



俊和
CHUN WO

利達

LEADER

俊和 - 利達聯營

CHUN WO - LEADER JOINT VENTURE

Contract No. HK/2009/01

Wan Chai Development Phase II – Central -Wan Chai Bypass at
Hong Kong Convention and Exhibition Centre

Silt Screen Deployment Plan

Revision	Date of Issue	Remarks	Author	Approved
0	19 Feb 10	Initial issue	DW	WTH
1	17 Mar 10	Incorporating comments from ET & IEC	DW	WTH
2	25 Mar 10	Incorporating comments from ET & IEC	DW	WTH
3	8 April 10	Incorporating comments from Engineer	DW	WTH
4	8 Nov 12	Updated Section. 2.1, Appendix A, B & F	AM	PY
5	12 July 13	Updated Section 1.1, 2.2,2.3, 4.2, Appendix A & H	AM	PLY
6	11 Aug 2014	Updated Section 1.1, 2.1, 4.2, Appendix A	KMN	SL
7	8 Oct 2014	Updated Section 1.1	KMN	SL

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GENERAL

1.1 Introduction

Prior to the commencement of any dredging and backfilling works in the vicinity of the existing seawater intakes, silt screens have been installed to protect the cooling water intakes. The main contractor of HK/2009/01, Chun Wo – Leader Joint Venture (CWLJV) will be responsible for the installation, maintenance, repairing (if necessary) and removal of the silt screens.

Since the original silt screens of cooling water intake C2, C3 & C4W have been relocated to new pumping stations by CWLJV and the silt screens of cooling water intake C4E will be relocated to new pumping station upon the completion of new station by HK/2009/02 contractor, the revised deployment plan have been updated to include the information on latest silt screen arrangement.

This deployment plan describes in details the design, method of installation, operation and maintenance of the proposed silt screen.

1.2 Reference Specification and Drawings

- a) General Specification Section 21 & 25
- b) Particular Specification Section 21 & 25
- c) Contract Drawing nos. 60041297/C1/200/1836B, Figure 4 of EP-356/2009

1.3 Construction Plants

The following plants shall be deployed:

- | | |
|-------------------|-------|
| i) Crane Lorry | 1 no. |
| ii) Mobile Crane | 1 no. |
| iii) Motor Sampan | 1 no. |

Adequate resources shall be employed to suit the construction programme of silt screens.

1.4 Safety

The works shall carry out in accordance with the Project Safety Plan and shall comply with the requirements of the Marine Department and Labour Department. Specific risk assessment shall be prepared and submitted separately.

2. Silt Screen Design

2.1 In general, there are three types of silt screen. Type 1 silt screen is designed for those seawater intakes located on vertical seawall, i.e. seawater intakes of Telecom House, HK Academy for Performing Arts, Shui On Centre, Wan Chai Tower / Revenue Tower, Immigration Tower, Great Eagle Centre, China Resources Building, Sogo Tsim Sha Tsui, WSD. Type 2 silt screen is designed for seawater intakes of Hong Kong Convention and Exhibition Centre located under the promenade deck. Type 3 silt screen is designed for the submarine seawater intake near Avenue of Stars. Silt screens of either Type 1, Type 2 or Type 3 depending on the actual site condition, will also be installed for WSD saltwater intakes at WSD7 (Kowloon South), WSD19 (Sheung Wan) or any other intakes as highlighted in EP-356/2009 Table 1 and Figure 4 subject to the site instruction from the Engineer. The location plans for Type 1 to 3 silt screens are enclosed in **Appendix A**.

All cooling water intake C2, C3 & C4W have been relocated to new pumping stations by CWLJV on or before 24 June 2013. Whereas, cooling water intake C4E will be relocated to new pumping station upon completion of new station by HK/2009/02 contractor. The location plan of seawater intakes is enclosed in **Appendix A**.

2.2 Type 1 silt screen consists of a steel frame and a layer of geotextile screening. The steel frame will be fixed to the vertical seawall by anchor bolts. The geotextile screening will be tied on to the steel frame by nylon ropes and attached to the vertical seawall on both top and bottom sides. A hinged opening will be provided at the top of the steel frame as access for water monitoring inside the silt screen. The layout and general arrangement of Type 1 silt screen is enclosed in **Appendix B**.

- 2.3 Type 2 silt screen consists of a layer of geotextile screening tied on 300mm diameter buoys and extended to the seabed level secured by steel chain ballast. The buoys will be further positioned by nylon ropes tied on existing structures. Type 2 silt screen will be installed underneath the perimeter of the promenade piled deck of the pump house of Hong Kong Convention and Exhibition Centre (HKCEC) Phase 1 and both ends of the silt screen will be attached to the vertical seawall adjacent to the promenade piled deck. The layout and general arrangement of Type 2 silt screen is enclosed in **Appendix C**. Alternatively, Type 1 silt screen depending on the actual site condition during the course of the reclamation works.
- 2.4 Type 3 silt screen consists of 2 types of silt screen namely 'standing type' and 'hanging type' combined together. Standing type consists of a steel frame and a layer of geotextile screening on all 3 sides of the steel frame. The top frame will not be covered by geotextile to allow sufficient flow of water into the intake. The steel frame will be placed to the seabed to surround the seawater intake. The steel frame will be further secured to the seabed by steel cable tied to concrete sinkers. Hanging type is similar to Type 2 silt screen consists of a layer of geotextile screening tied on 300mm diameter buoys and extended to below the top level of the standing type silt screen. The bottom of the hanging type silt screen will be tied to ballast steel chain. The purpose of the hanging type silt screen is to prevent silt from sucking into the intake through the top opening of the standing type silt screen. The layout and general arrangement of Type 3 silt screen is enclosed in **Appendix D**.
- 2.5 The specification of the proposed geotextile for Type 1, 2 and 3 silt screens is enclosed in **Appendix E**.

3 Silt Screen Installation Procedure

3.1 Type 1 Silt Screen

- 3.1.1 To carry out an underwater conditional survey to locate the existing water intakes by diver.
- 3.1.2 To verify the location, depths and sizes of the intake pipes and measure

the dimension and position of the silt screen and mountings required.

- 3.1.3 To prefabricate the steel frame with steel mesh for fencing as determined in the previous step.
- 3.1.4 To mitigate the corrosion by seawater, all steel members should be hop-dip galvanized and the plastic coated steel mesh will be use before prefabrication.
- 3.1.5 The fabrication works will follow the layout drawing (See **Appendix B**)
- 3.1.6 A temporary steel working platform will be erected on site for installation of the steel frame.
- 3.1.7 To prefabricate the steel frame with steel mesh for fencing as determined in the previous step.
- 3.1.8 To form the anchor's holes by air drill.
- 3.1.9 The upper steel plate footing with 4 nos. anchor bolts will pre-install on the existing seawall.
- 3.1.10 To separate each steel frame to two portions for transportation and assembly on site.
- 3.1.11 To use crane lorry for lifting and fixing the steel frame to the location.
- 3.1.12 The top level of the steel frame is approximate +3.00mPD.
- 3.1.13 To use a chain block pulley system for lifting the steel frame from the top of the seawall for installation adjustment.
- 3.1.14 To fix and weld the steel frame onto the pre-installed steel plates.
- 3.1.15 To fix the lower steel plate footings onto the existing seawall using anchor bolts.
- 3.1.16 To tie the geotextile screening with steel chain ballast on to the steel frame by nylon ropes.

3.1.17 The outer silt screen can be removed and replaced during maintenance by workers using a chain block pulley system for lifting the screen directly from the water.

3.2 Type 2 Silt Screen / Type 3 Silt Screen (Hanging Type)

3.2.1 To carry out an underwater condition survey to locate the existing seawater intakes by divers.

3.2.2 To verify the location, depths and sized of the intake pipes and measure the dimension and position of the silt screen and mountings required.

3.2.3 To tie the silt screen to the buoys and steel chain ballast before transportation.

3.2.4 To transport the silt screen to the location for fixing via a marine pontoon.

3.2.5 To tie the buoys to the railings of the promenade deck / existing structures with nylon ropes.

3.2.6 To put the buoys to the water and then slowly put the silt screen with the steel chain ballast into sea.

3.2.7 The silt screen can be removed and replaced during maintenance by workers using a chain block pulley system to lift the screen directly from the water.

3.3 Type 3 Silt Screen (Standing Type)

3.3.1 Standing type silt screen shall be installed prior to the installation of hanging type silt screen.

3.3.2 To carry out an underwater conditional survey to locate the existing water intake by the divers.

3.3.3 To verify the location, depths and sizes of the intake pipes and measure the dimension and position of the silt screen and mountings required.

- 3.3.4 To prefabricate the steel frame with steel mesh for fencing as determined in the previous step.
- 3.3.5 To mitigate the corrosion by seawater, all steel members should be hot-dip galvanized and the plastic coated steel mesh will be used before prefabrication.
- 3.3.6 The fabrication works will follow the layout drawing (See **Appendix D**)
- 3.3.7 To prefabricate the steel frame with steel mesh for fencing as determined in the previous step.
- 3.3.8 To use a mobile crane for lifting and fixing the steel frame to the location. Divers will assist the positioning of the silt screen under the water.
- 3.3.9 To place the concrete sinkers to the seabed by mobile crane and tie the steel frame to the concrete sinkers with steel cables by divers.
- 3.3.10 The outer silt screen can be removed and replaced during maintenance by the divers.

4. Maintenance of Silt Screen

- 4.1 Site supervisors will check the condition of the silt screens daily during the course of the marine works. An inspection checklist (see Appendix G) will be prepared and filled in by the site supervisors accordingly. All checklists will be kept on site for record purpose. Divers will be deployed to check the condition of the Type 3 standing type silt screen regularly.
- 4.2 Nearby marine works will stop immediately if silt screens are found damaged. Type 1 and 2 silt screens will be lifted up from the water by a chain block pulley system and the damaged outer silt screen will be replaced by workers. Damaged outer silt screen of Type 3 silt screen shall be replaced by divers. Nearby marine works will resume after repairing of the damaged silt screens. (Nearby marine works was defined as works within the region 100m from the damaged silt screen)



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Contractor No. HK/2009/01
Wan Chai Development Phase II
Central – Wan Chai Bypass at HKCEC

- 4.3 Refuse around the silt screens will be collected at regular intervals on a daily basis so that water behind the silt screens will be kept free from floating debris.

- 4.4 Sufficient spare geotextile screening will be kept on site for replacing of damaged silt screens. The spare geotextile screening shall be kept in place to avoid direct contact with water and sunlight.

Appendix A
Location Plan for Type 1 to 3 Silt Screen

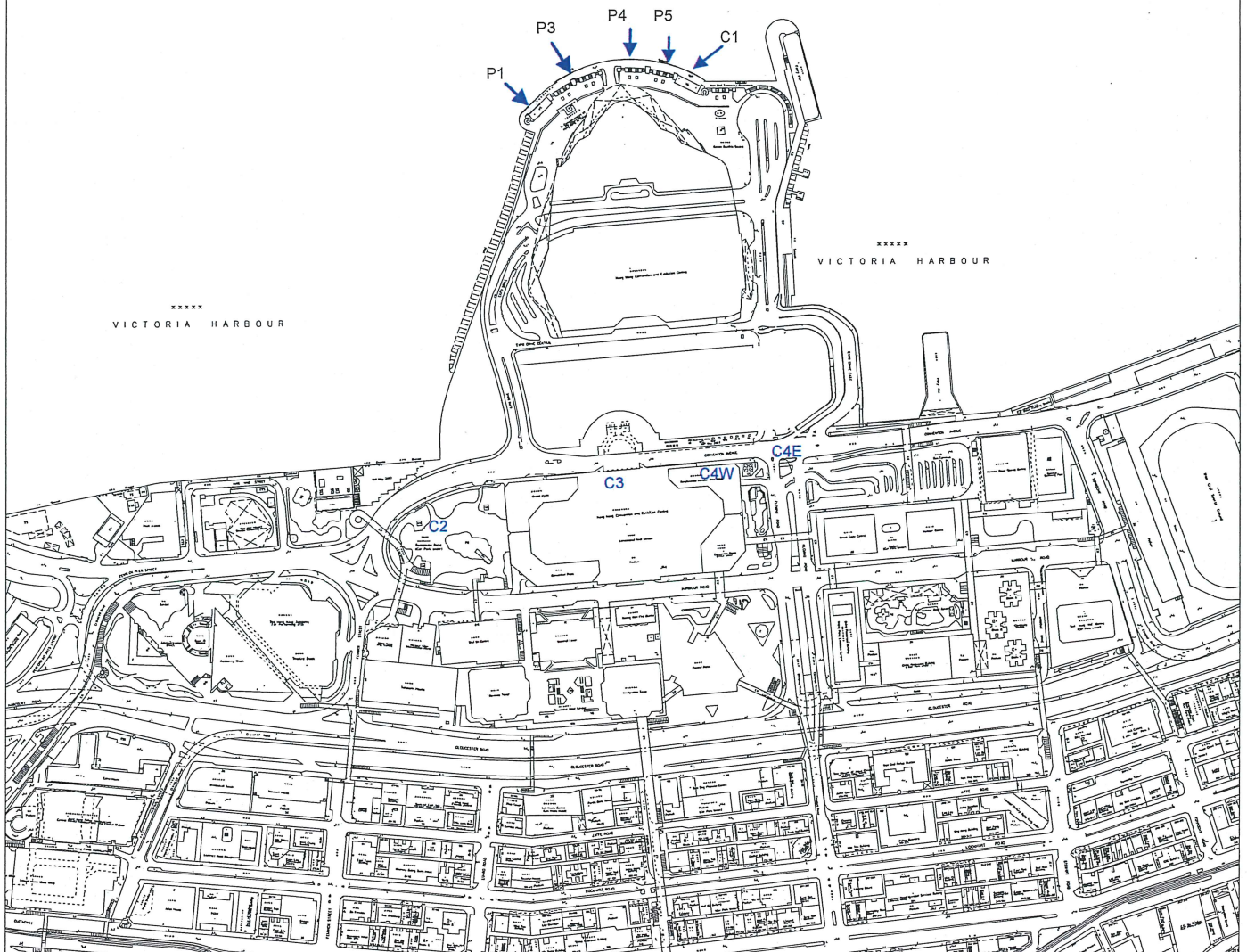
Legend

- C1 Hong Kong Convention and Exhibition Centre Extension
- P1 Hong Kong Convention and Exhibition Centre Phase 1
- P3 Hong Kong Academy for Performing Art
- P4 Shui On Centre
- P5 Government Buildings (Wan Chai Tower / Revenue Tower / Immigration Tower)

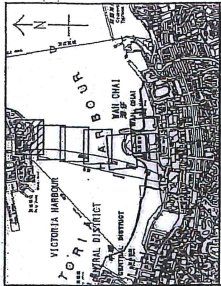
Proposed silt screen will be installed for intake:

Type 1 silt screen for intake C1, P1, P3, P4, P5, C2, C4W, C4E

Type 2 silt screen for intake C3



Project Title: Wan Chai Development Phase II and Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre (Contract No.HK/2009/01)
Figure 1: Location Plans of Seawater Intakes



KEY PLAN
SCALE 1 : 25000

NOTE:
1. REVISIONS IN ACCORDANCE WITH THE NOTES AND LEGEND.

WORKING DRAWING	SCALE: 1:1000	JAN 10
TENDER ADDENDUM NO. 4	SCALE: 1:1000	SEP 09
TENDER DRAWING	SCALE: 1:1000	JUL 09
REVISED	SCALE: 1:1000	AUG 09
REVISED	SCALE: 1:1000	AUG 09

CEDD
Civil Engineering and
Development Department

WAN CHAI DEVELOPMENT PHASE II

WAN CHAI DEVELOPMENT PHASE II -
CENTRAL - MAIN CHAI DIVISION AT
HONG KONG CONVENTION AND EXHIBITION CENTRE

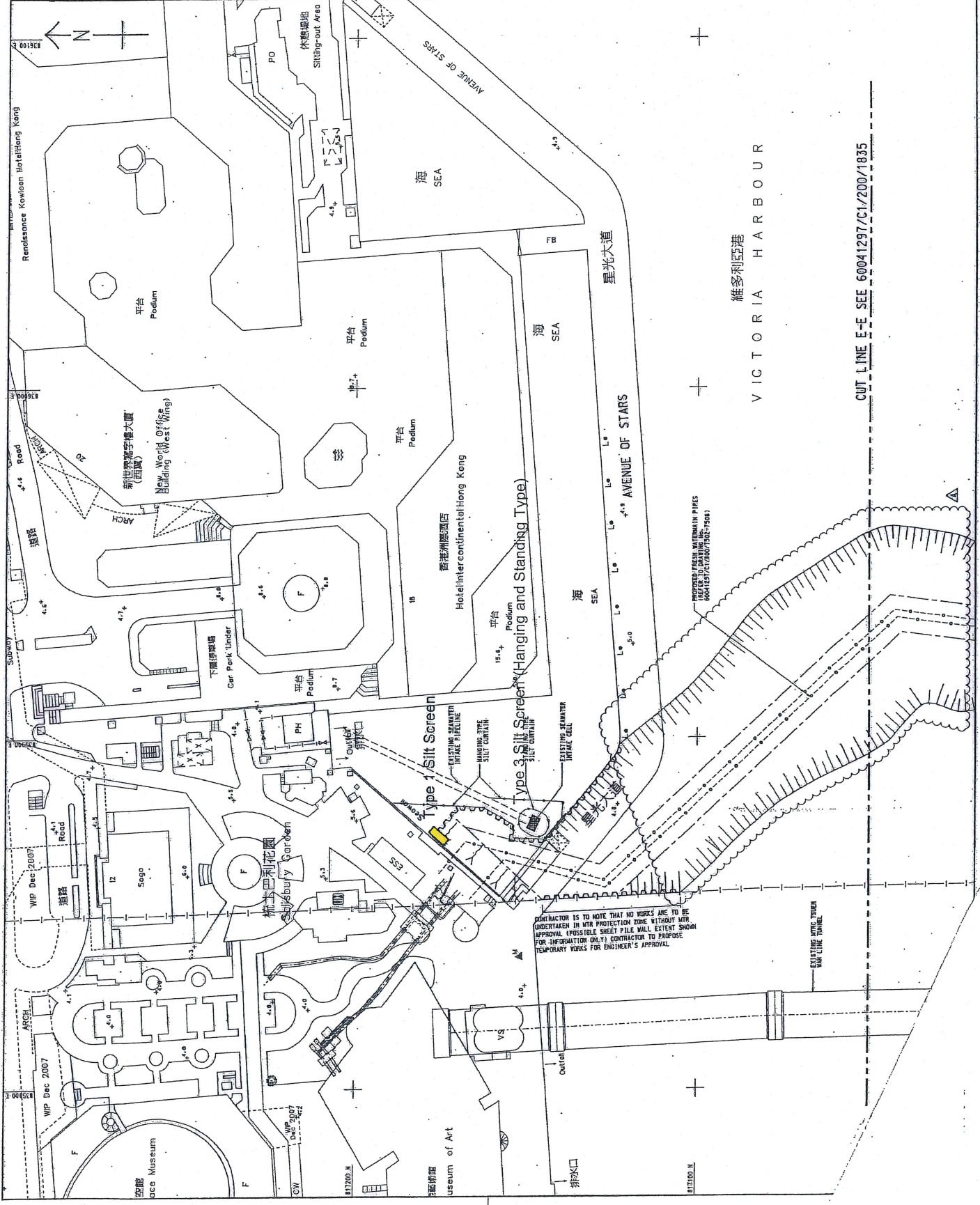
PROPOSED DREDGING PLAN

SHEET 6 OF 6

PROJECT NO.	60041297/C1/200/1835
PROJECT NAME	WAI CHAI DEVELOPMENT PHASE II - CENTRAL - MAIN CHAI DIVISION AT HONG KONG CONVENTION AND EXHIBITION CENTRE
SCALE	1:1000
DATE	11/2009/01
DESIGNER	ANC
CHECKER	ANC
DATE	11/2009/01
SCALE	1:1000
DATE	11/2009/01
SCALE	1:1000
DATE	11/2009/01

WORKING DRAWING

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CONTRACTOR IS TO NOTE THAT NO WORKS ARE TO BE UNDERTAKEN IN THE PROTECTION ZONE WITHOUT THE APPROVAL OF THE SHEET PILE WALL EXTENT SHOWN FOR INFORMATION ONLY CONTRACTOR TO PROVIDE TEMPORARY WORKS FOR ENGINEER'S APPROVAL

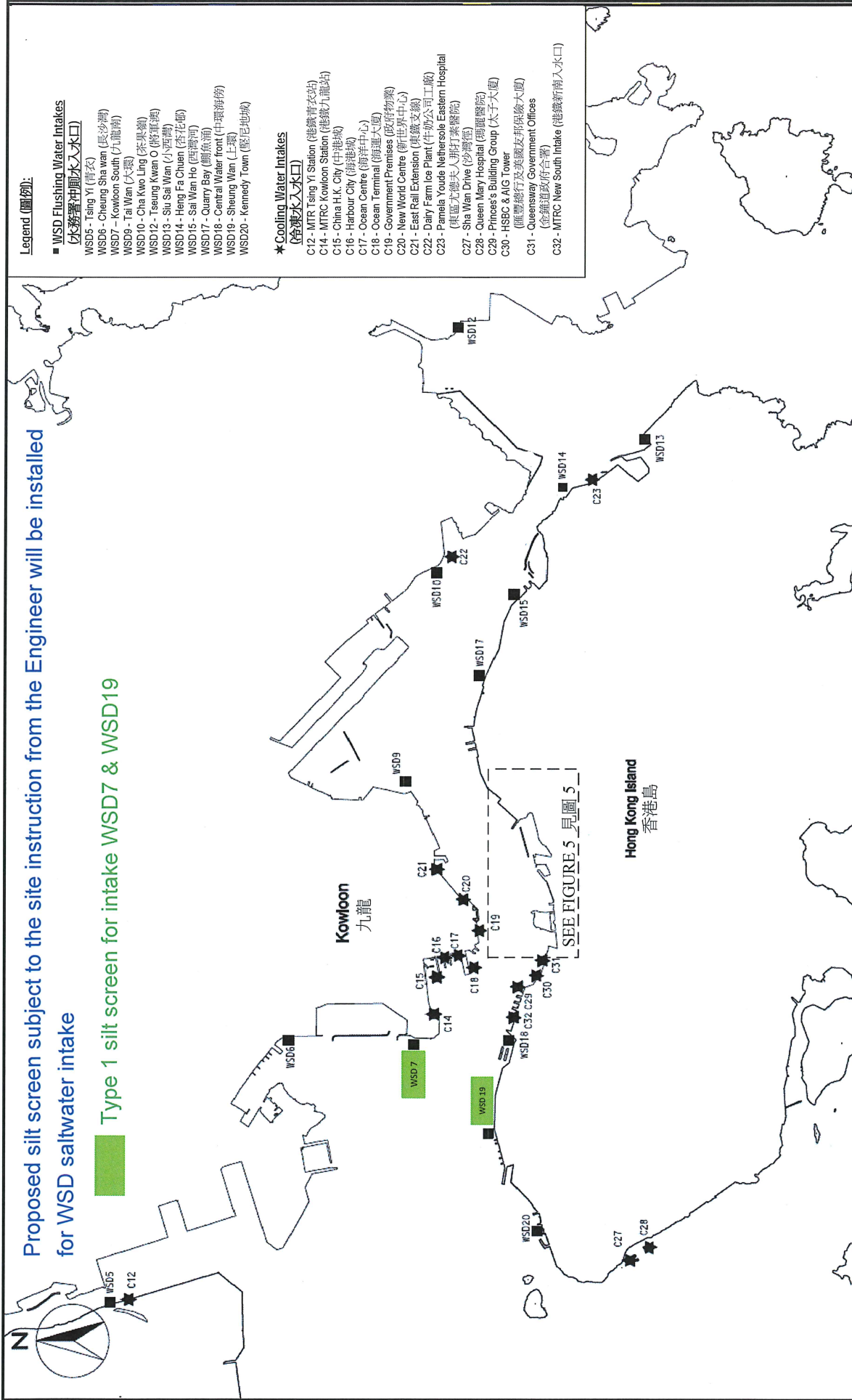
維多利亞港
VICTORIA HARBOUR

CUT LINE E-E SEE 60041297/C1/200/1835

AECOM

Proposed silt screen subject to the site instruction from the Engineer will be installed for WSD saltwater intake

Type 1 silt screen for intake WSD7 & WSD19



Legend (圖例):

■ **WSD Flushing Water Intakes (沖水沖廁水入水口)**

- WSD5 - Tsing Yi (青衣)
- WSD6 - Cheung Sha Wan (馬沙灣)
- WSD7 - Kowloon South (九龍南)
- WSD9 - Tai Wan (大環)
- WSD10 - Cha Kwo Ling (茶果嶺)
- WSD12 - Tseung Kwan O (將軍澳)
- WSD13 - Siu Sai Wan (小西灣)
- WSD14 - Heng Fa Chuen (杏花邨)
- WSD15 - Sai Wan Ho (西灣河)
- WSD17 - Quarry Bay (鰂魚涌)
- WSD18 - Central Waterfront (中環海傍)
- WSD19 - Sheung Wan (上環)
- WSD20 - Kennedy Town (堅尼地城)

★ **Cooling Water Intakes (冷卻水入水口)**

- C12 - MTR Tsing Yi Station (港鐵青衣站)
- C14 - MTRC Kowloon Station (港鐵九龍站)
- C15 - China H.K. City (中環城)
- C16 - Harbour City (海港城)
- C17 - Ocean Centre (海洋中心)
- C18 - Ocean Terminal (海運大廈)
- C19 - Government Premises (政府物業)
- C20 - New World Centre (新世界中心)
- C21 - East Rail Extension (東鐵支綫)
- C22 - Dairy Farm Ice Plant (牛奶公司工廠)
- C23 - Pamela Youde Nehersole Eastern Hospital (東區尤德夫人那打素醫院)
- C27 - Sha Wan Drive (沙灣徑)
- C28 - Queen Mary Hospital (瑪麗醫院)
- C29 - Princess's Building Group (太子大廈)
- C30 - HSBC & AIG Tower (匯豐總行及美國友邦保險大廈)
- C31 - Queensway Government Offices (筲箕道政府合署)
- C32 - MTRC New South Intake (港鐵新南入水口)

Figure 4: Indicative Location of Seawater Intakes

圖 4: 海水進水口參考位置圖

(This figure was prepared based on Figure 5.1 of the EIA report (Register No.: AEIAR-125/2008))
 (本圖是根據環評報告 (登記冊編號 AEIAR-125/2008) 圖 5.1 編製)

Project Title: Wan Chai Development Phase II and Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre (Contract No. HK/2009/01) - Marine Works

工程項目名稱: 灣仔發展計劃第二期及中環灣仔繞道 - 香港會議展覽中心段

(合約編號 HK/2009/01) - 海事工程

Environmental Permit No.: FEP-02/356/2009

環境許可證編號: FEP-02/356/2009



Appendix B
Type 1 Silt Screen

1. No. HANES/SHAN-27 R405 (S)

2. All dimensions being done PER AIA 2009
3. All steel work according to drawings.
4. Fabrication details SEE
Drawing: HANES/SHAN-27 R405 (S)
-0824

PS - For Pumping Station #1-P5

REV.	DESCRIPTION	DATE
1	ISSUED	11/14/10
2	REVISED	01/23/11
3	REVISED	01/23/11
4	REVISED	01/23/11
5	REVISED	01/23/11
6	REVISED	01/23/11
7	REVISED	01/23/11
8	REVISED	01/23/11
9	REVISED	01/23/11
10	REVISED	01/23/11
11	REVISED	01/23/11
12	REVISED	01/23/11
13	REVISED	01/23/11
14	REVISED	01/23/11
15	REVISED	01/23/11

CEED - Civil Engineering and Design
12345 Main St.
City, State, Zip

PROJECT NO. HANES/SHAN-27 R405 (S)

AECOM

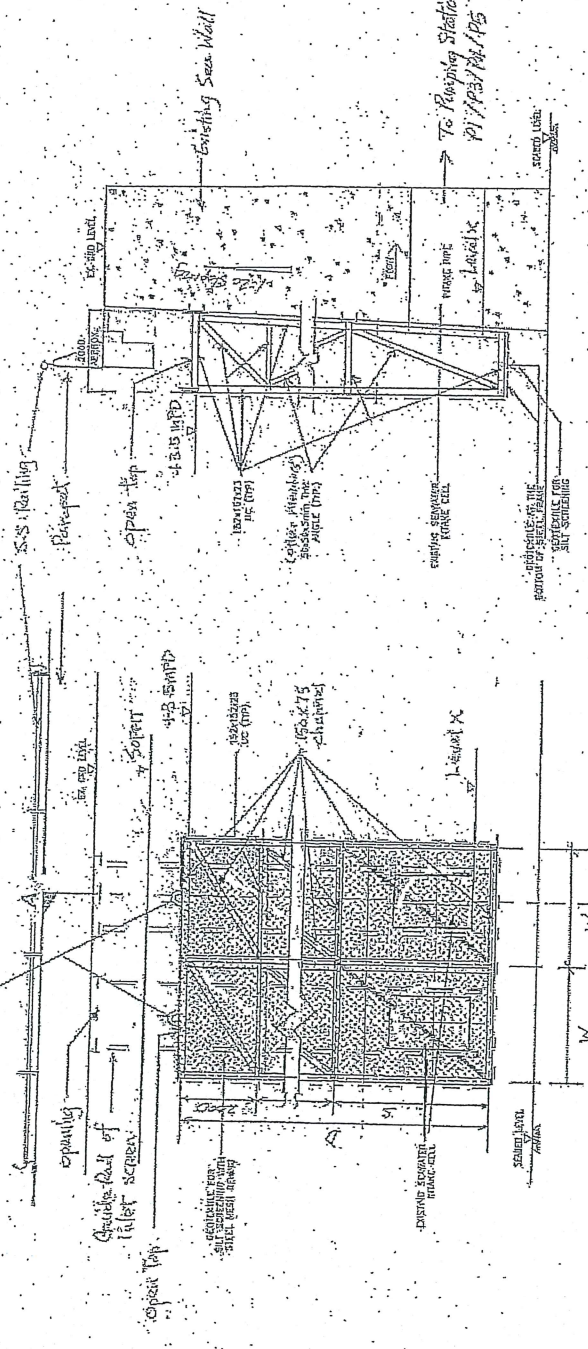
PROJECT TITLE: PS - For Pumping Station #1-P5

DATE: 11/14/10

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ELEVATION OF TYPICAL DETAILS FOR
SILT SCREEN OVER INTAKE PIPES
SCALE 1:150

(For Pumping Station #1-P5)

SECTION A-A
SCALE 1:150

DIMENSIONS OF TEMPORARY SILT SCREEN

Pumping Station	D	S	W	Qty	Notes
P1	7.8 m	2.7 m	4.0 m (Wide) Cell 2 nos.	2 nos.	Invert Level: X -4.077 mPD
P2	7.8 m	2.9 m	3.5 m (Single) Cell 2 nos.	2 nos.	-4.316 mPD
P4	6.9 m	3.4 m	4.4 m (Wide) Cell 2 nos.	2 nos.	-4.552 mPD
P5	6.9 m	2.4 m	2.5 m (Single) Cell 2 nos.	2 nos.	-4.251 mPD

NOTED

- 1. ALL DIMENSIONS SHALL BE CHECKED ON SITE.
- 2. ALL DIMENSIONS SHALL BE TAKEN FROM THE FACE UNLESS SPECIFIED OTHERWISE.
- 3. ALL STEEL SHOULD BE VAPOR-STOP ENAMELED.

CHAN CHI TONG
 100, WING LEE STREET, WING LEE INDUSTRIAL BUILDING
 HONG KONG

Prepared by: *Southern*

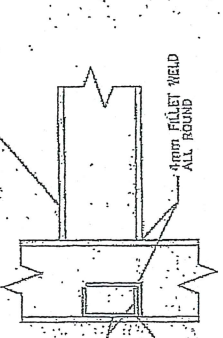
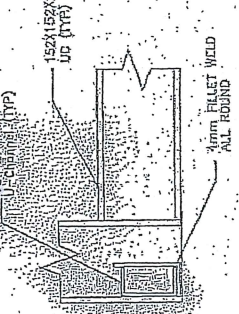
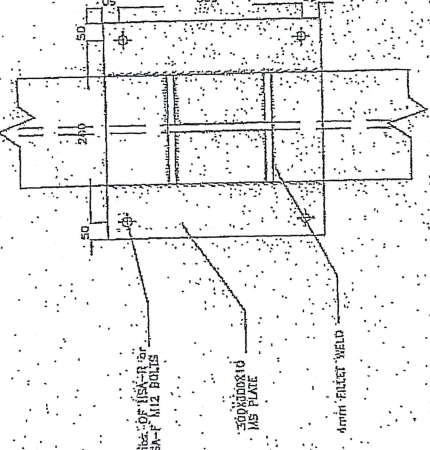
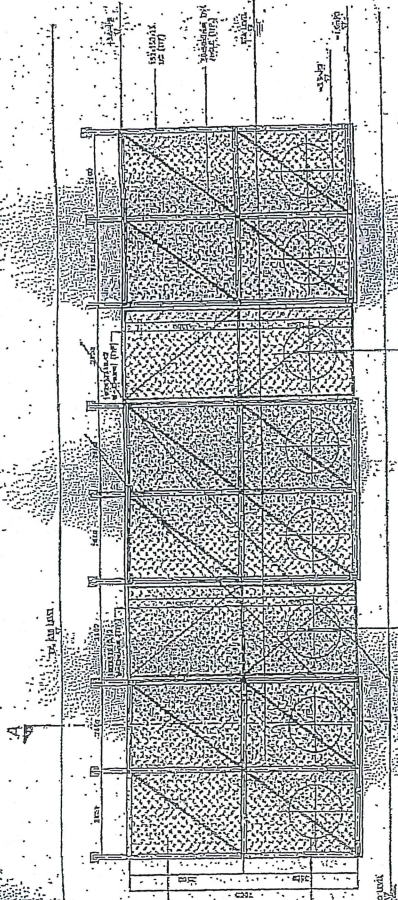
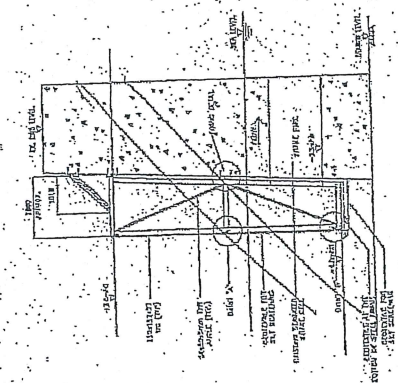
REVISED	BY	DATE
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2	CSF/S&A	10/10/11
3	CSF/S&A	10/10/11

CSF/S&A
 CHUN WO - LEADER JV

WATER DEVELOPMENT PHASE II
 100, WING LEE STREET, WING LEE INDUSTRIAL BUILDING

COMBINED TYPE-1 SILT SCREEN FOR PP PUMPING STATION

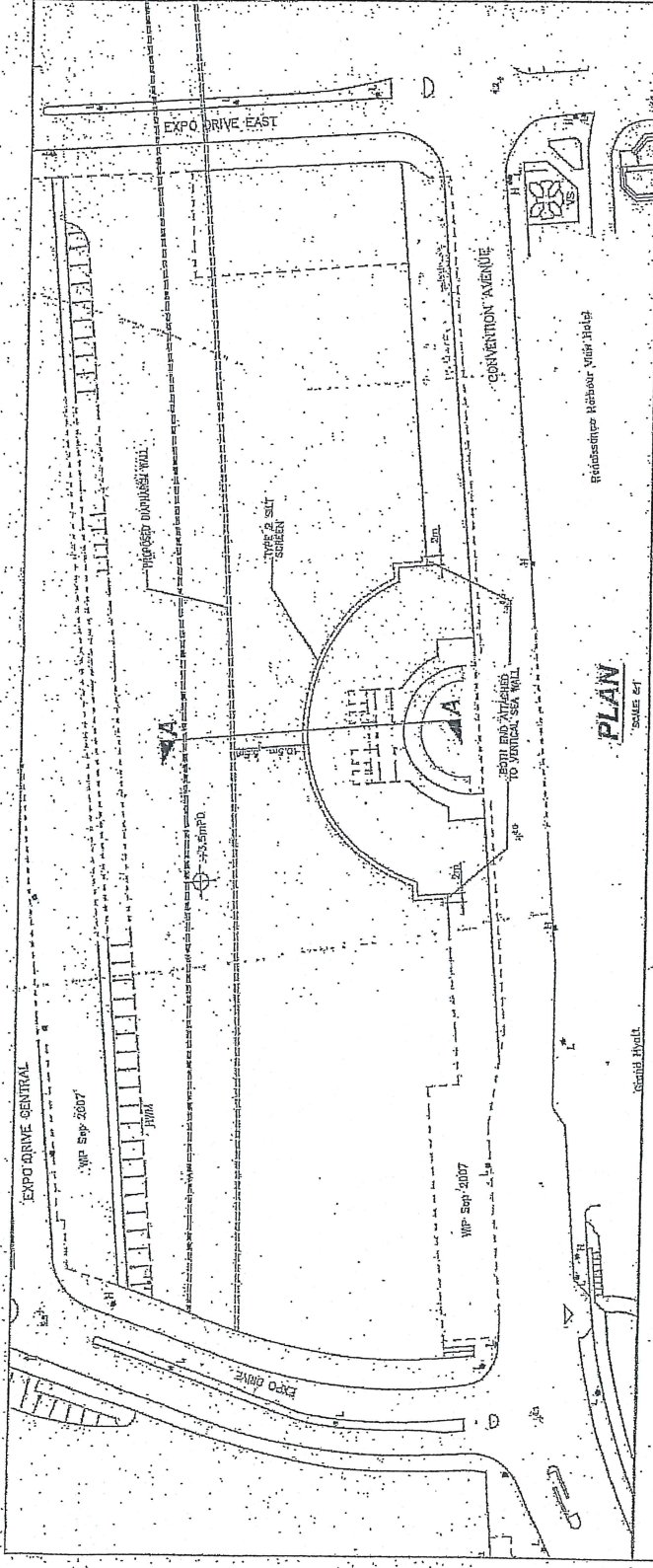
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APPROVED	



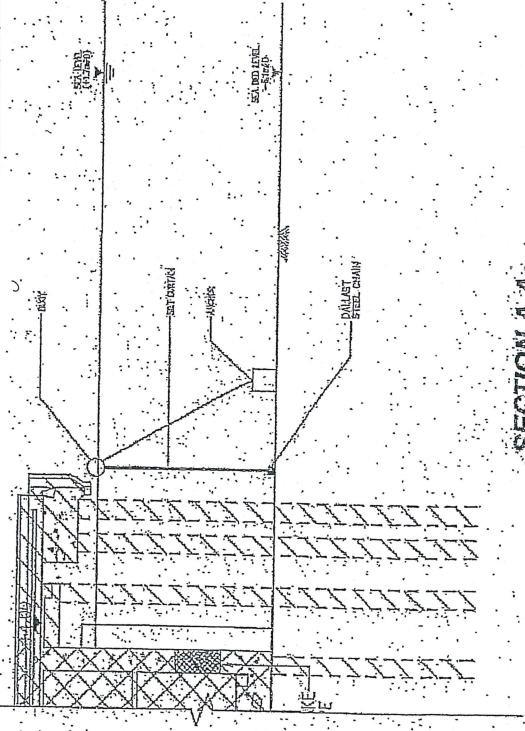
Appendix C
Type 2 Silt Screen

NOTES:

1. RT OPERATIONS ARE TO BE DETAILING FROM EXISTING CONDITIONS.
2. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN METERS.
3. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN METERS.
4. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN METERS.



PLAN
SCALE: 1:100



SECTION A-A
SCALE: 1:100

1. DRAWN	BY	DATE
2. CHECKED	BY	DATE
3. APPROVED	BY	DATE

AECOM
 CHINA DEVELOPMENT FRAME II
 WUJIAO DEVELOPMENT FRAME II
 ROAD AND UTILITIES DESIGN

TYPE 2 SLOTTED SCREEN

DRAWING NO: CHN/2008/S1701/PA1-05
 DATE: 14-02-2010
 SHEET: 18 FROM 19
 09/2010/REVISED

Appendix D
Type 3 Silt Screen

NOTES:

1. All dimensions are to be given from front working drawings.
2. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN MILLIMETERS.
3. UNLESS OTHERWISE NOTED, ALL LEVELS ARE IN METER RELATIVE TO HIGH WIND PRINCIPAL SURFACE (MPS).

REVISED	BY	DATE
REVISION	DESCRIPTION	DATE



Chiu Wo - Leader JV

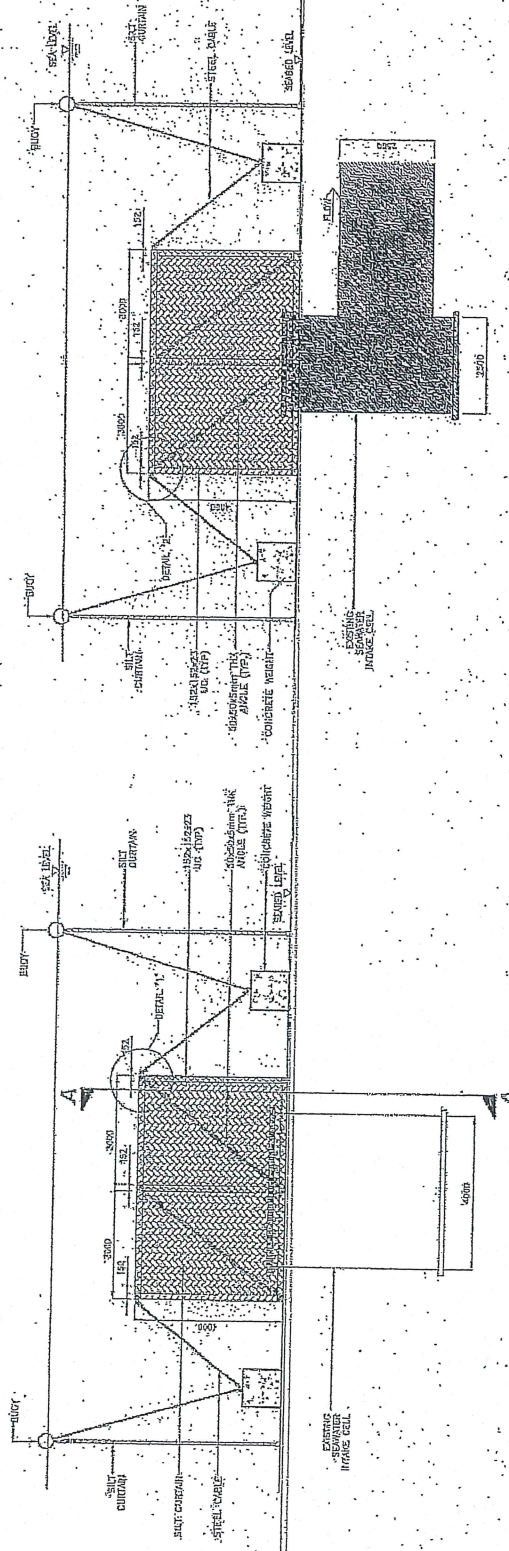
CHAI CHAI DEVELOPMENT PHASE II
 CIVIL ENGINEERING AND
 DEVELOPMENT DEPARTMENT

AECOM

CHAI CHAI DEVELOPMENT PHASE II
 HIGH RISE BUILDING AND INFRASTRUCTURE

TYPE 3 SILT CURTAIN

ISSUE NO.	DATE	BY	CHKD.
1	11/11/2009	AY/BN/AM-QA	1/1/2010
PAGE 206 OF 208			COPYRIGHT RESERVED



ELEVATION OF STANDING TYPE
 SILT CURTAIN DETAIL

SECTION A-A

Appendix E
Specification of Proposed Geotextile for Type 1, 2 and 3 Silt Screens

bontec

a Bonaar Technical Fabrics product

SG 100/100

Technical data sheet according to internal specifications Bonaar TF, version 03.d.d. 17/02/03
 Accompanying documents CE marking, version 01.d.d. 01/10/02



1137
 1137-CPD-601
 03

separation	filtration	reinforcement	protection	drainage

	test method	value	tolerance
Mechanical properties			
Tensile strength MD	EN ISO 10319	110 kN/m	-9.9 kN/m
Tensile strength CD	EN ISO 10319	110 kN/m	-9.9 kN/m
Elongation MD	EN ISO 10319	20 %	+/- 3.6 %
Elongation CD	EN ISO 10319	11 %	+/- 2.53 %
Static puncture resistance - CBR	EN ISO 12226	12.5 kN	+2.5 kN
Dynamic perforation resistance - cone drop	EN 918	10 min	+2 mm
Hydraulic properties			
Water permeability normal to the plane	EN ISO 11058	$23 \times 10^{-10} \text{ m/s}$	$6.9 \times 10^{-10} \text{ m/s}$
Water flow normal to the plane (*)	EN ISO 11058	23 lm^2/s	6.9 lm^2/s
Characteristic opening size	EN ISO 12958	190 μm	+/- 57 μm
Physical properties			
Thickness under 2 kPa (*)	EN 964/1	1.53 mm	+/- 0.31 mm
Weight (m)	EN 965	475 g/m^2	+/- 47.5 g/m^2
Composition	100 % polypropylene woven geotextile		

Durability: * geotextile has to be covered within 2 weeks after installation
 * predicted to be durable for a minimum of 25 years in natural soil with $4 < \text{pH} < 9$ and soil temperatures $< 25^\circ\text{C}$

roads	railways	foundations & retaining walls	drainage systems	erosion control systems
EN 13249:2000	EN 15250:2000	EN 19251:2000	EN 13252:2000	EN 13253:2000
reservoirs & ditches	canals	tunnels & underground structures	solid waste	liquid waste
EN 13254:2000	EN 13255:2000	EN 49255:2000	EN 13257:2000	EN 13265:2000

- This geotextile is intended for use in both functions & applications highlighted with a bold border.
- Roll dimensions are 6.25 m x 150.000 m. Other dimensions on demand.
- Bonaar Technical Fabrics reserves the right to alter product specifications without prior notice. It is the responsibility of all users to satisfy themselves that the above data is current.
- Although not guaranteed, these results do in the best of our knowledge offer a true and accurate record of the product's performance.
- Bonaar Technical Fabrics cannot accept responsibility for the performance of these products as the conditions of use are beyond our control.
- (*) Not mandated characteristics for CE marking.



Bonaar Technical Fabrics
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Mirafi® X Woven Polypropylene Geotextiles

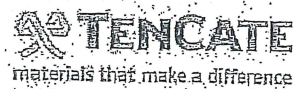
Properties of Mirafi® X Woven Polypropylene Geotextiles

Property	Unit	500X	550X	600X
Mechanical properties				
Wide width tensile strength				
ISO 10319, ASTM D6595				
Mean ultimate tensile strength	MD kN/m	25	35	50
Mean ultimate tensile strength	CD kN/m	25	35	50
Extension at peak strength	MD %	20	20	20
Extension at peak strength	CD %	20	20	20
Edge tensile strength				
ASTM D4632				
Mean tensile strength	MD kN	1.0	1.2	1.5
Mean tensile strength	CD kN	1.0	1.2	1.5
Extension at peak strength	MD %	15	15	15
Extension at peak strength	CD %	10	10	10
EBR puncture strength				
ISO 12236, ASTM D6241				
Mean puncture strength	kN	3.2	4.2	5.5
UV resistance after 500 hrs				
ASTM D4355				
Strength retention	%	70	70	70
Hydraulic properties				
Apparent opening size – ASTM D4751				
Apparent opening size	mm	0.425	0.425	0.425
Water permeability – ASTM D4491				
Mean flow rate	l/m ² /s	5	5	5
Mean permittivity	s ²	0.05	0.05	0.2
Naomis roll width				
Naomis roll width	m	4	4	4
Naomis roll length				
Naomis roll length	m	200	200	200
Estimated roll weight				
Estimated roll weight	kg	115	140	160

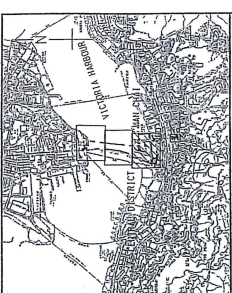
Mirafi® is a registered trademark of Royal Ten Cate. The information contained therein is in the best of our knowledge accurate, but does not represent any warranty or liability for any loss or damage, however arising, which results directly or indirectly from use of such information. We do not accept any responsibility or liability against patent infringement.

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 43000 Shah Alam, Selangor, Darul Ehsan, Malaysia
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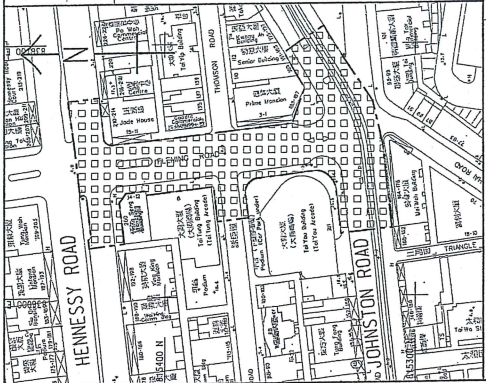
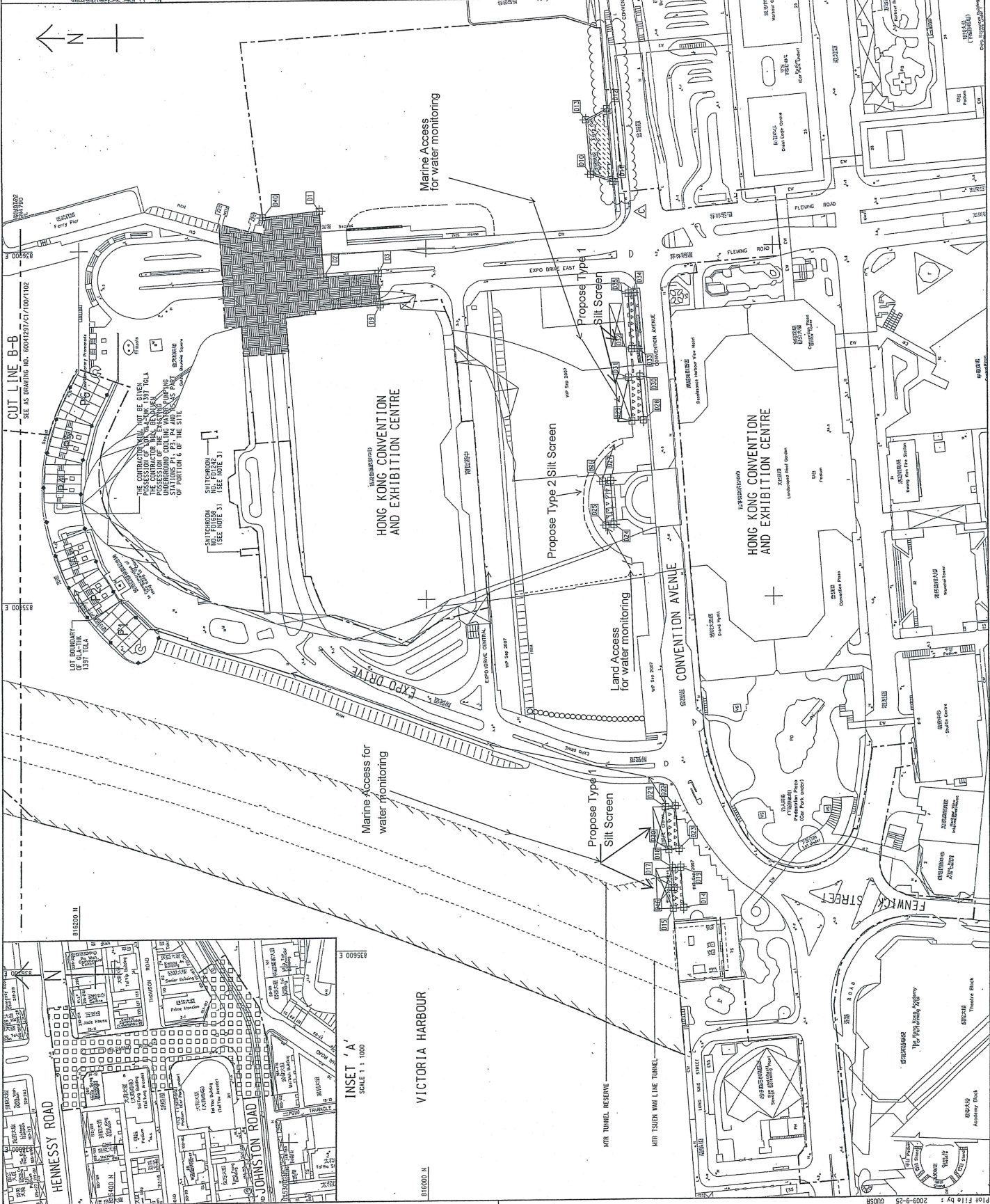
Appendix F
Arrange of Access Provision for Water Monitoring



KEY PLAN
SCALE 1 : 50000

- NOTES:
- FOR LEGIBILITY, REFER TO DRAWING NO. 60041297/C1/100/1102.
 - SETTING OUT POINT OF PORTION CL-1/TK, 1397 TOLA SHALL REFER TO DRAWING NO. 60041297/C1/100/1203.
 - FLOOR ONLY, THAT IS, THE CONTRACTOR WILL BE GIVEN ACCESS TO THE PILES ONLY WHICH ARE LOCATED AT THE GROUND FLOOR OF THE PROJECT, AS SHOWN ON DRAWING NO. 60041297/C1/100/1004.

INT	EASTING	NORTHING
D1	836021.714	816561.636
D2	835984.056	816059.333
D3	835985.784	816027.817
D4	835987.907	816026.725
D5	836015.528	815832.181
D6	836018.504	815865.450
D7	836072.229	815907.674
D8	835623.144	815953.003
D9	835622.510	815953.007
D10	835624.013	815958.545
D11	835645.150	815959.384
D12	835646.069	815954.666
D13	835656.170	815947.535
D14	835657.084	815957.655
D15	835641.165	815956.881
D16	835641.165	815956.881
D17	835641.165	815956.881
D18	835641.165	815956.881
D19	835641.165	815956.881
D20	835641.165	815956.881
D21	835641.165	815956.881
D22	835641.165	815956.881
D23	835641.165	815956.881
D24	835641.165	815956.881
D25	835641.165	815956.881
D26	835641.165	815956.881
D27	835641.165	815956.881
D28	835641.165	815956.881
D29	835641.165	815956.881
D30	835641.165	815956.881
D31	835641.165	815956.881
D32	835641.165	815956.881
D33	835641.165	815956.881
D34	835641.165	815956.881
D35	835641.165	815956.881
D36	835641.165	815956.881
D37	835641.165	815956.881
D38	835641.165	815956.881
D39	835641.165	815956.881
D40	835641.165	815956.881



INSET 'A'
SCALE 1 : 1000

D	WORKING DRAWING	30/04/10	30/04/10
C	TENDER ADDENDUM NO.4	26/04/10	26/04/10
B	TENDER ADDENDUM NO.3	23/04/10	23/04/10
A	TENDER ADDENDUM NO.1	20/04/10	20/04/10
REV	TENDER DRAWING	20/04/10	20/04/10

CEPD
 土木工程師事務所
 Civil Engineering and
 Development Department

WAN CHAI DEVELOPMENT PHASE II
 HONG KONG CONVENTION AND EXHIBITION CENTRE

PORTIONS OF THE SITE
 SHEET 2 OF 3

AECOM
 PROJECT NO. 60041297/C1/100/1103D
 DRAWING NO. 60041297/C1/100/1102
 DATE: 2009/01
 DRAWN BY: JIC
 CHECKED BY: JIC
 AT 1:1000
 WORKING DRAWING
 COPYRIGHT RESERVED

Appendix G
Silt Screen Inspection Checklist



Contract No. HK/2009/01
 Wan Chai Development Phase II - Central -
 Wan Chai Bypass at Hong Kong Convention and Exhibition Centre

Client: Civil Engineering and Development Department

Consultant: AECOM

Main Contractor: Chun Wo - Leader Joint Venture

Silt Screen / Silt Curtain Daily Inspection Checklist

Silt Screen / Silt Curtain ID: _____

Location: _____

Inspection Date and Time: _____

Item	Description	Condition		Immediate Action Required? *		Target Rectify Date	Remark
		Yes	No	Yes	No		
1	Any floating debris/ refuse within silt curtain?						
2	Supporting frame / buoys in good condition?						
3	Tying wire / rope in good condition?						
4	Geotextile intact and in good condition						
5	Sinkers in good condition?						
6	Any obstruction to water flow between geotextile?						

Checked by: _____

On behalf of Chun Wo-Leader JV

Endorsed by: _____

On behalf of AECOM

*Note: For silt screen / silt curtain with defects which need to be rectified immediately, related marine work has to be stopped until rectification work completed to the satisfaction of the Engineer.

Appendix H

Programme for the Installation and Removal of the Silt Screens

Appendix I
EPD's Comments

24 DEC 2012 11:36

FROM LCCL/LCECL/LMCLER

TO 28341626

NO. 317

P. 1/002

TO: 0907 C1

水電稿請
OUR REF:
來函編號
YOUR REF:
查詢
TEL NO.:
圖文傳真
FAX NO.:
電子郵件
E-MAIL:
網址

(9) in EP2/H4/S3/15 Pt.23

CL0907/03.09.00/00/5478/L

2835 2390

2591 0558

**Environmental Protection Department
Branch Office**

28th Floor, Southern Centre,
130 Hennessy Road,
Wan Chai, Hong Kong.

環境保護署分處
香港灣仔
軒尼詩道
一百三十號
修頓中心十八樓

Urgent by Fax : 2634 1626

24 December 2012

HOME PAGE: <http://www.epd.gov.hk>

Chun Wo - Leader Joint Venture

5C, Hong Kong Spinners Industrial Building Phase 1,
601-603 Tai Nan West Street,
Cheung Sha Wan,
Kowloon, Hong Kong.

(Attn.: Mr. Paul Yu - Site Agent)

Chun Wo - Leader Joint Venture
RECEIVED
27 DEC 2012
LETTER REF. NO. LC014379
VO/ST. NO.

Dear Sir,

**Environmental Impact Assessment (EIA) Ordinance, Cap.499
Environmental Permit (EP) No. FEP-02/356/2009
Wan Chai Development Phase II - Central-Wan Chai Bypass
Hong Kong Convention and Exhibition Centre
EP Condition 2.9: Updated Silt Screen Deployment Plan (Revision 4)**

I refer to your letter under reference dated 15 November 2012, which was received by EPD on 26 November 2012, depositing the captioned submission as per Condition 2.9 of Further Environmental Permit No. EP-02/356/2009, reproduced below for your reference.

After consulting our Water Assessment Section, we find the submission needs to be revised as per our comments below:

- (1) Section 1.1: Please specify which party is responsible for the installation, maintenance, repairing (if necessary) and removal of the silt screens.
- (2) Section 2.2: In the 6th line, "wter" should read "water".
- (3) Section 4.2: Please specify a "boundary" for the "Ncarby marine works".
- (4) Please provide a programme for the installation and removal of the silt screens.

Please revise and re-submit the captioned submission as per our comments above.

Yours faithfully,

Billy C. W. Ma

(Billy C. W. MA)

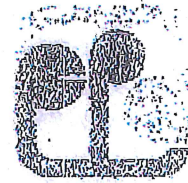
Environmental Protection Officer
for Director of Environmental Protection

Condition 2.9: Submission of Silt Screen Deployment Plan

2.9. The Permit Holder shall liaise with the owners and the operators of the seawater intakes as shown in Table 1 of this Permit on details of silt screen installation, maintenance and removal at the seawater intakes. The indicative locations of the intakes are shown in Figure 4 and Figure 5 of this Permit for reference. At least two weeks prior to the commencement of the marine works, the Permit Holder shall deposit with the Director four hard copies and one electronic copy of a silt screen deployment plan to provide details of the design, operation and maintenance requirements of the silt screen systems. The silt screen deployment plan shall be certified by the EP Leader and verified by the IEC as conforming to the relevant information and recommendation contained in the approved EIA Report (Register No: AEIAR-123/2008) and liaison results with the owners and the operators of the seawater intakes. The typical configuration of silt screen is shown in Figure 3 for reference. Silt screens shall be installed at seawater intakes prior to the commencement of the corresponding marine works in the vicinity as presented in the finalised silt screen deployment plan. To avoid refuse entrapment and to ensure representative impact monitoring results, silt screens shall be maintained and refuse around them shall be collected at regular intervals on a daily basis so that water behind the silt screens be kept free from floating debris during the impact monitoring period. (see notes 8 and 9)

本署傳真
OUR REF:
本局傳真
YOUR REF:
電話
TEL. NO.:
傳真號碼
FAX NO.:
電子郵件
E-MAIL:
網址
HOMEPAGE: <http://www.epd.gov.hk>

(19) in EP2/H4/S3/15 Pt.26 Environmental Protection Department
Branch Office
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130 Hennessey Road,
Wan Chai, Hong Kong.



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修頓中心廿八樓

Chun Wo - Leader Joint Venture
RECEIVED
20 AUG 2013
LETTER REF. NO. W001346
V.O./S.I. NO.

Urgent by Fax : 2587 1878

20 August 2013

Chun Wo - Leader Joint Venture
P.O. Box No. 28947,
Gloucester Road Post Office,
Hong Kong

(Attn.: P.L. Yue - JV Board Representative)

Dear Sir,

Environmental Impact Assessment (EIA) Ordinance, Cap.499
Environmental Permit (EP) No. FEP-02/356/2009
Wan Chai Development Phase II - Central-Wan Chai Bypass at
Hong Kong Convention and Exhibition Centre
EP Condition 2.9: Silt Screen Deployment Plan (Rev.5)

I refer to your letter under reference dated 24 July 2013, depositing the captioned submission as per Condition 2.9 of Further Environmental Permit No. FEP-02/356/2009, reproduced below for your reference.

After consulting our Water Assessment Section, we find the submission needs to be revised as per our comments below:

- (1) page 3 of 16 section 1.1 3rd line 5th word: "CWLJV" should be given in full name
- (2) page 8 of 16 section 4.2: The definition of "Nearby marine works" is still ambiguous. It should refer to "works within a certain distance" and not "the distance itself."
- (3) Programme: the program chart should make good so that the status of the silt screens between installation and removal, i.e., functioning (with maintenance etc.) also indicated, which can tally with the description in Section 4.1 (i.e. maintenance of silt screen).

Yours faithfully,

Billy C.W. MA

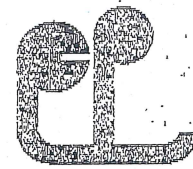
(Billy C.W. MA)

Environmental Protection Officer
for Director of Environmental Protection

本署編號
OUR REF:
來函編號
YOUR REF:
電話
TEL NO.:
傳真
FAX NO.:
電子郵件
E-MAIL:
網址
HOMEPAGE: <http://www.epd.gov.hk>

(24) in EP2/H4/S3/15 Pt.32
CL0907/03.09.00.00/10107/L
2835 2390
2591 0558

Environmental Protection Department
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130 Hennessy Road,
Wan Chai, Hong Kong.



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修頓中心廿八樓

Urgent by Fax : 2587 1878

11 September 2014

Chun Wo – Leader Joint Venture
P.O. Box No. 28947,
Gloucester Road Post Office,
Hong Kong

(Attn.: Simon Liu – Site Agent)

Chun Wo - Leader Joint Venture
RECEIVED
12 SEP 2014
LETTER REF. NO. WC 23 838
V.O./SI. NO.

Dear Sir,

Environmental Impact Assessment (EIA) Ordinance, Cap.499
Environmental Permit (EP) No. FEP-02/356/2009
Wan Chai Development Phase II - Central-Wan Chai Bypass at
Hong Kong Convention and Exhibition Centre
EP Condition 2.9: Silt Screen Deployment Plan (Rev.6)

I refer to your letter under reference dated 19 August 2014, depositing the captioned submission as per Condition 2.9 of Further Environmental Permit No. FEP-02/356/2009, reproduced below for your reference.

After consulting our Water Assessment Section, we find the submission needs to be revised as per our comments below:

- (1) Some figures and texts in the appendixes (e.g. App.A – Location Plan; App.F – Arrange of Access Provision for Water Monitoring, etc) are so **blurred** and not easy to read, please provide figures with **higher resolution**;
- (2) Please add a paragraph to outline why amendment of plan is necessary at, say section 1.1 Introduction, to facilitate the general reader to follow the logic; and
- (3) Please review the submission to ensure the general fluency and to prevent minor grammatical mistakes.

Yours faithfully,

(Billy C.W. MA)
Environmental Protection Officer
for Director of Environmental Protection