

# **Shatin to Central Link Sediment Management Plan**

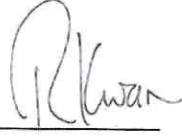
**July 2013**

MTR Corporation Limited

**Shatin to Central Link**

**Sediment Management Plan**

(July 2013)

Certified by: Richard Kwan 

Position: Environmental Team Leader

Date: 22 July 2013

MTR Corporation Limited

## **Shatin to Central Link**

### **Sediment Management Plan**

(July 2013)

Verified by: Fredrick Leong 

Position: Independent Environmental Checker

Date: 19 July 2013

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## 1. INTRODUCTION

The Shatin to Central Link (SCL, the Project) is a strategic rail corridor from Shatin to Central that runs through multiple districts in Hong Kong. It comprises two sections. The first section, Tai Wai to Hung Hom (TAW-HUH) or the East West Corridor (EWL) will extend the existing Ma On Shan Line (MOL) from Tai Wai to the West Rail Line (WRL) through East Kowloon, with stations at Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, Ho Man Tin and Hung Hom (The East West Corridor, EWL). The second section, Hung Hom to Admiralty (HUH-ADM) will bring East Rail Line (EAL) across the harbour to Hong Kong Island, from Hung Hom to Exhibition Station and Admiralty Station via the fourth cross-harbour railway (the North South Corridor, NSL). When the 11km long SCL (TAW-HUH) is put into operation, the existing WRL terminus at the present Hung Hom Station (HUH) will be relocated to connect with the new alignment. The 6 km SCL (HUH-ADM) will be connected to EAL with realignment of the existing EAL tracks from the tunnel portal near Oi Man Estate to HUH (SCL (MKK-HUH)). The SCL (HUH-ADM) will terminate at the new extension of Admiralty Station (ADM), with overrun tunnels to ADM south for future extension to Central. Most of the alignment of SCL (TAW-HUH) and the entire SCL (HUH-ADM) will be underground and the Cross-Harbour Section will be constructed by immersed tube method. A stabling siding at Hung Hom Freight Yard, three ventilation buildings along the railway corridor for tunnel ventilation, and Emergency Egress Point (EEP)/Emergency Access Point (EAP) will also be provided for the Project.

The SCL tunnel sections will be constructed underground by tunnel boring, cut-&-cover (C&C), mined, and drill & blast methods, while stations except Hin Keng, ventilation buildings, EEP/EAP, and works shafts will be constructed by open-cut and cut & cover excavation.

Generation of sediments is anticipated from (1) construction of cut-&-cover tunnel sections, ventilation buildings, and stations in the areas of Kai Tak, Ho Man Tin, Hung Hom, Causeway Bay, and Wanchai (Exhibition), (2) dredging works at Kai Tak for construction of a barging point, and (3) dredging works at Victoria Harbour and Causeway Bay Typhoon Shelter for construction of the Cross-Harbour Section. *[Note: Dredging works for SCL Protection Works at Causeway Bay Typhoon Shelter (CBTS) has been separately reported by the CWB Project to which this Section was entrusted and is not included in this SCL Sediment Management Plan.]*

In accordance with the Environment, Transport and Works Bureau Technical circular (Works) No. 34/2002 "Management of Dredged/Excavated Sediment" (ETWB TCW No. 34/2002), the Rationale for Sediment Removal was submitted to the Secretary of Marine Fill Committee (MFC) for agreement and approval of the allocation of sediment disposal site at sea.

## 2. OBJECTIVE

The objective of this Sediment Management Plan (SMP) is to meet the requirements of the following conditions of the Environmental Permits (EP) for SCL:

- (1) EP No. EP-438/2012/A (for Tai Wai to Hung Hom Section) issued by Environmental Protection Department (EPD) dated 12 July 2012 under condition No. 2.12;
- (2) EP No. EP-437/2012 (for Mong Kok East to Hung Hom Section) issued by EPD dated 22 March 2012 under condition No. 2.10; and
- (3) EP No. EP-436/2012 (for Hung Hom to Admiralty Section) issued by EPD dated 22 March 2012 under condition No. 2.12.

The SMP would detail the proper treatment and handling of sediment to be generated from the construction of the Project before disposal.

## 3. SEDIMENT MANAGEMENT

### Overview of Sediment Management Planning

ETWB TC(W) No. 34/2002 sets out the procedure for seeking approval to dredged/excavated

sediment and the management framework for marine disposal of dredged/excavated sediment. This Technical Circular outlines the requirements to be followed in assessing and classifying the sediment and explains the marine disposal arrangement for the classified material. Marine Dumping Permits from Environmental Protection Department (EPD) are required for marine disposal of dredged/excavated sediment in accordance with Dumping at Sea Ordinance (Cap. 466 DASO). To demonstrate the rationale for the sediment removal arising from proposed dredging and excavation works during the construction of the Project, submissions of "Rationales for Sediment Removal" were made and approved by MFC as follows:

Rationale for Sediment Removal	Coverage	Date approved by MFC
Phase 1 Tai Wai to Hung Hom Section	Tai Wai to Hung Hom, Kai Tak Barging Point, and Mong Kok East to Hung Hom	13 April 2010
Phase 2 Hung Hom to Admiralty Section	Immersed Tube Tunnel (IMT) and HK Island	21 January 2011

In essence, the Rationales for Sediment Removal have demonstrated the need for marine disposal of the excavated / dredged sediment arising from the SCL project.

Under ETWB TC(W) No. 34/2002, submissions of "Sediment Quality Reports" (SQR) were made and the current status of approval by EPD(DASO) is as follows:

SQR under SCL Works Section	SQR Coverage	Approval Status by EPD(DASO)
SQR 1	Tai Wai to Hung Hom	Approved on 8 June 2012
SQR 2	Kai Tak Barging Point	Approved on 29 July 2011 Resubmitted on 22 August 2012 Approved on 3 September 2012
SQR 3	Hung Hom & Approach Tunnels	Submitted on 13 June 2012 Approved on 6 November 2012
SQR 4	IMT	Submitted on 16 May 2012
SQR 5	HK Island	Submitted on 8 December 2011

(Note: The demarcation of the Works Sections covered by the respective SQRs is shown in **Annex I**)

On the other hand, in considering for the following environmental benefits :

- 1) Alleviation of the burden of marine disposal site,
- 2) Reducing the potential pollution problems arising from handling and transportation to marine disposal site,
- 3) Reducing the potential marine pollution arising from the disposal of the sediment at marine dump site

A portion of Type 1 sediment is proposed to be treated on-site and reused as backfilling material.

#### Areas with Sediment Concern

According to the drillhole logs of SQRs, the areas having sediment concern are listed below:

1. C & C works area in Kai Tak Station and also tunnels within the Kai Tak Area. Sediment origin is from reclaimed land.
2. Dredging works at Kai Tak Barging Point, at seabed along Kai Tak Runway. Sediment origin is from existing seabed.
3. C & C works area in tunnels near Ho Man Tin. Sediment origin is from reclaimed land.
4. C & C works area in Hung Hom Station and approach tunnels. Sediment origin is from reclaimed land.
5. Dredging works along tunnel alignment in the Victoria Harbour between Hung Hom Freight Pier and Causeway Bay Typhoon Shelter. Sediment origin is from existing seabed.
6. C & C works area at Hung Hom and Causeway Bay seafront for IMT Ventilation Building. Sediment origin is from reclaimed land.

7. C & C works area in Exhibition Station. Sediment origin is from reclaimed land.

#### **Works Area at Kai Tak and Ho Man Tin**

A total of approximate 0.156 Mm<sup>3</sup> sediment is anticipated from the excavation works at C & C works area in Kai Tak Station and also tunnels from within the Kai Tak Area and C & C works area in tunnels near Ho Man Tin. With a limited 3 ha stockpile area at Kai Tak which is already reserved for stockpiling other inert C&D materials for later backfilling for the Project (Works area at Kai Tak will be progressively handed over for Kai Tak Development (KTD) from 2016 onwards), it is proposed that most of the marine sediments will be excavated and unloaded into the approved vessels at the barging point for marine disposal at locations designated by EPD and Civil Engineering and Development Department (CEDD). A portion of Type 1 sediment will be on-site treated by cement stabilization/solidification (CS/S) method followed by backfilling for the Project.

#### **Works Area at Kai Tak Barging Point**

A total of approximate 0.034 Mm<sup>3</sup> sediment is anticipated from the dredging works at seabed along Kai Tak Runway which is adjacent to the Kai Tak Barging Point. It is proposed that these marine sediments will be unloaded into the approved vessels directly from the dredging areas then transported for marine disposal at locations designated by EPD and CEDD.

#### **Works Area at Hung Hom**

A total of approximate 0.093 Mm<sup>3</sup> sediment will be excavated from C & C works area in Hung Hom Station and approach tunnels and C & C works area at Hung Hom seafront for North Ventilation Building, Plant Rooms and Emergency Access (NOV). In view of large quantities with no stockpiling area available at this area, it is proposed that the sediments will be excavated and unloaded into the approved vessels at the barging point for marine disposal at locations as designated by EPD and CEDD.

#### **Works Area at Cross Harbour Section (IMT)**

A total of approximate 0.869 Mm<sup>3</sup> sediment will be excavated from the dredging works across the Victoria Harbour. It is proposed that such large quantities of sediments will be unloaded into the approved vessels directly in the dredging areas then transported for marine disposal at locations as designated by EPD and CEDD for marine disposal.

#### **Works Area at HK Island, Exhibition, & South Ventilation Shafts, Plant Rooms and Emergency Access (SOV)**

A total of approximate 0.072 Mm<sup>3</sup> sediment will be excavated at this area with no stockpiling areas available. It is proposed that the sediments will be excavated and unloaded into the approved vessels at site barging point for marine disposal at locations as designated by EPD and CEDD.

### **4. VOLUME AND QUALITY OF SEDIMENT GENERATED**

In accordance with the ETWB TCW No. 34/2002 "Management of Dredged / Excavated Sediment", sediments are classified into (i) Type 1 (Open Sea Disposal) (hereinafter as Type 1), (ii) Type 1 (Open Sea Disposal Dedicated Sites) (hereinafter as Type 1\*), (iii) Type 2 (Confined Marine Disposal) (hereinafter as Type 2) and (iv) Type 3 (Special Treatment/ Disposal) (hereinafter as Type 3) according to the levels of the contaminants. MFC will then determine the most appropriate disposal sites according to the types of sediment.

The estimated volume of sediment quality of sediments required to be dredged / excavated has been studied based on the latest investigation results and approved SQRs. The approximate estimated volume and predicted quality of the dredged/excavated sediment to be generated from the SCL are summarized in Table 4.1 below. Moreover, the total volume of sediments which has been estimated in the SCL EIA Reports is presented in Table 4.1 to illustrate the changes. The quantities of different

types of sediment for each section of the SCL have also been presented as far as practicable for comparison with the SCL EIA Reports. Considering the interface and complexity of SCL (TAW-HUH) and SCL (MKK-HUH) at Hung Hom, it is not feasible to segregate the sediment to be generated in the Hung Hom area and comparison of the total quantities for SCL (TAW-HUH) and SCL (MKK-HUH) in the EIA Reports with the SMP has been made.



**Table 4.1 Approximate Estimated Quantities for Disposal of Dredged/Excavated Sediment**

Works Area	Estimated Quantity (x 1000 m <sup>3</sup> ) and Category				
	Type 1	Type 1*	Type 2	Type 3	Sub Total
<b>SCL (TAW-HUH) &amp; SCL (MKK-HUH)</b>					
EVL (Kai Tak & Ho Man Tin) <sup>(2)</sup>	138.1	7.8	9.7	0	<b>155.6</b>
EVL (Kai Tak Barging Point) <sup>(2)</sup>	0.1	0	16.3	18	<b>34.4</b>
NSL Phase 1 (Hung Hom Station & Approach Tunnels) <sup>(3)</sup>	65.6	0	27.4	0	<b>93</b>
Sub-total	203.8	7.8	53.4	18	<b>283</b>
Sub-total in EIA Reports	243.4	14.7	90.2	29.2	<b>377.5</b>
Difference between SMP and EIA Reports	-39.6	-6.9	-36.8	-11.2	<b>-94.5</b>
<b>SCL (HUH-ADM)</b>					
NSL Phase 2 (IMT) <sup>(3)</sup>	202.1	33.7	616.6	16.7	<b>869.1</b>
NSL Phase 2 (HK Island, Exhibition, & SOV) <sup>(3)</sup>	47	0	24.9	0	<b>71.9</b>
Sub-total	249.1	33.7	641.5	16.7	<b>941</b>
Sub-total in EIA Report	315	14	496.3	16.5	<b>841.8</b>
Difference between SMP and EIA Report	-65.9	19.7	145.2	0.2	<b>99.2</b>
<b>SCL – Overall</b>					
Total Quantities in SMP	452.9	41.5	694.9	34.7	<b>1,224</b>
Total Quantities in EIA Reports	558.4	28.7	586.5	45.7	<b>1,219.3</b>
Difference between SMP and EIA Reports (x1000 m <sup>3</sup> )	-105.5	12.8	108.4	-11	<b>4.7</b>
Difference between SMP and EIA Reports (%)	-18.9	44.6	18.5	-24.1	<b>0.4</b>

Note: (1) Possible disposal sites are proposed based on ETWB TC(W) No. 34/2002 which is subject to further confirmation by EPD/CEDD.

- Open Sea Disposal for Type 1 Sediment.
  - Dedicated Open Sea Disposal for Type 1\* Sediment.
  - Confined Marine Disposal (i.e. East Sha Chau Mud Pit) for Type 2 Sediment.
- (2) Quantity and quality are based on SQR approved by EPD(DASO).
- (3) Quantity and quality are based on SQR submitted but not yet approved by EPD(DASO).

As seen from Table 4.1, a reduction in sediment disposal of approximate 0.095 Mm<sup>3</sup> is achieved in SCL (TAW-HUH) and SCL (MKK-HUH) due to the reduction of dredging extent in Kai Tak Barging Point and excavation extent of Kai Tak Station, as well as backfilling of not more than 19,000 m<sup>3</sup> (minimum 100 m<sup>3</sup>) of Type 1 sediment for open sea disposal generated from excavation for Kai Tak Station and tunnels after CS/S treatment. On the other hand, the quantities of sediments to be generated in SCL (HUH-ADM) are increased about 0.099 Mm<sup>3</sup> when compared with EIA Report for SCL (HUH-ADM). The major contribution of the changes is due to the increase in quantities of Type 2 sediment in IMT. Overall, the total quantities of sediments to be generated of whole SCL are slightly increased about 0.0047 Mm<sup>3</sup> (approximately 0.4% of the total quantity), thus, the potential impact of overall increase is insurmountable and the findings and recommendations on sediment management presented in the approved EIA Reports are still valid. Nevertheless, the quantity of sediment to be disposed would be critically reviewed and reduced as far as possible.

The variance of the sediment generation has also been notified MFC in a meeting on 21 June 2012.

The tentative programme of disposal of dredged/excavated sediment is indicated in Table 4.2 below.

**Table 4.2 Tentative Schedule of Disposal of Dredged/Excavated Sediment**

Year	Quantity (Mm <sup>3</sup> )			
	Type 1	Type 1*	Type 2	Type 3
2012	0.027	0.001	0.019	0.018
2013	0.126	0.005	0.012	-
2014	0.031	0.001	0.012	-
2015	0.058	0.002	0.070	0.002
Beyond 2015	0.211	0.032	0.582	0.015

Experience in Kowloon South Line (KSL) is Type 1 sediment to South Cheung Chau/ East Nine Pin and Type 2 sediment to East Sha Chau. For Type 3 sediment disposal, consultation has been made with EPD to identify for his agreement the most appropriate treatment and/or disposal arrangement, as stipulated in ETWB TCE No. 34/2002, which is detailed in Section 5 below. A quota for dumping of SCL's marine sediments is being sought from MFC. Please refer to **Annex II** for the Allocation of Disposal Space for the "Barging Facility at Kai Tak Runway" and "Tai Wai to Hung Hom Section" obtained from MFC regarding confirmed SCL sediment disposal requirements at this Works Section based on approved SQR2 and SQR1 respectively. Similar applications and allocations of mud pit allocations for other SCL Works Sections are anticipated, pending on approvals of SQRs.

Availability of mud pit is under discussion with MFC with consideration of both existing and under development for the longer term such as new sites at South Brothers for confined marine disposal. Alternative disposal of land based marine sediments at strategic landfills has also been explored with EPD. This form of disposal is, however, not considered as the most appropriate waste management method. Please refer to **Annex III** for details.

## 5. HANDLING AND TREATMENT METHODS FOR SEDIMENT BEFORE DISPOSAL

Dumping permits shall be applied by the contractors for disposal of the marine sediments to the respective dumping sites allocated by the MFC in accordance with the DASO. The conditions in the dumping permits and the EPs should be complied with. Different categories of sediment are handled as follows.

### During Excavation and Dredging

Requirements of the Air Pollution Control (Construction Dust) Regulation, where relevant, shall be adhered to during excavation / dredging, transportation and disposal of sediments.

In order to minimise the exposure to contaminated materials, workers shall, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site.

All construction plant and equipment shall be designed and maintained to minimise the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location. Dredging shall be carried out by close grab dredger with silt curtain in compliance with the dredging rates as stipulated in the EPs.

All vessels shall be sized such that adequate draft is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.

Due to limited work areas, stockpiling of sediments would only be considered as last resort. As discussed above, sediment will be excavated / dredged and unloaded into the approved vessels at the barging point or directly in the dredging areas for marine disposal.

If temporary stockpiling of sediments is necessary, the excavated sediment shall be covered by

tarpaulin and the area shall be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and/or surrounding water bodies. The stockpiling areas shall be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas shall be provided for stockpiling of different categories of sediment and other materials. Leachate, if any, shall be collected and discharged according to the Water Pollution Control Ordinance (WPCO).

In order to minimise the potential odour / dust emissions during excavation, dredging and transportation of the sediment, the excavated sediments shall be wetted during excavation, dredging and material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated/ dredged sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.

### **During Transportation**

Before moving the vessels which are used for transporting dredged material, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations.

Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.

All vessels transporting material shall be monitored to ensure that no dumping outside the approved location takes place. Logs and other records shall be kept and produced to demonstrate compliance and that journeys are consistent with designated locations.

All bottom dumping vessels (hopper barges) transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the Director of Environmental Protection. The material shall be placed into the disposal pit by bottom dumping.

Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Material adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site.

### **Special Treatment/ Disposal for Type 3 Sediment**

Type 3 sediment is anticipated to be encountered during dredging in Kai Tak Barging Point and Victoria Harbour. "Proposals for Disposal of Type 3 Sediment Using Geosynthetic Container" have also been approved by EPD with corresponding SQRs. The Geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping at the disposal site, thereby fulfilling the requirements for fully confined mud disposal. The handling and disposal procedures as stated in the "Proposals for Disposal of Type 3 Sediment Using Geosynthetic Container" or other method to be approved by EPD(DASO) in dumping permit shall be followed.

### **Backfilling of Cement Stabilized Type 1 Sediment**

Type 1 sediment is anticipated to be excavated in Kai Tak Station and tunnels works site. In considering for the environmental benefits stated in Section 3, it is proposed to undertake on-site treatment of not more than 19,000 m<sup>3</sup> (minimum 100 m<sup>3</sup>) of Type 1 sediment, which will be excavated from Kai Tak Station and tunnels works area and are suitable for open sea disposal, by CS/S method for backfilling in Kai Tak Station and tunnels works area.

Similar sediment treatment process was adopted in South Island Line (East) Contract 903 – Ocean Park Station, Wong Chuk Hang Station, Viaducts and Aberdeen Channel Bridge as well as Kai Tak Public Rental Housing Development Site 1A.

Since the use of CS/S sediment as backfilling materials has not been widely applied in Hong Kong and there are still uncertainties in its application, the proposal serves as a trial scheme. Before CS/S treatment, on-site pilot trials will be conducted to determine the optimum mixing proportion that could fulfil the strength and stiffness requirements for backfilling. 7-day unconfined compressive strength (UCS) test and 7-day Standard Penetration Test (SPT) will be conducted to check if the pilot trial products achieve the strength and stiffness requirements for backfilling. If the requirements are not satisfied, CS/S treatment will not be proceeded, and sediment will be disposed of by open sea as original plan.

If the pilot trial is successful, CS/S treatment for the excavated sediment will start. During the CS/S process, the excavated Type 1 sediment will be mixed with granular and cement to form a stabilized product. The strength and stiffness of the stabilized product will be tested. Once the strength and stiffness of the product satisfying of the requirements as backfilling material, it will be reused in Kai Tak Station and tunnels works area.

The amount of Type 1 sediment to be used for backfilling after CS/S treatment is determined based on the amount of backfilling materials at locations identified as suitable for using cement stabilized/solidified sediment, where substantial loading on top is not recommended.

The practicality and use of cement stabilized/solidified sediment as backfilling materials is generally based on the construction methodology and site conditions. In the context of SCL, it is not considered applicable for other SCL contracts where substantial amount of excavation and backfilling works are not required, e.g. TBM Tunnel and aboveground stations. Hence the scale is not extended to the whole SCL Project.

## **6. CONCLUSION**

The major works which would generate dredged/excavated sediments under the Project include (1) construction of cut-&-cover tunnel sections, ventilation buildings, and stations in the areas of Kai Tak, Ho Man Tin, Hung Hom, Causeway Bay, and Wanchai (Exhibition), (2) dredging works at Kai Tak for construction of a barging point, and (3) dredging works at Victoria Harbour and Causeway Bay Typhoon Shelter for construction of the Cross-Harbour Section.

The Rationale for Sediment Removal for the major dredged/excavated sediment generators of the Project has been approved by MFC.

Five Sediment Quality Reports have been submitted to EPD(DASO) for approval with two nos. approved at the time of preparing this SMP.

Application to MFC for the allocation of the sediment dumping site shall be made after the relevant SQR approval.

Dumping permits shall be applied by the contractors for disposal of the marine sediments to the respective dumping sites allocated by the MFC in accordance with the DASO.

Not more than 19,000m<sup>3</sup>(minimum 100 m<sup>3</sup>) of Type 1 sediment excavated from Kai Tak station and tunnels works area will be on-site treated by cement stabilization/solidification (CS/S) method and reused as backfilling material for the Kai Tak Station and tunnels works area.

No excavation / dredging of sediment work will be conducted in the relevant section until all issues on management of excavated/dredged sediment have been resolved and all relevant arrangements have been endorsed by the relevant authorities including MFC and EPD.







SCL-COR-CEDD-GEO-001485

## MEMO

From Secretary, Marine Fill Committee, CEDD

Ref. (ORTD8-01) in FM 4/1C/70A Pt. 78

Tel. No. 2762 5539

Fax No. 2714 0113

Date 14 March 2012

To CE/RD1-2, RDO, HyD

(Attn: Mr. C C LAU)

Your Ref. ( ) in

dated Fax No. 2194 0147

Total Pages 1 + Encl (11)

## Shatin to Central Link (SCL)

## Barging Facility at Kai Tak Runway

## Allocation of Disposal Space

I refer to MTRC's letter SCL-COR-CM(SCLC)-GEO-001296 dated 22 February 2012 enclosing the approved SQRs and the subsequent e-mail from MTRC about the subject.

2. We hereby allocate the following sediment disposal spaces for the respective categories of sediments arising from the dredging works of the subject project:

Category of Sediments	In-situ Volume of Sediment	Sediment Disposal Spaces
Category L Sediment	111 m <sup>3</sup>	Subareas to be directed on site within the Mud Pit Va of East Sha Chau Confined Marine Sediment Disposal facility
Category M <sub>f</sub> Sediments (i.e. Category M Sediment failing biological test)	2,214 m <sup>3</sup>	
Category H Sediment (i.e. Category H Sediment not requiring biological test)	1,077 m <sup>3</sup>	
Category H <sub>p</sub> Sediment (i.e. Category H Sediment passing biological test)	25,472 m <sup>3</sup>	
Category H <sub>f</sub> Sediment (i.e. Category H Sediment failing biological test)	27,144 m <sup>3</sup>	Disposal method to be agreed by EPD

3. The allocation is subject to the attached "General Allocation Conditions for Marine Disposal Sites" and "Special Allocation Conditions". Please note that it is the responsibility of the Allocatee to identify the appropriate party to implement the above Conditions.

4. You are reminded to submit the information indicated in Clauses 5, 6, 10 and 11 of the "General Allocation Conditions" when they are available.

(KL WONG)

for Secretary, Marine Fill Committee  
Civil Engineering and Development Department

c.c. (w/e)

DEP  
MTRC

(Attn.: Ms. Oasis CHEUNG)  
(Attn.: Mr. Stanley KEUNG)

Fax: 2305 0453  
Fax: 3929 3483

KLW/

File: SCL HyD BF KTR (MSC 31-7-2013).docx

**ALLOCATION OF MARINE DISPOSAL SPACE****Under ETWB TCW 34/2002 (or PNAP ADV-21 for Private Projects)**

Allocation Number	Refer to referenced number of the allocation letter		
Contract /Project Name	Barging Facility at Kai Tak Runway		
Location and Details of the Works involving Dredging	Dredging Works for Barging Facility at Kai Tak Runway		
Project Proponent (Allocatee)	HyD		
Dredging Rationale Approval Date	13 April 2010	Sediment Quality Report Approval Date	29 July 2011

In accordance with ETWB TCW 34/2002 (or PNAP ADV-21 for private projects, hereinafter called the Circular), we hereby allocate to the above Allocatee the following marine disposal spaces for the respective categories of sediments arising from the above dredging works subject to due compliance and execution of the attached General Allocation Conditions and the following Special Conditions:

Category of Sediments	In-situ Volume of Sediment	Sediment Disposal Spaces
Category L Sediment	111 m <sup>3</sup>	Subareas to be directed on site within the Mud Pit Va of East Sha Chau Confined Marine Sediment Disposal facility
Category M <sub>f</sub> Sediments (i.e. Category M Sediment failing biological test)	2,214 m <sup>3</sup>	
Category H Sediment (i.e. Category H Sediment not requiring biological test)	1,077 m <sup>3</sup>	
Category H <sub>p</sub> Sediment (i.e. Category H Sediment passing biological test)	25,472 m <sup>3</sup>	
Category H <sub>f</sub> Sediment (i.e. Category H Sediment failing biological test)	27,144 m <sup>3</sup>	Disposal method to be agreed by EPD

**Special Conditions**

1. "In-situ volume of the sediment" means the volume of such sediment in its original place before it is dredged/excavated. Disposals of the sediments in excess of their volumes above are not permitted.
2. The sediments resided have to be kept below the levels specified by the DASO permits. If sediments were found resided above these levels within the concerned disposal spaces, the Allocatee shall propose remedial measures and rectify the situations to the satisfaction of all the parties concerned.
3. While the seabeds at some areas of the allocated marine disposal space may be less than 1.0 m below the maximum levels above, extreme care should be exercised to avoid the sediments being resided above these levels.
4. The Allocatee may require to carry out bathymetry survey at the allocated disposal area when consider necessary.
5. The allocation shall expire on 31 July 2013.

Marine Fill Committee Secretariat  
Civil Engineering and Development Department  
March 2012

03-JUL-2012 16:56

FMD / CEDD

Doc. No.: SCL - COR - HYD - INF - 052-2714 0113	Contract No.	Doc Type	Originator	Subject	Sec. No.
Other Subject: SPILL	Location: EWL	Restricted	<input type="checkbox"/>		

P.01/13

**MEMO**

From Secretary, Marine Fill Committee, CEDD  
 Ref. (OTEP0-01) in FM 4/1C/70A Pt. 84  
 Tel. No. 2762 5539  
 Fax No. 2714 0113  
 Date 3 July 2012

To CE/RD1-2, RDO, HyD  
 (Attn: Mr. C C LAU)  
 Your Ref. ( ) in  
 dated Fax No. 2194 0147  
 Total Pages 1 + Encl (12)

**Shatin to Central Link (SCL)****Tai Wai to Hung Hom Section****Allocation of Disposal Space**

I refer to MTRC's letter SCL-COR-CM(SCLC)-GEO-001332 dated 18 June 2012 enclosing the approved SQR and the subsequent e-mail from MTRC about the subject.

2. We hereby allocate the following sediment disposal spaces for the respective categories of sediments arising from the dredging works of the subject project:

Category of Sediments	In-situ Volume of Sediment	Sediment Disposal Spaces
Category L Sediment	157,119 m <sup>3</sup>	Subarea "SCL TWHH" within the South Cheung Chau Open Sea Sediment Disposal Area as shown on Drawing No. MFC/002-SCL TWHH attached to the Special Allocation Conditions.
Category M <sub>p</sub> Sediments (i.e. Category M Sediment passing biological test)	7,800 m <sup>3</sup>	Subareas to be directed on site within the Mud Pit Va of East Sha Chau Confined Marine Sediment Disposal facility
Category H Sediment (i.e. Category H Sediment not requiring biological test)	9,652 m <sup>3</sup>	

3. The allocation is subject to the attached "General Allocation Conditions for Marine Disposal Sites" and "Special Allocation Conditions". Please note that it is the responsibility of the Allocatee to identify the appropriate party to implement the above Conditions.

4. You are reminded to submit the information indicated in Clauses 5, 6, 10 and 11 of the "General Allocation Conditions" when they are available.

(KL WONG)

for Secretary, Marine Fill Committee  
 Civil Engineering and Development Department

c.c. (w/e)

DEP  
 MTRC

(Attn.: Ms. Oasis CHEUNG)  
 (Attn.: Mr. Peter IP )

Fax: 2305 0453  
 Fax: 3929 3483

KLW/  
 File: SCL HyD TW HH (SCC ESC 31-12-2016).docx



03 JUL 2012 10:50

FMD / CEDD

I 052 2714 0113

P.02/13

**ALLOCATION OF MARINE DISPOSAL SPACE****Under ETWB TCW 34/2002 (or PNAP ADV-21 for Private Projects)**

Allocation Number	Refer to referenced number of the allocation letter		
Contract /Project Name	Shatin to Central Link (SCL) – Tai Wai to Hung Hom Section		
Location and Details of the Works involving Dredging	Dredging Works for SCL		
Project Proponent (Allocatee)	HyD		
Dredging Rationale Approval Date	13 April 2010	Sediment Quality Report Approval Date	8 June 2012

In accordance with ETWB TCW 34/2002 (or PNAP ADV-21 for private projects, hereinafter called the Circular), we hereby allocate to the above Allocatee the following marine disposal spaces for the respective categories of sediments arising from the above dredging works subject to due compliance and execution of the attached General Allocation Conditions and the following Special Conditions:

Category of Sediments	In-situ Volume of Sediment	Sediment Disposal Spaces
Category L Sediment	157,119 m <sup>3</sup>	Subarea "SCL TWHH" within the South Cheung Chau Open Sea Sediment Disposal Area as shown on Drawing No. MFC/002-SCL TWHH attached to the Special Allocation Conditions.
Category M <sub>p</sub> Sediments (i.e. Category M Sediment passing biological test)	7,800 m <sup>3</sup>	Subareas to be directed on site within the Mud Pit Va of East Sha Chau Confined Marine Sediment Disposal facility
Category H Sediment (i.e. Category H Sediment not requiring biological test)	9,652 m <sup>3</sup>	

**Special Conditions**

1. "In-situ volume of the sediment" means the volume of such sediment in its original place before it is dredged/excavated. Disposals of the sediments in excess of their volumes above are not permitted.
2. The sediments resided have to be kept below the levels specified by the DASO permits. If sediments were found resided above these levels within the concerned disposal spaces, the Allocatee shall propose remedial measures and rectify the situations to the satisfaction of all the parties concerned.
3. While the seabeds at some areas of the allocated marine disposal space may be less than 1.0 m below the maximum levels above, extreme care should be exercised to avoid the sediments being resided above these levels.
4. The Allocatee may require to carry out bathymetry survey at the allocated disposal area when consider necessary.
5. The allocation shall expire on 31 December 2016.

Marine Fill Committee Secretariat  
Civil Engineering and Development Department  
July 2012

本署編號

OUR REF: EP 193/03/G/03

來函編號

YOUR REF: C/HSD/EWL/NSL/E1005/#0912429

電話

TEL NO.: 2872 1762

傳真號碼

FAX NO.: 2872 0376

網址

HOMEPAGE: <http://www.epd.gov.hk>

Environmental Protection Department  
Environmental Infrastructure Division

88 Victoria Road,  
Kennedy Town,  
Western District, Hong Kong.



環境保護署  
環境基建科

香港西區  
堅尼地城  
域多利道 88 號

By Fax Only  
(Fax No. 2798 8822)

6 January 2010

MTR Headquarters Building,  
Telford Plaza, Kowloon Bay,  
Kowloon, Hong Kong.

(Attn.: Mr. Richard Kwan)

Dear Sirs,

Sustainability Development Department	
SP#	
Rec'd On:	06 JAN 2010 Encl: <input checked="" type="checkbox"/>
Copy To:	
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File Path:	

**Shatin to Central Link (SCL)  
Disposal of Sediment (Land Based) to Landfill**

I refer to your letter under reference dated 8 December 2009.

Based on the nature and quantity of the marine sediment to be generated from the captioned project, landfill disposal is not considered as the most appropriate waste management method. For disposal of marine sediment, please follow the procedure in "ETWB Technical Circular (Works) No. 34/2002 – Management of Dredge/ Excavated Sediment". Please also explore other feasible options such as on-site and/or off-site reuses of the marine sediment before considering off-site disposal.

Please take into account the above in your EIA and waste management plan. In the event that special disposal of small amount of Type 3 marine sediment at landfills is required, please provide full justification including the findings and recommendations in the approved EIA Report, Waste Management Plan and Contamination Assessment Report for our consideration. The disposal of contaminated marine sediment at landfills would only be considered when alternative options of waste reduction, recycling, reuse and disposal have been fully explored and the proposed landfill disposal as the last resort has been substantiated.

(Wallace Y M YIU)

Waste Facilities Group  
for Director of Environmental Protection

c.c.

Internal:

E(TC)31, E(TC)33