise, water and waste are potential issues for the duration of construction. It is expected that proven means of mitigation in most instances will be sufficient to control adverse environmental impacts. Further assessment will be required to determine the severity of the potential impacts and additional mitigation if necessary.

5.3 ENVIRONMENTAL BENEFITS

The proposal of implementing the Protection Works under the CWB project has a number of merits including minimisation of the temporary reclamation for the future construction of the SCL, disruption to the CBTS and any abortive works that would otherwise be generated. As well, this arrangement can ensure the concerned section of the SCL tunnel box can be safely constructed underground in the future without jeopardising the operation of the CWB and with a minimum disturbance to the surrounding community.

6 USE OF PREVIOUSLY APPROVED EIA REPORTS

No previously approved EIA report exists for the proposed Protection Works. However, reference may be made within the study area from *Environmental Impact Assessment Report for Wan Chai Development Phase II and Central-Wan Chai Bypass* which was approved by the EPD in December 2008.

Reference will also be made to the approved EIA reports on the EIAO register for other developments that potentially interface with the Project.

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SHATIN TO CENTRAL LINK

ORIGINATOR
PROJECTS DIVISION
PROJECT MANAGEMENT – SCL

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TITLE
SHATIN TO CENTRAL LINK PROTECTION WORKS AT CAUSEWAY BAY TYPHOON SHELTER
OVERALL VIEW ON SCL AND CWB PROJECTS

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TITLE
SHATIN TO CENTRAL LINK PROTECTION WORKS AT CAUSEWAY BAY TYPHOON SHELTER
SCOPE OF SCL PROTECTION WORKS
(SHEET 1 OF 2)

SCALE 1 : 1000 (A1) | DRAWING NO. FIGURE 1.2 | REV. -

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SHATIN TO CENTRAL LINK PROTECTION WORKS AT CAUSEWAY BAY TYPHOON SHELTER
SCOPE OF SCL PROTECTION WORKS
(SHEET 2 OF 2)

SCALE 1 : 1000 (A1)
DRAWING NO. FIGURE 1.3
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