

# **Lei Yue Mun Waterfront Enhancement Project**

## **Project Profile**

June 2015

Civil Engineering and Development Department

## Table of Contents

<b>1.</b>	<b>Basic Information</b>	<b>1</b>
1.1	Project Title	1
1.2	Purpose and Nature of the Project	1
1.3	Name of Project Proponent	1
1.4	Location and Scale of Project and History of Site	1
1.5	Number and Types of Designated Projects to be Covered by the Project Profile	2
1.6	Name and Telephone Number of Contact Person	2
<b>2.</b>	<b>Outline of Planning and Implementation Programme</b>	<b>3</b>
2.1	Project Implementation and Timetable	3
2.2	Interactions with Other Projects	3
<b>3.</b>	<b>Possible Impact on the Environment</b>	<b>4</b>
3.1	Air Quality	4
3.2	Noise	4
3.3	Water Quality	5
3.4	Land Contamination	5
3.5	Waste Management	5
3.6	Ecology	6
3.7	Fisheries	7
3.8	Landscape and Visual	7
3.9	Cultural Heritage	8
3.10	Hazard	8
<b>4.</b>	<b>Major Elements of the Surrounding Environment</b>	<b>9</b>
4.1	General	9
4.2	Air Quality	9
4.3	Noise	9
4.4	Water Quality	9
4.5	Ecology	10
4.6	Fisheries	10
4.7	Landscape and Visual	10
4.8	Cultural Heritage	11

<b>5.</b>	<b>Environmental Protection Measures to be Incorporated in the Design and Any Further Environmental Implications</b>	<b>12</b>
5.1	General	12
5.2	Noise	12
5.3	Air Quality	12
5.4	Water Quality	13
5.5	Waste Management	13
5.6	Ecology	14
5.7	Fisheries	14
5.8	Landscape and Visual	14
5.9	Cultural Heritage	15
<b>6.</b>	<b>Use of Previously Approved EIA Reports</b>	<b>15</b>
Appendix A	Layout Plan of Lei Yue Mun Waterfront Enhancement Project	

## **1. Basic Information**

### **1.1 Project Title**

1.1.1 Lei Yue Mun Waterfront Enhancement Project (the “Project”).

### **1.2 Purpose and Nature of the Project**

1.2.1 Since 2000, the Tourism Commission (TC) has been implementing the Tourism District Enhancement Programme to enrich Hong Kong’s appeal to visitors. Lei Yue Mun (LYM), being one of the most popular tourist attractions in Hong Kong for its pleasant seaside ambience and excellent seafood, had been identified to accord priority for improvement under the Programme. The TC completed several initial minor improvements along the LYM waterfront in 2003.

1.2.2 To enhance the attractiveness of LYM, the TC plans to further improve the facilities along the LYM waterfront area in order to capitalize on the strengths of LYM and enhance its attractiveness.

### **1.3 Name of Project Proponent**

1.3.1 The Project Proponent is the Port Works Division, Civil Engineering Office, Civil Engineering and Development Department of the Government of the Hong Kong Special Administrative Region.

### **1.4 Location and Scale of Project and History of Site**

1.4.1 The Project site is located at the waterfront immediately in front of the unsewered village houses of the LYM Village and at east of the LYM lighthouse. It also lies outside the eastern extent of the Victoria Harbour. The layout plan of the Project is shown at **Appendix A**.

1.4.2 It is noted that in 2010, approximately 0.07ha of the rocky outcrop and oyster shell beach south of LYM village where the LYM lighthouse is located was rezoned as a Coastal Protection Area (CPA) under the draft Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan (No. S/K15/18).

1.4.3 The scope of the Project includes the following:

- (i) construction of a public landing facility which involves dredging of seabed, a promenade and a breakwater;

- (ii) improvement works for five existing lookout points and a viewing platform to enhance their structural capacity;
- (iii) construction of a carp-shaped platform and a pavilion with children play area;
- (iv) beautification works for the promenade, lookout points and viewing platform to improve their visual appearance; and
- (v) streetscape improvement works.

## **1.5 Number and Types of Designated Projects to be Covered by the Project Profile**

1.5.1 The following element of the Project is identified as a Designated Project under Item C.12(a)(vii) of Part I of Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO).

*"C.12 A dredging operation exceeding 500,000 m<sup>3</sup> or a dredging operation which -*  
*(a) is less than 500 m from the nearest boundary of an existing or planned*  
*(vii) coastal protection area;"*

The Project is to dredge about 10,000 m<sup>3</sup> of seabed materials to provide sufficient depth of water for vessels to use the proposed public landing facility which is founded on piles. The dredging limit is at a distance of about 10 m from the adjacent CPA.

## **1.6 Name and Telephone Number of Contact Persons**

All enquiries regarding the Project can be addressed to:

Port Works Division, Civil Engineering Office,  
Civil Engineering and Development Department,  
4/F, Civil Engineering and Development Building, Homantin,  
101 Princess Margaret Road,  
Kowloon,  
Hong Kong

Mr. C.W. NG, Senior Engineer / Project 3  
Tel: 2762 5554  
Fax: 2714 2054

## **2. Outline of Planning and Implementation Programme**

### **2.1 Project Implementation and Timetable**

- 2.1.1 The Project Proponent will engage consultant to undertake environmental impact assessment (EIA) study.
- 2.1.2 The construction works will be carried out by contractors to be appointed under various works contracts.
- 2.1.3 The detailed design of the works is targeted to be finalized in 2016. The construction works is expected to commence in 2017 the earliest for completion by 2020.

### **2.2 Interaction with Other Projects**

- 2.2.1 The following projects may have interface with the Project:

- (i) Sewerage to LYM Village

The scope of the project comprises planning, design and construction of the proposed sewerage works at LYM Village.

- (ii) Construction of septic tanks and dry weather flow interceptors at LYM waterfront

### **3. Possible Impact on the Environment**

#### **3.1 Air Quality**

##### Construction Phase

- 3.1.1 Air quality impacts arising from the Project would be confined to the construction phase. Some construction activities including excavation, filling and demolition would generate dust, if they are not properly controlled. Besides, dredging works for the proposed public landing facility might have potential odour nuisance to the nearby air sensitive receivers. Study on the sediment quality of the existing seabed materials to be dredged would be carried out, and the potential impacts of odour arising from the dredging works would be considered in the EIA study.

##### Operation Phase

- 3.1.2 During operation phase, more marine traffic would be attracted to use the proposed public landing facility which is located at the south of LYM. The impacts arising from the marine transport emission on the local community and the visitors to LYM would be investigated in the EIA study. Furthermore, the odour impact arising from concurrent projects as mentioned in Section 2.2.1 would be considered in the EIA study.

#### **3.2 Noise**

##### Construction Phase

- 3.2.1 Potential noise impacts on noise sensitive receivers (NSRs) are associated with construction activities and powered mechanical equipment. The key construction activities which would generate noise impacts include construction of a public landing facility which involves dredging of seabed, promenade, a breakwater, a carp-shaped platform and a pavilion with children play area, improvement works for five existing lookout points and a viewing platform, beautification works for the promenade, lookout points and viewing platform, and streetscape improvement works. The distance between the nearest NSR and the works area is about 25 m.
- 3.2.2 Construction noise impact assessment for the construction phase would be conducted in the EIA study.

### Operation Phase

- 3.2.3 The major sources of noise originate from commercial activities and marine traffic. Commercial activities may include seafood festival and social events organized by local seafood restaurants annually. The impacts arising from the commercial activities and marine traffic noise on the NSRs would be assessed in the EIA study.

## **3.3 Water Quality**

### Construction Phase

- 3.3.1 Dredging, disposal of dredged materials, piling work and construction of the breakwater would be the key water quality impact associated with the construction of the Project. During dredging and construction of the marine structures, there could be temporary elevation in concentration of suspended solids and generation of sediment plumes, possible release of organic and inorganic contaminants and nutrients as well as creation of potential embayment, which may affect the water quality of LYM Channel, the narrowest part of the Victoria Harbour. Appropriate mitigation measures may need to be recommended.

### Operation Phase

- 3.3.2 Water quality impact during the operational phase of the Project is considered insignificant. However, the potential increase of sewage generated from the increase of visitors to LYM may affect the water quality of the area. The potential impact would be investigated in the EIA study.

## **3.4 Land Contamination**

- 3.4.1 Potential land contamination within the Project site is not anticipated as the construction works and dredging works would be carried out outside the existing typhoon shelter. While there is no historic record of leakage or spillage of oil products within the Project site, the land contamination issue and its potential impact within the Project site would be reviewed in the EIA study.

## **3.5 Waste Management**

### Construction Phase

- 3.5.1 Wastes generated by the construction works are likely to include site wastes, chemical wastes, and construction wastes and dredged sediments. The possible



presence of contaminated sediments that may require dredging and disposal will need to be determined.

#### Operation Phase

3.5.2 No potential operational phase impact to waste management is expected.

### **3.6 Ecology**

#### Construction Phase

3.6.1 The dredging work would cause the direct but temporary loss of approximately 3,600 m<sup>2</sup> (i.e. 0.36 ha) of sub-tidal soft substrata habitats. The sub-tidal soft substrata habitats only support a low abundance of infauna of no recognized conservation interest and as such the impact is considered to be low. The construction of the foundation of the pile deck and breakwater structure will cause a further temporary loss of about 150 m<sup>2</sup> of sub-tidal soft and hard substrata habitats.

3.6.2 Approximately 0.07 ha of the rocky outcrop and oyster shell beach south of LYM Village where the LYM lighthouse is located was rezoned as a CPA under the draft Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan (No. S/K15/18). The CPA is subject to constant human disturbance and rubbish (e.g., broken glass and foam boards) often washed up on the oyster shell beach. The oyster shell beach is artificial and formed due to historical dumping of oyster shell from local seafood business. The dredging of seabed for the public landing facility may cause potential impacts on the ecological habitats in the vicinity of the Project site. The potential impacts on the marine ecology (e.g. the sub-tidal, intertidal, benthic and coral communities, etc.) would be adequately assessed and addressed in the EIA study.

3.6.3 The possible impact on ecology due to the land-based works including construction of a promenade, a carp-shaped platform and a pavilion with children play area, improvement works for five existing lookout points and a viewing platform, beautification works for the promenade, lookout points and viewing platform and streetscape improvement works is considered to be insignificant.

#### Operation Phase

3.6.4 No potential operational phase impact to marine ecological resources is expected.

### **3.7 Fisheries**

#### Construction Phase

3.7.1 The Project lies within the LYM Channel which is the direct approach to LYM Pass and fishing activities are prohibited under Shipping and Port Control Regulations (Cap 313A). As such, the effects on the availability of fishing grounds will be minimized. However, potential direct and indirect impacts to existing fisheries resources due to changes of water quality may also be resulted, which may require implementation of proper water control measures and it will be assessed in the EIA study.

#### Operation Phase

3.7.2 The Project site lies within the LYM Channel which is the direct approach to LYM Pass and fishing activities are prohibited under Shipping and Port Control Regulations (Cap 313A). As such, the availability of fishing grounds will not be affected. Nevertheless, disturbance to fisheries resources arising from possible water pollution during the operational phase will be assessed in the EIA study.

### **3.8 Landscape and Visual**

#### Construction Phase

3.8.1 Landscape and visual impacts are expected from marine works construction, site cabins, construction plant, etc. Nevertheless, the impacts would be temporary and can be minimized by appropriate mitigation measures.

3.8.2 Potential landscape impacts may arise from disturbance of landscape resources (e.g. oyster shell beach recognized by the CPA, trees, adjacent slopes and seawalls etc.) and potential visual impacts may arise from above ground structures (e.g. existing roads, viewing platform, and lookout point etc.). These potential impacts including coastal landscape impact will be addressed in the EIA study.

#### Operation Phase

3.8.3 Beautification works for the promenade, five existing look-out points and the viewing platform and streetscape improvement works would improve the landscape and visual of the environment of LYM area.

### **3.9 Cultural Heritage**

#### Construction Phase

- 3.9.1 As the distance between the Tin Hau Temple at Ma Wan Tsuen which is a Grade 3 historic building and the nearest lookout point is about 60 m, the potential impact on the Tin Hau Temple due to construction of promenade, and beautification works and improvement works for the nearest lookout point is considered to be insignificant.

#### Operation Phase

- 3.9.2 Direct and indirect cultural heritage impacts during the operation phase are not expected.

### **3.10 Hazard**

- 3.10.1 The Project would not involve the use of any dangerous goods and there is no store of dangerous goods in significant quantities in the vicinity of the Project site.

## **4. Major Elements of the Surrounding Environment**

### **4.1 General**

4.1.1 The Project site is located at the waterfront immediately in front of the village houses of the LYM Village and at east of the LYM lighthouse. It also lies outside the eastern extent of the Victoria Harbour.

4.1.2 With respect to marine traffic, the Project site is within the LYM Pass which lies between the Eastern Fairway and the Tathong Channel Traffic Separation Scheme. The Eastern Fairway is defined in Shipping and Port Control Regulations (Cap 313A), Schedule 3, Principal Fairways.

### **4.2 Air Quality**

4.2.1 The representative air sensitive receivers (ASRs), in the vicinity of the Project site include Former Hoi Bun School, Tin Hau Temple, Basketball Court and a number of existing village houses.

### **4.3 Noise**

4.3.1 The representative noise sensitive receivers (NSRs) in the vicinity of the Project site include a number of existing village houses, Former Hoi Bun School and Tin Hau Temple. There will be no NSRs within the Project site after completion of the Project.

### **4.4 Water Quality**

4.4.1 The Project may affect a number of water sensitive receivers (WSRs) inside and in the vicinity of the Project site. Potential WSRs are:

- (i) Aquatic ecological habitats for marine organisms including corals;
- (ii) Tung Lung Chau Fish Culture Zone;
- (iii) Secondary Contact Recreation Zone at Tseung Kwan O; and
- (iv) Water Supplies Department saltwater intakes at Yau Tong.

## **4.5 Ecology**

4.5.1 The rocky outcrop and oyster shell beach (about 0.07ha) on the southern coast of LYM Village was rezoned as a CPA under the draft Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan No. S/K15/18. This area covers the rocky outcrop above water in the high-tide, the oyster shell beach and the lighthouse which has been recognized as a landmark with scenic quality. This Project does not propose any works within the CPA itself but the dredging work limit of the Project would be close to it.

4.5.2 The major habitats in the vicinity of the Project site include rocky shore intertidal habitat, soft substrate benthic habitat, hard substrate benthic habitat and the open water.

## **4.6 Fisheries**

4.6.1 The Project site lies within the LYM Channel which is the direct approach to LYM Pass in which fishing activities are prohibited under Shipping and Port Control Regulations (Cap 313A). Tung Lung Chau Fish Culture Zone is located some distance from the Project area at about 6 km away.

## **4.7 Landscape and Visual**

4.7.1 The Project is located within the LYM Pass. Potential visual sensitive receivers would include the residents at LYM Village, Ma Wan Tsuen, Che Ting Tsuen, Shau Kei Wan, Heng Fa Chuen and the visitors of the Hong Kong Museum of Coastal Defence and LYM Park and Holiday Village, etc.

4.7.2 Beautification works are to be carried out to the existing footpath, lookout points, public open space, etc. and a carp-shaped platform will be constructed at the coastal area. Other landscape resources in the vicinity include existing sea wall, hillside slope, villages and Tin Hau Temple, etc.

4.7.3 A number of existing trees in a variety of species (e.g. *Ficus microcarpa*, *Macaranga tanarius*, etc.) are located in the vicinity of the Project site. In addition, at the eastern end and western end of the Project site, there are Tin Hau Temple and rock outcrops on which a lighthouse is located respectively. The existing sea wall and coastal feature will be realigned upon completion of the future constructed promenade.

## **4.8 Cultural Heritage**

- 4.8.1 The nearest boundary of the Project site is at a distance of 60 m from the Tin Hau Temple at Ma Wan Tsuen which is a Grade 3 historic building.

## **5. Environmental Protection Measures to be Incorporated in the Design and Any Further Environmental Implications**

### **5.1 General**

5.1.1 The environmental impacts (including both cumulative impacts and those solely arising from the Project) will be investigated in the EIA study. Appropriate mitigation measures will then be devised to ensure that the Project would be environmentally acceptable with reference to the relevant legislations and other requirements. Any residual impacts, if any, would be confined within the allowable limits. Environmental monitoring and auditing of the potential impacts arising from the Project would be conducted at appropriate phases. Subject to further detailed assessment in the EIA study, the following mitigation measures are proposed to be implemented for the Project.

### **5.2 Noise**

#### Construction Phase

5.2.1 Appropriate mitigation measures as recommended in the noise impact assessment would be implemented to minimize the potential impact to the nearby NSRs. Environmental Protection Department (EPD)'s Recommended Pollution Control Clauses for Construction Contract would also be adopted in the contract specifications for the Project to ensure that the Contractor will implement good construction site practices to minimize noise generation.

#### Operation Phase

5.2.2 Operational traffic noise arising from the commercial activities and marine transport would be investigated in the EIA study.

### **5.3 Air Quality**

#### Construction Phase

5.3.1 The control measures, set out in the Air Pollution Control (Construction Dust) Regulation (Cap. 311R) and site good practices would be implemented to reduce the dust emission from the Project.

### Operation Phase

5.3.2 Operational marine transport emission in LYM and odour impact arising from concurrent projects as mentioned in Section 2.2.1 would be considered in the EIA study.

## **5.4 Water Quality**

### Construction Phase

5.4.1 Water pollution arisen from construction activities can be prevented or mitigated by adopting site practices, where applicable and practicable, in ProPECC PN 1/94 “Construction Site Drainage” and “Recommended Pollution Control Clauses for Construction Contracts” issued by EPD. The mitigation measures include:

- (i) installation of silt curtains during dredging work;
- (ii) reduction of the dredging rate, use of tightly closed grabs, and control of grab descending speed to minimize disturbance to the seabed and sediment loss during dredging; and
- (iii) silt trap and oil interceptor would be provided for pre-treatment of wastewater.

### Operation Phase

5.4.2 The increase of sewage generated from the increase of visitors would be collected by the proposed sewerage to be implemented under Drainage Services Department’s project “Sewerage to LYM Village”. Interim sewerage measures before the completion of the proposed sewerage would be investigated in the EIA study.

## **5.5 Waste Management**

### Construction Phase

5.5.1 Proper waste management would be implemented to reduce and minimize generation of Construction & Demolition (C&D) materials in the execution of the construction works. The waste management would, where applicable and practicable, cover the following items:

- (i) construction wastes and debris would be properly sorted, reused and recycled wherever possible on site;



- (ii) proper measures and site management practices would be taken to prevent illegal dumping of non-inert C&D materials and to plan and record the waste management and disposal activities; and
- (iii) excavated sediment would be handled in accordance with ETWB TCW No. 34/2002 “Management of Dredged/Excavated Sediment”; and chemical wastes generated from construction activities, vehicles, vessels and/or plant maintenance and oil interceptors would be properly segregated, treated and disposed off in strict compliance with relevant ordinances and regulations.

#### Operation Phase

5.5.2 Impact on the waste management is unlikely.

### **5.6 Ecology**

#### Construction Phase

5.6.1 The dredging work is not anticipated to induce significant adverse impacts to the marine ecology. Good site practices to reduce potential disturbance and use of silt curtain to control sediment plumes arise from dredging work will be implemented to minimize the indirect impacts.

#### Operation Phase

5.6.2 With the effective implementation of the above measures, residual ecological impacts are not predicted in operation phase.

### **5.7 Fisheries**

5.7.1 The adverse fisheries impacts are not significant, hence, no fisheries-specific measures have been proposed. The general water quality mitigation measures recommended in the water quality section, however, shall be implemented to minimize indirect impact associated with potential water quality deterioration.

### **5.8 Landscape and Visual**

#### Construction Phase

5.8.1 The following mitigation measures would be taken, where applicable and practicable, to reduce the landscape and visual impact arisen from the Project:

- (i) the extent of site and works areas will be minimized;

- (ii) site and works areas would be screened off from the sensitive uses;
- (iii) construction plant / equipment and construction materials will be stored in such a way that will not render them visually intrusive to sensitive uses; and
- (iv) temporary protective measures e.g. fencing, temporary supports, etc. to the existing trees within the works area will be implemented;
- (v) disturbance to the tree roots will be minimized in the course of beautification works to the existing footpaths and construction of public open space etc.;
- (vi) Tree transplanting and reinstating disturbed planting areas will be adopted;
- (vii) additional planting will be incorporated in the design of the lookout point, public open space, promenade, etc.
- (viii) the existing sea walls at the lookout points will be protected and strengthened as necessary.

#### Operational Phase

5.8.2 Landscape planting for the Project and aesthetic architectural design including colour and finishes of any visible structure during operation phase will be implemented.

### **5.9 Cultural Heritage**

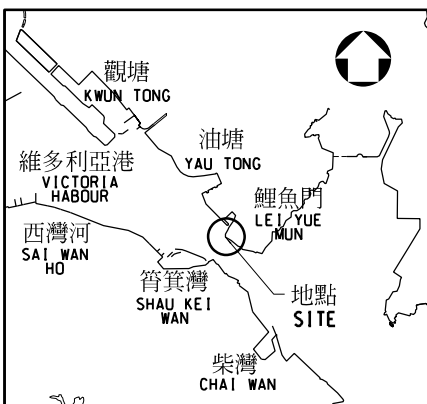
5.9.1 No adverse cultural heritage impact is anticipated due to this Project. Therefore, no specific mitigation measures are required.

## **6. Use of Previously Approved EIA Reports**

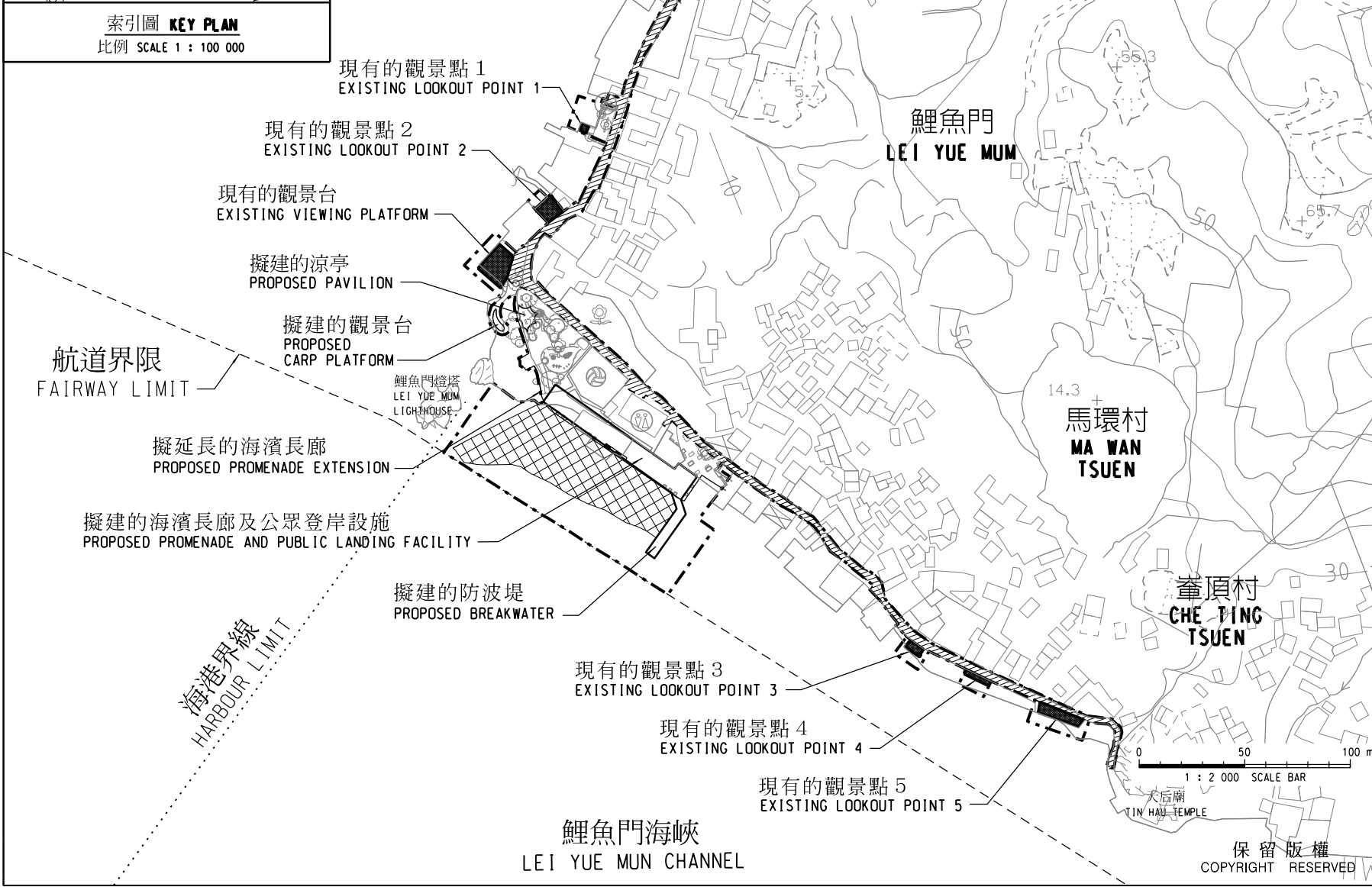
6.1 No previously approved EIA reports are referred to in the preparation of this project profile.

## **Appendix A**

### **Layout Plan of Lei Yue Mun Waterfront Enhancement Project**



索引圖 KEY PLAN  
比例 SCALE 1 : 100 000



注釋 NOTES  
1. 所有座標參考香港大地測量基準1980及以米為單位  
ALL CO-ORDINATES REFER TO HONG KONG GEODETIC DATUM 1980 AND ARE IN METRES.

圖例 LEGEND:  
 - - - 工程界線 SITE BOUNDARY  
 ▨ 擬建街景改善和美化工程 PROPOSED STREETScape IMPROVEMENT AND BEAUTIFICATION WORKS  
 ▩ 擬建疏浚範圍 PROPOSED DREDGING AREA

PROVISIONAL SUBJECT TO AMENDMENT (REV. 12/2008/2011)

編號 no.	日期 date	說明 description	核對 checked	核准 approved
修訂 REVISION				
設計 designed	姓名 name	簡簽 initial	日期 date	
繪畫 drawn	W T CHEUNG			
摹描 traced				
核對 checked				
核准 approved				
日期 Chief Engineer date : _____				

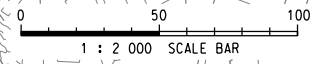
合約編號 contract no.	
檔案編號 file no.	
工程編號 project no.	
合約 contract	
名稱 drawing title	鯉魚門海旁改善計劃平面圖 LAYOUT PLAN OF LEI YUE MUN WATERFRONT ENHANCEMENT PROJECT

圖則編號 drawing no.	比例 scale
PW-MS15-008	1 : 2 000 OR AS SHOWN

office 辦事處  
海港工程處土木工程處  
PORT WORKS DIVISION  
CIVIL ENGINEERING OFFICE

保留版權 COPYRIGHT RESERVED

土木工程拓展署  
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT



C:\Users\16176\workspace\System\tools\pwwork\160001.dwg