Consultancy Agreement No. NEX/2213

Environmental Impact Assessment (EIA) Study for the Shatin to Central Link Protection Works at Causeway Bay Typhoon Shelter

AECOM

MTR Corporation Limited

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Environmental Impact Assessment Report - Executive Summary

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1. INTRODUCTION

1.1 The Shatin to Central Link (SCL) is one of the priority railways recommended for implementation in the Railway Development Strategy 2000. It is also one of the ten large-scale infrastructure projects announced by the Chief Executive in his 2007-2008 Policy Address. MTR Corporation Limited (MTR) has been entrusted to plan and design for this project.

1.2 The SCL is strategically important for connecting the existing railway lines into an integrated rail network. The east-west connection will allow the setup of a 57km east-west corridor across the city connecting Wu Kai Sha with Tuen Mun via Kowloon; whilst the north-south connection will operate over a 41km north-south corridor with services originating in Lok Ma Chau or Lo Wu travelling via the existing East Rail Line (EAL) to Admiralty Station (ADM). This will enable a direct transportation linkage between Mainland China and Hong Kong Island.

1.3 The Legislative Council Brief on the SCL submitted by the Transport and Housing Bureau (THB) in March 2008 indicated that the SCL would be implemented in two phases. The first phase would include the realignment work for the existing EAL tracks from Mong Kok East Station (MKK) to the new platforms at Hung Hom Station (HUH) and the extension of the Ma On Shan Line (MOL) from Tai Wai Station to HUH. The second phase would cover the section from HUH across the harbour to the Causeway Bay Typhoon Shelter (CBTS), Exhibition Station (EXH) and then to ADM.

1.4 For the second phase, a key aspect of constructing the SCL inside the CBTS will be the coordination of interfaces with the Central-Wan Chai Bypass and Island Eastern Corridor Link (CWB) project of the Highways Department, which involves the construction of cut-and-cover tunnel from temporary reclamation in the CBTS. Since this will overlap with the target construction period of SCL, there is a need to address how the SCL can be integrated with the CWB tunnel works to minimize the extent and duration of temporary reclamation for both projects in the CBTS in view of the feedback from consultation with stakeholders and users of the CBTS. Eventually, tunnel protection works for the SCL at the CBTS is proposed to be undertaken by Highways Department together with the main CWB works.

1.5 The SCL Protection Works and associated works at CBTS (hereinafter known as “the Project”) involve the construction of a 160m tunnel box by cut-and-cover method at the crossing above the CWB tunnels. Temporary reclamation is required and will be authorized under the Foreshore and Sea-bed (reclamations) Ordinance.

1.6 The Project is a Designated Project (DP) under Item C.12 (b), Part I of Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) – “A dredging operation which is less than 100m from a seawater intake point”. The Project will be undertaken together by the CWB contractor. The temporary reclamation in the Project together with that in the CWB project will be another designated project under Item C.1, Part 1, Schedule 2 of the EIAO. The implementation of the Project therefore requires an Environmental Permit (EP) under the EIAO.

1.7 An application for an Environmental Impact Assessment (EIA) Study Brief was made to the Environmental Protection Department (EPD) and the EIA Study Brief No. ESB–213/2010 for the Protection Works has been issued under the EIAO. AECOM Asia (HK) Company Limited (AECOM) was commissioned by the MTR as the Consultant to conduct this EIA study for the Protection Works.

1.8 This Executive Summary highlights the key findings of the EIA study for the Project to comply with the EIAO.

2. DESCRIPTION THE PROJECT

Purpose and Scope of the Project

2.1 A key aspect of the construction of Shatin to Central Link - Hung Hom to Admiralty Section (hereafter known as SCL (HUH-ADM)) inside the CBTS will be coordination of the interfaces with the CWB project. The CWB will be constructed in cut-and-cover tunnel from temporary reclamation in the CBTS. Construction of the CWB will tentatively start in the third quarter of 2010 and will overlap with the target construction period of the SCL. There is a need to address how the SCL can be integrated with the proposed CWB project to minimize the extent and duration of reclamation for both projects in the CBTS.

2.2 The purpose of the Project is to temporarily reclaim land for construction of a section of tunnel box for SCL by cut-and-cover method at the crossing above the CWB tunnels within the CBTS. The Protection Works is limited to civil and structural elements and cannot serve to function for any railway service or operation. The prime objectives of the Project are:

- To avoid repeated temporary reclamation and minimize the extent and duration of reclamation in the CBTS by constructing the SCL Protection Works together with the main CWB works that is undertaken by Highway Department.
- To ensure future construction of the SCL on both sides of the CWB tunnels is protected and ensure its feasibility without damaging or unduly affecting the CWB tunnels which could be operational by then.

2.3 The Project comprises the following key elements:

- Temporary reclamation, which occupies about 0.7ha of Government foreshore and sea-bed (of which 0.3ha is already authorized under CWB project, i.e. additional reclamation of 0.4ha is required).
- Dredging works at the southeast corner of the CBTS to provide space for temporary relocation of anchorage area due to the additional temporary reclamation for the Project.
- Construction of a section of the twin track railway tunnel structure (approximately 160m long) above the proposed CWB located entirely offshore within the CBTS.
- Relocation of the temporary Royal Hong Kong Yacht Club (RHKYC) jetty within the CWB temporary reclamation to a new location.
- Removal of the temporary reclamation, except the small area at the southwest corner of the reclamation (which will be removed by the SCL (HUH-ADM) upon completion of the future SCL tunnels connecting to the proposed South Ventilation Building (SOV)).

2.4 Location, boundary and general layout of the Project are illustrated in **Figure Nos. NEX2213/C/331/ENS/M50/501** to **NEX2213/C/331/ENS/M50/503**.

Benefits of the Project

2.5 Since the Project will interface with CWB project at the CBTS, there is a need to address how the two projects can be integrated, not only to optimize the use of temporary reclamation provided by CWB but also to minimize the impacts on the users of the CBTS. Based on feedback from consultation with stakeholders and users of the CBTS, they opined that there should be a better coordination with the CWB project to minimize disturbance to the moorings and operations of the typhoon shelter and expedite the works to avoid prolongation of the impacts.

2.6 The Project is a win-win option to both SCL and CWB projects in terms of project costs and risks during construction. It allows optimum usage of the temporary reclamation provided by CWB for the construction of SCL, so that future temporary reclamation due to SCL works in the interfacing region can be avoided. On one hand it reduces the extent of temporary reclamation area required for future SCL works which in turn facilitates the allocation of resources, on the other hand it as well shortens the duration of temporary reclamation within the CBTS and hence the impacts on the users of CBTS. Despite that temporary reclamation additional to that proposed in the CWB project is required, it would be significantly reduced in terms of size and duration in comparison to that which would be required if the Protection Works is undertaken after completion of the CWB.

2.7 As CWB would be operational during the construction of the SCL, the Project will allow the future construction of the SCL on both sides of the CWB tunnels without damaging or unduly affecting the CWB tunnel. The risks of both SCL construction and CWB tunnel operation are therefore minimized. This arrangement will also minimize public nuisance and impact to the surrounding environment as it can reduce the reclamation area for subsequent construction of the SCL after CWB is completed.

Selection of Project Scheme

2.8 The engineering design, location and scale of the Project are governed by the alignment scheme of the SCL (HUH-ADM). Different alignment options and construction methods of the SCL (HUH-ADM) would have direct implication on the design of the Project in various aspects, including the location and size of works area, extent of dredging and temporary reclamation, works sequence and phase implementation and even the necessity of the Project.

2.9 In the alternative alignment schemes and construction options selection process of SCL (HUH-ADM), potential environmental impacts and other factors such as geographical and geological consideration, implementation programme, interface with existing facilities, operational safety, flexibility and maintenance requirements, constructability, land acquisition and disruption to the community were considered. The selected alignment schemes and construction options are considered as the most appropriate balanced option that has minimised the potential environmental impacts and can both achieve the needs of the SCL project and benefit to the public and be constructed with proven technology, at lower costs and less risk to the programme.

2.10 Under the preferred option, temporary reclamation will be required to construct the portion of the SCL tunnel running through the existing CBTS breakwater and inside the CBTS by cut-and-cover method. This method is similar to that of the CWB project, which involves cut-and-cover construction, temporary reclamation and seawalls. It is thereby proposed that the section of SCL tunnel above the CWB tunnel will be constructed in conjunction with the CWB tunnel under the Project. The following merits would be achieved by constructing the SCL Protection Works together with the CWB works within the CBTS:

- Use of the temporary reclamation area provided by CWB to avoid the repeated temporary reclamation at the interfacing area of the two projects.
- Minimize the extent and duration of temporary reclamation required for the construction of the SCL tunnels.
- Minimize waste generation during the construction by avoiding the repeated temporary reclamation and hence minimize the potential impact to the existing public fills and landfills in Hong Kong.
- Minimize disturbance to the moorings and operations of the typhoon shelter and expedite the works to avoid prolongation of environmental impacts.

Compliance with the Protection of the Harbour Ordinance (PHO)

2.11 The PHO Cap 531 recognises the harbour as a special public asset and a natural heritage of Hong Kong to be protected and preserved. Judicial reviews on other projects have further clarified the legal principles behind the PHO and have established a presumption against reclamation within Victoria Harbour, irrespective if the reclamation is permanent or temporary.

2.12 The presumption against reclamation can only be rebutted by establishing an overriding public need for the reclamation work. Guidance for addressing the public need for reclamation (referred to as "the overriding public need test") is provided in the Housing, Planning and Lands Bureau Technical Circular No. 1/04 (HPLB TC 1/04). This applies to all reclamations within the boundaries of Victoria Harbour and cogent and convincing materials are required to support and justify the overriding public need for reclamation.

2.13 A detailed examination of the SCL needs and constraints, including an exhaustive investigation into the need for reclamation for the SCL (HUH-ADM) construction and of alternative schemes that might do away with reclamation or, at least, minimise reclamation, has been carried out. A "Cogent and Convincing Materials to Demonstrate Compliance with the Overriding Public Need Test" (CCM Report for SCL), which set out the findings of the investigations and the conclusions regarding the need for reclamation and the minimum extent of reclamation has been prepared. As detailed in the CCM Report, the three tests in rebutting the presumption against the reclamation as set out in the PHO have been satisfied:

- In facilitating the construction of the SCL and therefore in meeting the overriding public need for the railway, there is consequently a compelling and present need for the reclamation in the CBTS and adjacent to Hung Hom landfalls. All of the reclamation is essentially temporary and will be removed upon completion of construction, with the seabed reinstated to the original level.
- No reasonable alternative to temporary reclamation is found for constructing the SCL (HUH-ADM) (known as SCL Cross Harbour Section in the CCM Report).
- The extent of reclamation has been determined to be the minimum required.

Construction Programme

2.14 The construction of the Project is anticipated to commence in 2012 and be substantially completed by 2013. The small reclaimed area at the southwest corner that will be retained to enable the construction of future SCL tunnels to connect with the proposal SOV will be removed in 2017 under the SCL (HUH-ADM).

Continuous Public Involvement

2.15 Public consultation activities have been conducted to brief the public on the issues associated with the proposed SCL (HUH-ADM) works in the harbour and seek their views since the Executive Council approved the further planning and preliminary design of SCL by the MTR in March 2008. These included public forums, professional forums and seminars, briefing for and meetings with CBTS users, presentations to and discussions with District Councils and Harbour-front Enhancement Committee.

2.16 The majority of the public supports the SCL and urged for early completion of this infrastructure. They also opined that there should be better coordination with the CWB project to minimize disturbance to the CBTS. Having considered the views of the public, as well as all other engineering and environmental factors, it is proposed that the Project is to be implemented as described above.

3. KEY FINDINGS OF THE ENVIRONMENTAL IMPACT ASSESSMENT

3.1 The EIA Study was conducted in accordance with the EIA Study Brief No. ESB–213/2010, following the guidelines on assessment methodologies in the Technical Memorandum on Environmental Impact Assessment (EIAO-TM). A summary of the environmental impacts associated with the Project is presented in **Table 3.1**. The key findings of the EIA study are summarized below.

Water Quality Impact

Marine Construction

3.2 The water quality impacts during the marine construction works have been quantitatively assessed by numerical modelling. Suspended solids were identified as the most significant water quality parameter during the marine construction works. Key water quality sensitive receivers identified include seawater intakes in Victoria Harbour and coral sites in the far field at Green Island and Junk Bay (**Figure Nos. NEX2213/C/331/ENS/M59/501** to **503**). The worst-case scenario during the marine construction period, taking into account the cumulative effects from other concurrent marine works has been assessed.

3.3 It was predicted that, with the implementation of the recommended good site practices and mitigation measures, there would be no unacceptable water quality impacts due to the construction of the SCL Protection Works and due to the cumulative effects from other concurrent marine construction activities. The key recommended mitigation measures include:

- Adopt an approach for temporary reclamation where temporary seawalls will first be formed to enclose each phase of the temporary reclamation. Installation of diaphragm wall on temporary reclamation as well as any bulk filling will proceed behind the completed seawall. Any gaps that may need to be provided for marine access will be shielded by silt curtains to control sediment plume dispersion away from the site. Demolition of temporary reclamation including the demolition of the diaphragm wall and dredging to the existing seabed levels will also be carried out behind the temporary seawall. Temporary seawall will be removed after completion of all excavation and dredging works for demolition of the temporary reclamation.
- construct temporary seawall closer to the seawater intakes to protect them from further dredging activities during construction of the temporary reclamation and temporary seawall further away.
- Use of closed grab dredger for dredging.
- Deploy silt curtains to fully enclose the closed grab dredging during dredging operation.
- Install silt screens at the cooling water intakes within the CBTS during the temporary reclamation period.
- Operate no more than two dredgers for dredging within the CBTS at any time for SCL Protection Works and ensure the combined dredging rate for all concurrent dredging works undertaken within the CBTS not greater than 6,000m^3 per day throughout the entire construction period

Land-based Construction

3.4 The key issue from the land-based construction activities would be the potential water quality impact due to the release of sediment-laden water from surface works areas and discharge of construction site effluent. Water quality deterioration could be minimized through the implementation of control measures and site practices in ProPECC PN 1/94 “Construction Site Drainage”, such as sand/silt removal facilities, provision of cover for stockpiles to minimize site runoff, and proper site drainage.

Noise Impact

3.5 The potential source of noise generation from the construction of the Project would mainly be the use of powered mechanical equipment (PME) for the construction activities. Noise Sensitive Receivers (NSRs) located closest to the Project site boundary were selected as the representative NSRs for the assessment, including Hoi Deen Court (CH1), Hoi Kung Court (CH2), Elizabeth House (CH3), Marco Polo Mansion (CH4), Mayson Garden (N11) and Belle House (N13) (**Figure Nos. NEX2213/C/331/ENS/M52/501** and **502**).

3.6 The construction noise impact on the representative NSRs have been quantitatively assessed. It was predicted that in the absence of any control measures, construction noise levels at NSRs N11 and N13 would comply with the EIAO-TM noise criterion of 75dB(A), whereas up to 9dB(A) exceedances were predicted at NSRs CH1 to Ch4. As such, noise mitigation measures are considered necessary.

3.7 Mitigation measures including good site practices, quieter plant and movable noise barrier were recommended to reduce the noise levels so as to meet the EIAO-TM noise criterion. With the recommended mitigation measures in place, noise levels due to the Project at all representative NSRs were predicted to range from 60 to 73 dB(A), in compliance with the EIAO-TM noise criterion.

3.8 Potential cumulative noise impacts with concurrent project in the assessment area were considered and no adverse impacts were anticipated.

Construction Dust Impact

3.9 Potential dust impact associated with the construction of the Project has been quantitatively assessed. A total of 6 representative ASRs were identified for the construction dust assessment, including World Trade Centre (CHA1), Sino Plaza (CHA2), Highland Mansion (CHA3), Royal Hong Kong Yacht Club (CHA4), Police Officers Club (CHA5) and Riviera Mansion (CHA6) (**Figure Nos. NEX2213/C/331/ENS/M60/501**). Potential sources of dust impact arising from the Project would include temporary seawall construction, filling, installation of diaphragm walls, excavation, placing a reinforced concrete tunnel box and removal of temporary reclamation.

3.10 Under the unmitigated scenario, the predicted cumulative maximum hourly and 24-hour average Total Suspended Particulates (TSP) levels at most of the representative ASRs would exceed the EIAO-TM and AQO TSP criteria. For the annual average TSP levels, exceedances of the AQO criterion (80 $\mu g/m^3$) were predicted at ASR CHA5.

3.11 In order to alleviate the dust impacts, proper dust mitigation measures were proposed, including watering once every working hour on temporary reclamation area of the Project, covering/paving the retained area at the southwest of temporary reclamation and the implementation of good site practices. With the implementation of the recommended dust mitigation measures, the predicted cumulative maximum hourly, daily and annual TSP levels at all representative ASRs would comply with the criteria in EIAO-TM and AQO. No adverse dust impacts on the ASRs in the vicinity of the construction sites were anticipated.

Waste Management Implications

3.12 Different types of potential wastes likely to be generated by the Project have been identified in this EIA Study. Construction and Demolition (C&D) materials (from construction of railway tunnel structure and relocation of temporary of RHKYC jetty), sediment, general refuse (from workforce) and chemical waste (from maintenance of construction plant and equipment) would be generated during the construction phase. Provided that these wastes are handled, transported and disposed of using approved methods and that the recommended good site practices are strictly followed, adverse environmental impacts would not be expected.

3.13 Reduction measures have been recommended to minimise the amount of materials generated in the Project. Approximately 14,400m^3 of inert materials and 300 m^3 of non-inert materials would be generated during the construction phase of the Project which would be reused (i.e. other concurrent projects) as far as practicable before off-site disposal. Opportunities in minimisation of generation and maximisation of reuse would be continually investigated during the construction phase. The remainder of materials would be disposed to designated outlets.

3.14 The total volume of dredged sediment generated from the Project is estimated to be approximately 38,200m^3. Based on the results of the chemical and biological screening, approximately 9,000m^3 sediment is suitable for Type 1 – Open Sea Disposal, 18,700m^3 sediment requires Type 2 – Confined Marine Disposal and 10,500m^3 sediment requires Type 3 – Special Treatment/Disposal in accordance with *Environment, Transport and Works Bureau Technical Circular (Works) No. 34/2002 - Management of Dredged/Excavated Sediment* (ETWB TC(W) No. 34/2002).

3.15 It is proposed that the handling method of dredged Type 3 sediments should adhere to the CWB project under which geosynthetic containment would be employed as disposal method. The sediment should be sealed in geosynthetic containers and disposed of at the designated contaminated mud pit. The pit would be subsequently capped thereby meeting the requirements for fully confined mud disposal.

3.16 With the implementation of the recommended mitigation measures and in accordance with the requirements of ETWB TC(W) No. 34/2002, no adverse environment impacts would be expected from dredging, transportation and disposal of marine sediment.

Table 3.1 Summary of Environmental Impacts associated with the Project

Sensitive Receivers / Assessment Points	Impact Prediction Results	Relevant Standards / Criteria	Extents of Exceedances (Without any Mitigation Measures)	Impact Avoidance Measures / Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
Water Quality Impact					
Coral communities and seawater intakes along the coastlines of Wan Chai, Causeway Bay, North Point and Kowloon Pennisula (refer to **Figures Nos. NEX2213/C/331/ENS/M59/501 – 503**)	• The model results indicate that full compliance with SS criterion at all the cooling water intakes and WSD flushing water intakes would be achieved. • At the far-field coral communities, both the predicted SS elevations and sedimentation rates would comply with the relevant criteria.	1. WSD's Water Quality Criteria for Flushing Water at Sea Water Intakes for SS: <10 mg/l. 2. Target water quality objectives at coral sites for SS elevations: <30% of the mean SS level.	• With the implementation of all recommended mitigation measures, full compliance would be achieved.	• Deployment of silt curtains at appropriate dredging areas to control sediment plume dispersion away from the site. • Use of closed grab dredger to minimize the release of sediment and other contaminants during dredging. • Silt screens will be installed at the cooling water intakes within the CBTS during the temporary reclamation period. • No more than two dredgers (of about 8m^3 capacity each) should be operated for dredging within the typhoon shelter at any time of the Project. The combined dredging rate for all concurrent works within the CBTS shall not exceed 6,000 m^3 per day throughout the entire construction	None

Sensitive Receivers / Assessment Points	Impact Prediction Results	Relevant Standards / Criteria	Extents of Exceedances (Without any Mitigation Measures)	Impact Avoidance Measures / Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
				period.	
Noise Impact (Construction Phase)					
Existing residential blocks along Gloucester Road and near the southeast corner of the typhoon shelter. Six assessment points (refer to **Figure Nos. NEX2213/C/331/ENS/M52/ 501 – 502**)	Predicted noise levels would range from 63 to 84 dB(A)	EIAO-TM assessment criterion for works during non-restricted hours for domestic premises: 75dB(A)	Without mitigation, EIAO-TM criterion would be complied at Mayson Garden and Belle House while exceedance of the EIAO-TM noise criterion by up to 9 dB(A) would be anticipated at some other NSRs.	Adoption of good site practices, quiet equipment and movable noise barriers to minimise construction noise impact	• Full compliance of the EIAO-TM criterion would be achieved with the implementation of all recommended mitigation measures. • No residual impacts
Construction Dust Impact					
Existing commercial, residential and recreational developments along Gloucester Road and near the typhoon shelter. Five assessment points (refer to **Figure No. NEX2213/C/331/ENS/M60/ 501**)	1-hour Average TSP Conc.: 370 – 1969 µg/m^3 24-hour Average TSP Conc.: 206 – 894 µg/m^3 Annual Average TSP Conc: 77.0 – 84.5 µg/m^3	EIAO-TM (hourly): 500 µg/m^3 AQO (daily): 260 µg/m^3 AQO (annual): 80 µg/m^3	Without mitigation, full compliance of the EIAO-TM and AQO criteria would be anticipated at Highland Mansion whilst exceedance at other ASRs would be anticipated, as follows, Exceed EIAO-TM (hourly) criterion by up to 1469 µg/m^3 Exceed AQO (daily)	• Watering once on the temporary reclamation area of the Protection Works for every working hour • Covering/paving the southwest retained area of temporary reclamation once filling is completed • Dust suppression measures stipulated in the Air Pollution Control	• Full compliance of the EIAO-TM and AQO criteria would be achieved at all ASRs with the implementation of all recommended mitigation measures. • No residual impacts

Sensitive Receivers / Assessment Points	Impact Prediction Results	Relevant Standards / Criteria	Extents of Exceedances (Without any Mitigation Measures)	Impact Avoidance Measures / Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
			by up to 634 µg/m^3 Exceed AQO (annual by up to 4.5 µg/m^3	(Construction Dust) Regulation and good site practices would be carried out to further minimize construction dust impact.	
Waste Management Implications					
Water quality, air and noise sensitive receivers at or near the Project Site, the waste transportation routes and the waste disposal site.	Main waste: Dredged marine sediment with a total volume of approximately 38,200 m^3 Other wastes: • C&D Materials from demolition and excavation works with a total volume of approximately 14,400 m^3, • 300 m^3 of non-inert C&D material • General refuse from workforce • Chemical waste from plant and equipment maintenance	• Waste Disposal Ordinance (Cap. 354); • Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C); • Land (Miscellaneous Provisions) Ordinance (Cap. 28); • Public Health and Municipal Services Ordinance (Cap. 132) - Public Cleansing and Prevention of Nuisances Regulation; • Waste Disposal (Charges for Disposal of Construction Waste)	Not applicable.	• C&D wastes would be reused (i.e. other concurrent projects) as far as practicable before off-site disposal • Contaminated dredged sediment (Category M and H) would require either Type 1 – Open Sea Disposal (Dedicated Sites) or Type 2 – Confined Marine Disposal at contaminated mud pit allocated by MFC. Category L sediment is suitable for Type 1 – Open Sea Disposal at gazetted marine disposal ground allocated by MFC. • The handling method of dredged Type 3 sediments should adhere to the CWB project under which	None

Sensitive Receivers / Assessment Points	Impact Prediction Results	Relevant Standards / Criteria	Extents of Exceedances (Without any Mitigation Measures)	Impact Avoidance Measures / Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
		Regulation (Cap. 354N); and • Dumping at Sea Ordinance (Cap. 466).		geosynthetic containment would be employed as disposal method. The sediment should be sealed in geosynthetic containers and disposed of at the designated contaminated mud pit. The pit would be subsequently capped thereby meeting the requirements for fully confined mud disposal. • Other waste reduction measures and good site practices to achieve avoidance and minimization of waste generation from the Project.	

4. ENVIRONMENTAL MONITORING AND AUDIT

4.1 An environmental monitoring and audit (EM&A) programme will be implemented during the construction of the Project, to check the effectiveness of the recommended mitigation measures and compliance with relevant statutory criteria.

5. OVERALL CONCLUSION

5.1 This EIA has been conducted in accordance with the EIA Study Brief and the EIAO-TM guidelines. Overall, the EIA Study has concluded that the Project would be environmentally acceptable, in compliance with environmental legislation and standards. With the implementation of environmental control measures during construction of the Project, there would be no adverse residual impacts from the Project. This will be checked by a comprehensive environmental monitoring and audit programme.