中國建築-利達聯營
CHINA STATE - LEADER JOINT VENTURE

Wan Chai Development Phase II –

Central – Wan Chai Bypass at Wan Chai West

Contract No. HK/2012/08

Silt Screen Deployment Plan

for FEP-06/356/2009

Revision	Date of Issue	Remarks	Prepared by	Checked by
0	26 Apr 2013	First Issue	James MA	George CHEUNG
1	13 May 2013	Revised as per ET's and IEC's comments on 7 May 2013 and 10 May 2013	James MA	George CHEUNG
2	29 Jul 2013	Revised as per EPD's comments	James MA	George CHEUNG

Table of Content

1 Introduction

Wan Chai Development Phase II – Central - Wan Chai Bypass at Wan Chai West (Contract No. HK/2012/08) is part of the permanent reclamation works including associated dredging works in Wan Chai Development Phase II (WDII) and Central - Wan Chai Bypass covered under the Environmental Permit No. EP-356/2009.

China State – Leader Joint Venture was granted on 5 March 2013 a Further Environmental Permit (No. FEP-06/356/2009) for the Contract No. HK/2012/08 under the master Environmental Permit.

Under Condition 2.9 of Part C of the FEP-06/356/2009, a silt screen deployment plan has to be prepared and deposited by the permit holder to the EPD at least two weeks prior to the commencement of the marine works.

The purpose of this Silt Screen Deployment Plan is to show the implementation of deploying silt screen at seawater intakes prior to the commencement of the corresponding marine works in the vicinity which is undertaken by China State – Leader Joint Venture (CSLJV).

2 Scope of Works

The silt screens shall be installed at the relocated cooling water intakes for:

(a) Hong Kong Convention and Exhibition Centre Phase 1 (Relocated cooling water intake [P1] in Figure 1 of Appendix I) (outside CSLJV's site boundary);
(b) Hong Kong Academy for Performing Arts (Relocated cooling water intake [P3] in Figure 1 of Appendix I) (outside CSLJV's site boundary);
(c) Shui On Centre (Relocated cooling water intake [P4] in Figure 1 of Appendix I) (outside CSLJV's site boundary);
(d) Wan Chai Tower, Revenue Tower, Immigration Tower (Relocated cooling water intake [P5] in Figure 1 of Appendix I) (outside CSLJV's site boundary);

The silt screen shall also be installed for:

(e) Sheung Wan Water Supplies Department (WSD) Flushing Water Intake (WSD19 in Figure 2 of Appendix I) (outside CSLJV's site boundary).

The locations of the cooling water intakes and WSD flushing water intake are shown in Appendix I (Figures 1 and 2 respectively).

3 Silt Screens by Others and Proposed Backup Arrangement

The Contractor of Contract No. HK/2009/01 had previously installed silt screens under FEP-02/356/2009 at the relocated cooling water intakes for:

(a) Hong Kong Convention and Exhibition Centre Phase 1 (Relocated cooling water intake [P1] in Figure 1 of Appendix I) (outside CSLJV's site boundary);
(b) Hong Kong Academy for Performing Arts (Relocated cooling water intake [P3] in Figure 1 of Appendix I) (outside CSLJV's site boundary);
(c) Shui On Centre (Relocated cooling water intake [P4] in Figure 1 of Appendix I) (outside CSLJV's site boundary);
(d) Wan Chai Tower, Revenue Tower, Immigration Tower (Relocated cooling water intake [P5] in Figure 1 of Appendix I) (outside CSLJV's site boundary);

The Contractor of Contract No. HK/2009/01 had previously also installed silt screen under FEP-02/356/2009 for:

(e) Sheung Wan Water Supplies Department Flushing Water Intake (WSD19 in Figure 4 of the FEP-06/356/2009) (outside CSLJV's site boundary).

The Contractor of Contract No. HK/2009/01 shall maintain the silt screens in good condition until their removal or they are handed over to CSLJV.

When the marine works of Contract No. HK/2009/01 are completed, the existing silt screens will be taken over by CSLJV upon mutual agreement with the Contractor of Contract No. HK/2009/01 and CSLJV will provide the inspection and rectification works accordingly following the procedures in Section 7.

CSLJV will by all means liaise with the Contractor of Contract No. HK/2009/01 for the successful transfer of the entire silt screen system to CSLJV without the need of removal well before the marine works of Contract No. HK/2009/01 are completed, so that the removal of the existing and re-installation of new silt

screen systems following the procedures in Section 5 can be avoided. This ensures that the relocated cooling water intakes and WSD 19 are always mounted with the silt screen system during marine works.

To restrict the dispersion of sediment plume to the seawater intakes, woven geotextile shall be used as the silt screen system.

Details of the silt screen system (design drawings and calculations) including the layout plan for silt screens are shown in Appendix II.

4 Use of Material

"Bonar SG110/110" woven geotextile, manufactured by BONTEC, is proposed as the silt curtain system for this Project. Catalogue of the material is shown in Appendix IV. BONTEC is operated in accordance with an ISO 9001:2000 quality assurance system and ISO 14001 environmental management system to provide a good quality product. The Bonar geotextile is widely used in recent port works construction projects such as CV/2003/06 — Stanley Waterfront Improvement Project, CV/2004/02 — Reconstruction of Wong Shek and Ko Lau Wan Public Piers, CV/2002/04 — Penny's Bay Reclamation Stage 2 and HK12/02 — CED Central Reclamation Phase III, Engineering Works (Please refer to Appendix IV). The properties of Bonar geotextile are satisfactory and fulfill the requirements as stipulated in the particular specification. Visual inspection of the silt curtain shall be carried out on a daily basis.

According to the Environmental Monitoring and Audit Manual, regular monitoring of water quality shall be carried out by the Environmental Team for complying with the statutory regulation and maintaining the quality of marine water during the course of construction.

5 Silt Screen Installation Methodology

a. Liaise with the owners and the operators of the seawater intakes.
b. Carry out condition survey to the existing screen frame of seawater intakes.
c. Assemble the silt screen system following the details shown in Appendix III.
d. Deliver the silt screen system to the locations of seawater intakes by means of marine vessel.
e. Lift and fix the steel frame to the location.
f. Install M24 anchor bolt to seawall above high sea level by means of pneumatic

drill for further fixing of silt screen system.

g. Adjust the silt screen system to the position via chain block pulley system.

h. Fix both ends of silt screen system to M24 anchor bolts to secure the silt screen system in position.

i. The entire installation process shall be assisted by divers.

j. Water samples can be taken by the Environmental Team on the open top of the floating silt screen system, if necessary.

6 Silt Screen Removal

After completion of the marine works, the silt screens shall be removed as follows:

a. Prior to removal of silt screens, make sure all marine works be completed.

b. Liaise with relevant operators for shutting down of system or reduction of intake rate by turning off 1 or 2 pumps.

c. Loosen the fixing end of the silt screen on seawall onboard of work boat / marine vessel.

d. Deposition of silt screen system by means of work boat / marine vessel.

e. The silt screen would then be lifted up by using chain block pulley system. Any screw nuts of anchor bolts found to be loosened under the water level would be tied up immediately by divers.

f. Disassemble the silt screen system following the details shown in Appendix III.

7 Inspection and Rectification Works

Inspection and rectification works will be carried out for the silt screens as follows:

a. Diver inspection shall be carried out to inspect the installation of silt screens to ensure proper installation and functioning of the silt screens according to the design drawings.

b. During the entire construction period, daily visual inspection shall be carried out to ensure proper functioning of the silt screen system.

c. Cleaning of silt screens by means of brush onboard of works during low tide period will be carried out monthly or when required by the Environmental Team and Independent Environmental Checker.

d. Refuse around the silt screen system shall be collected at regular intervals on daily basis so that the water behind the silt screens is kept free of floating debris.

e. According to the Environmental Monitoring and Audit Manual, regular

monitoring of water quality shall be carried out by the Environmental Team for complying with the statutory regulation and maintaining the quality of marine water during the course of construction.

f. The site foreman shall supervise the entire installation and decommissioning processes. He shall also closely monitor the effectiveness of the silt screen and report any irregularities which may affect its proper functioning so as to trigger early rectification by the Contractor.

g. In case of any malfunction of the silt screens, diver inspection shall be carried out to check whether there is any damage or defect of the silt screens and the situation will be immediately reported to the Environmental Team. If the silt screen is damaged and repairing works are necessary, all dredging work should stop at once until the damaged silt screen is fixed. The silt screens will then be lifted up by grab dredger / derrick barge. A new piece of geotextile with sufficient overlapping length (1m) will be attached to the existing silt screens. The dredging works will resume after the repairing work.

h. The rectification works shall be carried out to maintain well-functioning of the silt screens under the supervision of the site foreman.

i. 20 linear meters of additional geotextile will be made ready for use and be kept on site for emergency replacement in case of damage or defect of the silt screens is observed.

Appendix I

Locations of Cooling Water Intakes and WSD Flushing Water Intake

LEGEND :

▭ Silt Screen relevant to HK/2012/08

Relocated cooling water intakes:

P1	Hong Kong Convention and Exhibition Centre Phase I
P3	Hong Kong Academy for Performing Arts
P4	Shui On Centre
P5	Wan Chai Tower, Revenue Tower, Immigration Tower

CONTRACT NO. HK/2012/08
WAN CHAI DEVELOPMENT PHASE II – CENTRAL – WAN CHAI BYPASS AT WAN CHAI WEST

TITLE

COOLING WATER INTAKES RELEVANT TO HK/2012/08

中國建築－利達聯營
CHINA STATE - LEADER JOINT VENTURE

DRG. NO. HK_2012_08/CDB/S/SK/055

SCALE 1:2500

DATE OF DRAWING ISSUE 3-JUL-2013

DIMENSIONS ARE IN METRES

COPYRIGHT RESERVED

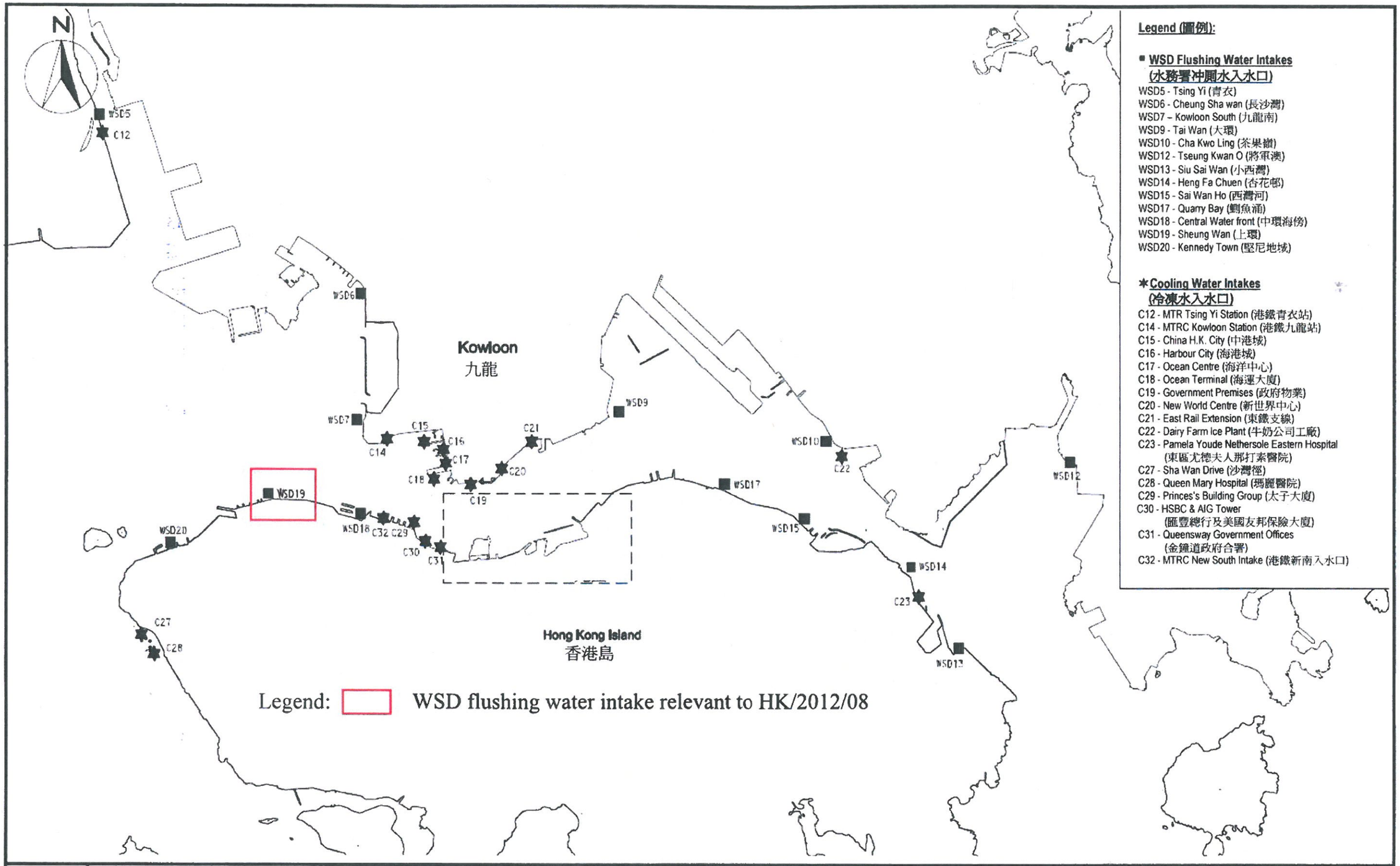


Figure 2
Water Supplies Department flushing water intake relevant to HK/2012/08

Appendix II

Details of Silt Screen and Layout Plan for Silt Screens

LEGEND:

- PROPOSED COPE LINE
- DREDGING & EXCAVATION SLOPE
- SILT SCREEN
- PROPOSED SILT CURTAIN (GENERAL TYPE)
- PROPOSED SILT CURTAIN (FRAME TYPE)
- RANGE OF DEPLOYMENT OF FRAME TYPE SILT CURTAIN (DREDGING AREA)
- SITE BOUNDARY

Relocated cooling water intakes:

P1	Hong Kong Convention and Exhibition Centre Phase I
P3	Hong Kong Academy for Performing Arts
P4	Shui On Centre
P5	Wan Chai Tower, Revenue Tower, Immigration Tower

CONTRACT NO. HK/2012/08
WAN CHAI DEVELOPMENT PHASE II – CENTRAL – WAN CHAI BYPASS AT WAN CHAI WEST

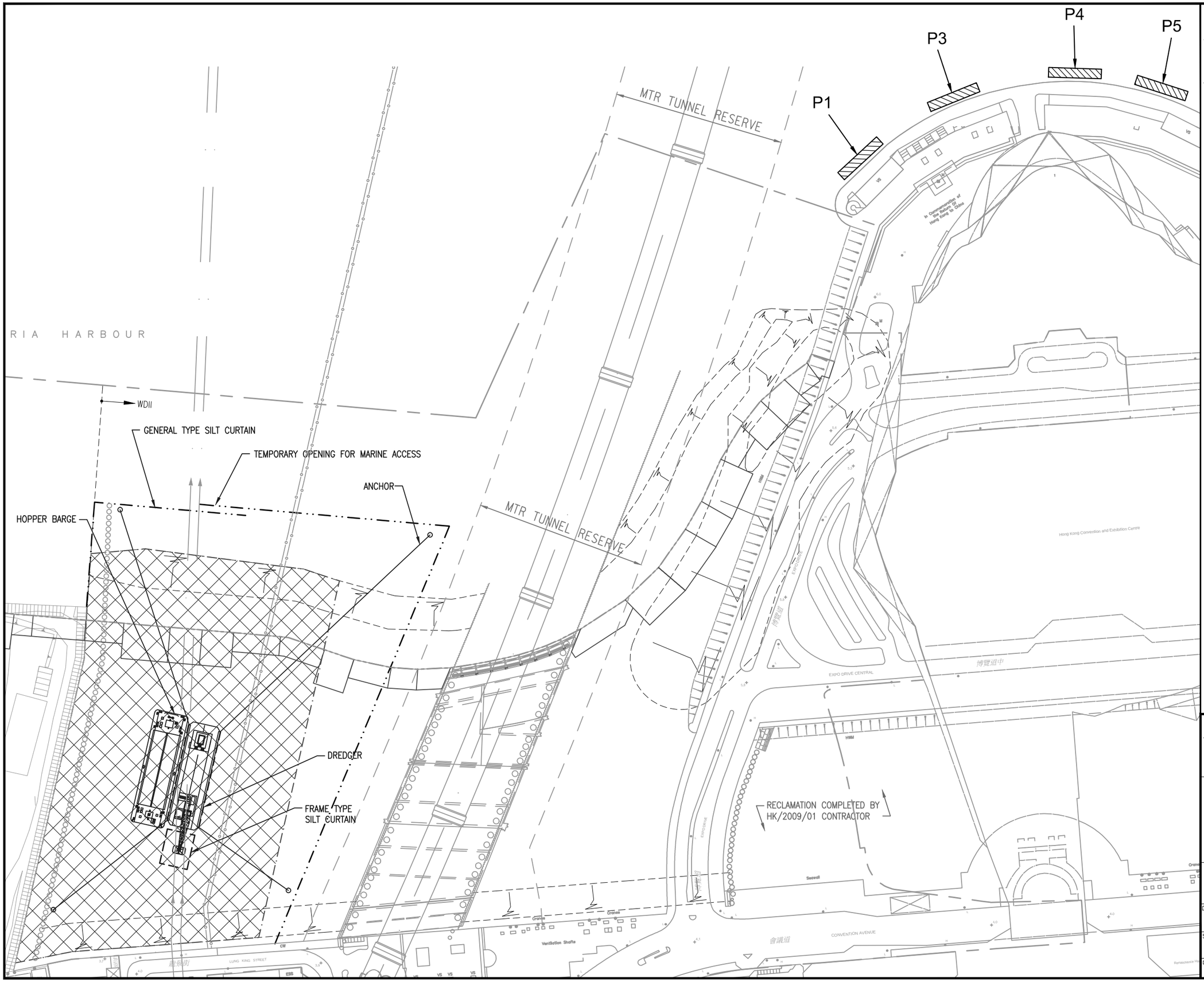
TITLE

LOCATION PLAN FOR DEPLOYMENT OF SILT CURTAIN AND SILT SCREEN FOR DREDGING WORKS (STAGE 1)

中國建築－利達聯營
CHINA STATE - LEADER JOINT VENTURE

DRG. NO.
HK_2012_08/CDB/SK/00030A1

SCALE	DATE OF DRAWING ISSUE
A3 1:1500	23–JUL–2013
DIMENSIONS ARE IN MILLIMETRE	COPYRIGHT RESERVED



LEGEND:

- PROPOSED COPE LINE
- DREDGING & EXCAVATION SLOPE
- SILT SCREEN
- PROPOSED SILT CURTAIN (GENERAL TYPE)
- PROPOSED SILT CURTAIN (FRAME TYPE)
- RANGE OF DEPLOYMENT OF FRAME TYPE SILT CURTAIN (DREDGING AREA)
- SITE BOUNDARY

Relocated cooling water intakes:

P1	Hong Kong Convention and Exhibition Centre Phase I
P3	Hong Kong Academy for Performing Arts
P4	Shui On Centre
P5	Wan Chai Tower, Revenue Tower, Immigration Tower

CONTRACT NO. HK/2012/08
WAN CHAI DEVELOPMENT PHASE II – CENTRAL – WAN CHAI BYPASS AT WAN CHAI WEST

TITLE

LOCATION PLAN FOR DEPLOYMENT OF SILT CURTAIN AND SILT SCREEN FOR DREDGING WORKS (STAGE 2)

中國建築－利達聯營
CHINA STATE - LEADER JOINT VENTURE

DRG. NO.
HK_2012_08/CDB/SK/00031A1

SCALE	DATE OF DRAWING ISSUE
A3 1:1500	23–JUL–2013
DIMENSIONS ARE IN MILLIMETRE	COPYRIGHT RESERVED

LEGEND:

- PROPOSED COPE LINE
- DREDGING & EXCAVATION SLOPE
- SILT SCREEN
- PROPOSED SILT CURTAIN (GENERAL TYPE)
- PROPOSED SILT CURTAIN (FRAME TYPE)
- RANGE OF DEPLOYMENT OF FRAME TYPE SILT CURTAIN (DREDGING AREA)
- SITE BOUNDARY

Relocated cooling water intakes:

P1	Hong Kong Convention and Exhibition Centre Phase I
P3	Hong Kong Academy for Performing Arts
P4	Shui On Centre
P5	Wan Chai Tower, Revenue Tower, Immigration Tower

CONTRACT NO. HK/2012/08
WAN CHAI DEVELOPMENT PHASE II – CENTRAL – WAN CHAI BYPASS AT WAN CHAI WEST

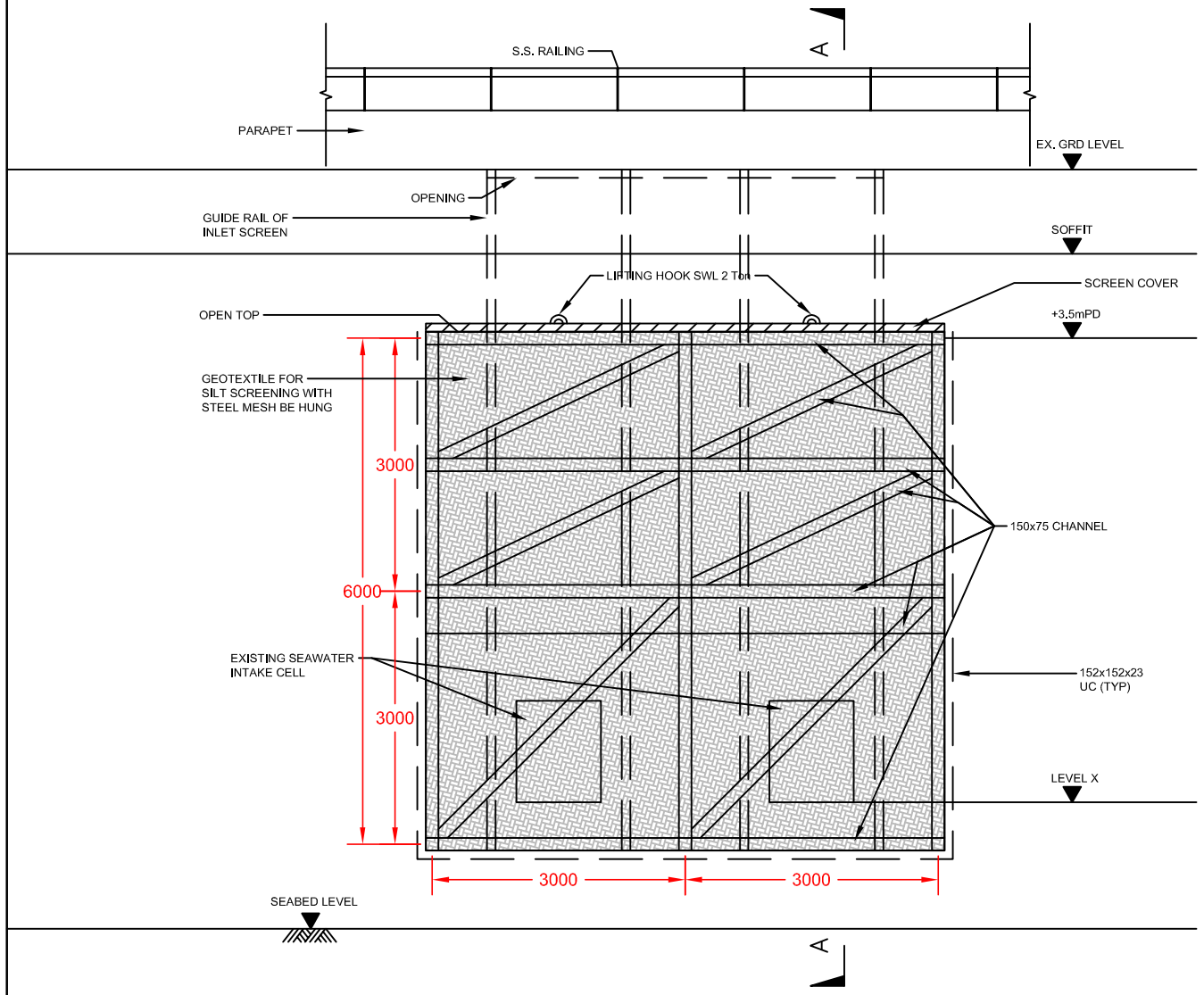
TITLE

LOCATION PLAN FOR DEPLOYMENT OF SILT CURTAIN AND SILT SCREEN FOR DREDGING WORKS (STAGE 3)

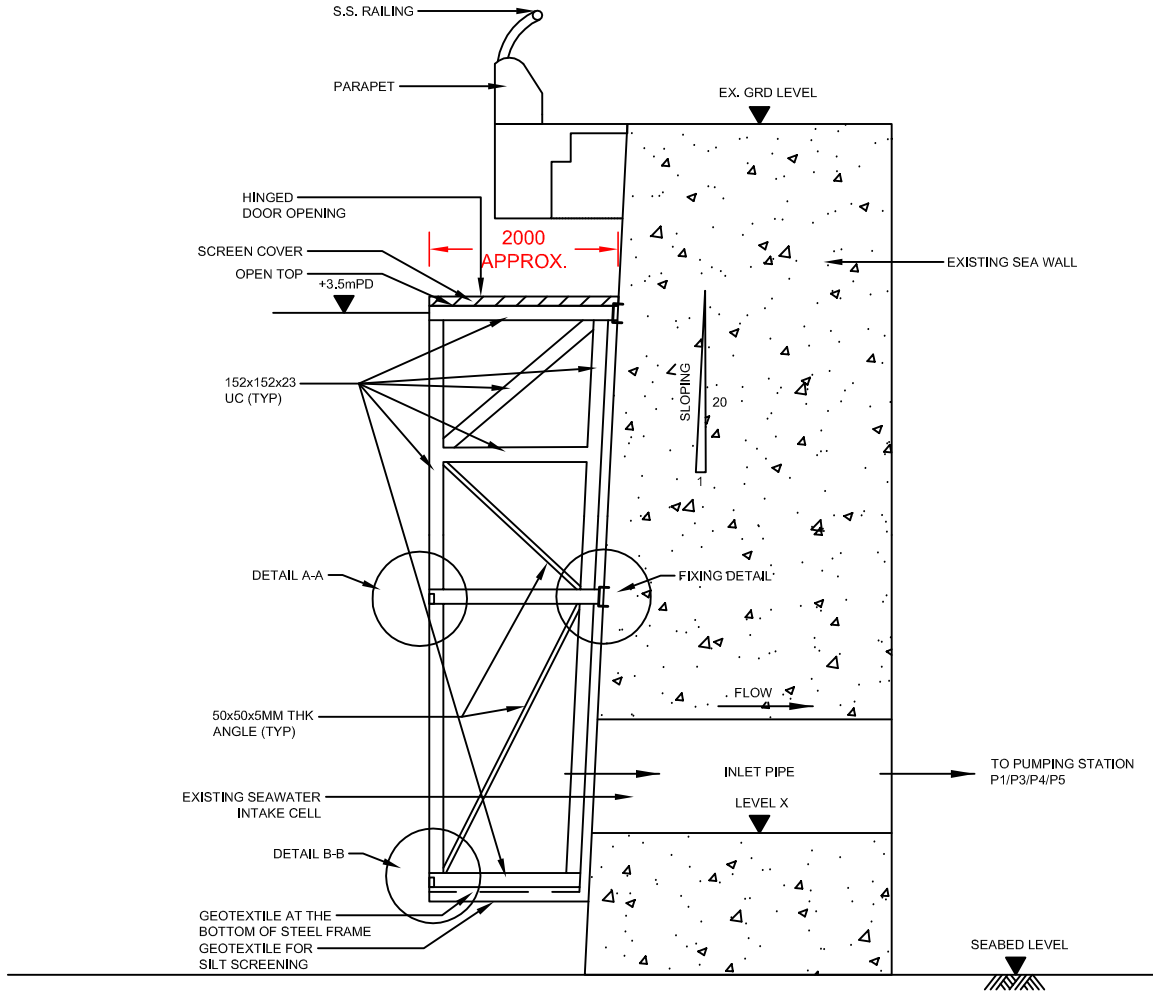
中國建築－利達聯營
CHINA STATE - LEADER JOINT VENTURE

DRG. NO.
HK_2012_08/CDB/SK/00032A1

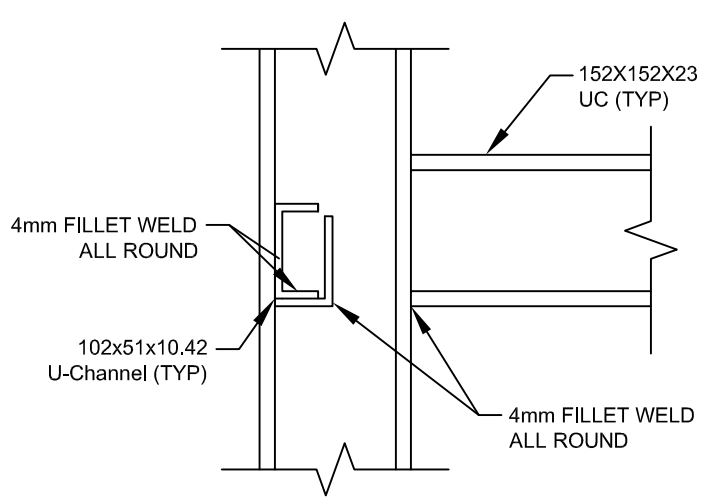
SCALE	DATE OF DRAWING ISSUE
A3 1:1500	23–JUL–2013
DIMENSIONS ARE IN MILLIMETRE	COPYRIGHT RESERVED



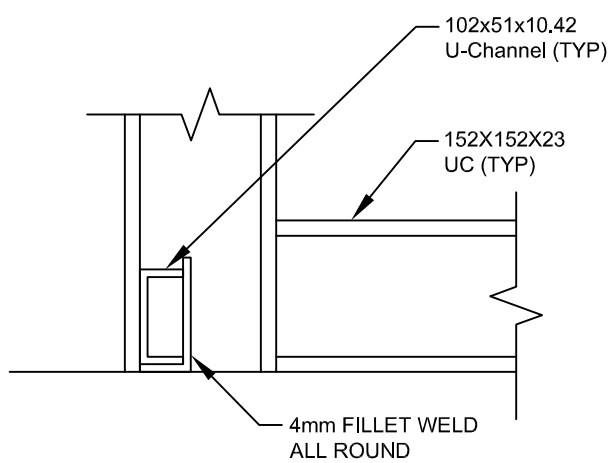
ELEVATION OF TYPICAL DETAILS FOR SILT SCREEN OVER INTAKE PIPES (SCALE 1 : 80)



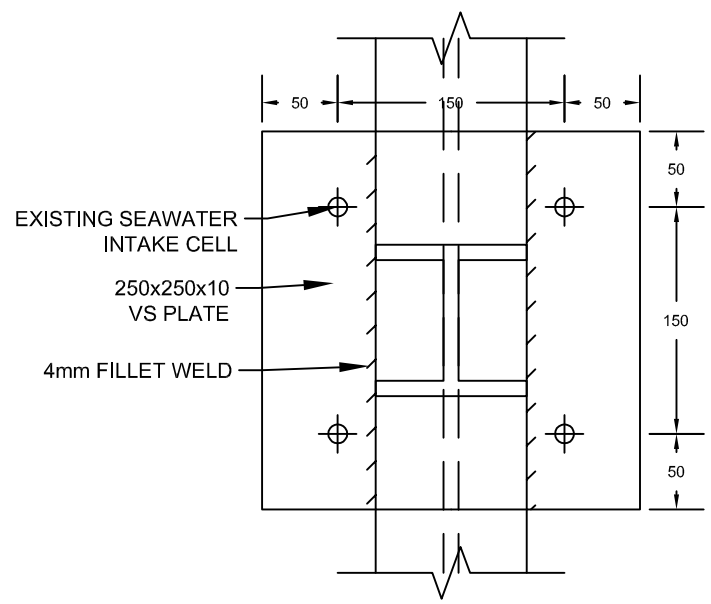
SECTION A - A (SCALE 1 : 80)



DETAIL "A" (SCALE 1 : 5)



DETAIL "B" (SCALE 1 : 5)



FIXING DETAIL (SCALE 1 : 5)

NOTES:

1. ALL STEELWORK SHALL BE GRADE 43A.
2. ALL CONSTRUCTED SHOULD 4mm FILLET WELD ALL ROUND, UNLESS SPECIFY.
3. ALL STEEL SHOULD BE HOT-DP GALVANIZED.

CONTRACT NO. HK/2012/08
WAN CHAI DEVELOPMENT PHASE II – CENTRAL – WAN CHAI BYPASS AT WAN CHAI WEST

TITLE

SILT SCREEN

中國建築－利達聯營
CHINA STATE - LEADER JOINT VENTURE

DRG. NO.
HK_2012_08/CDB/SK/00139

SCALE
N.T.S

DATE OF DRAWING ISSUE
29–07–2013

DIMENSIONS ARE IN
MILLIMETERS

Design Calculation of Silt Screen

Introduction

The design is to cater for temporary steel frame for installation of Silt Screen at Existing Intake Pipe. The steel frame is used to support the geotextile and the geotextile will be replaced if it was blocked by the silt materials. Therefore, only the self-weight of the frame and the thrust force at the existing intakes will be checked.

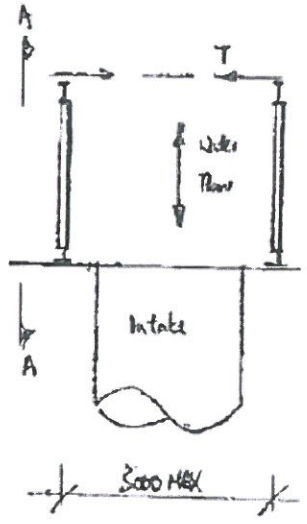
The temporary steel frame will be fixed to existing structure at 3000c/c maximum. To prevent any disturbance on the flow of the intake pipe, the silt screen will be fixed at 2m offset from the inlet of intake pipe.

The steel frame is formed by 152x152x23 UC and tied by 50x50x50mm thk. equal angle.

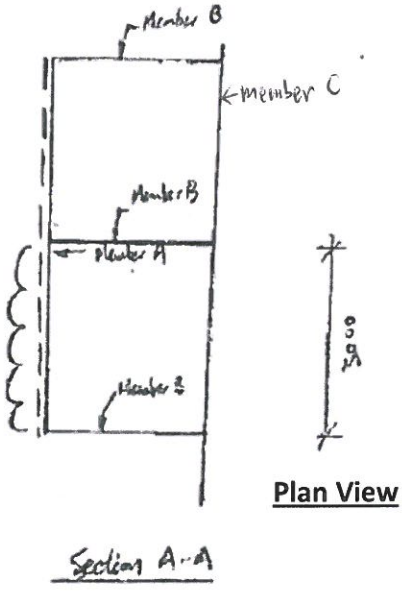
Design Assumption

All structural steels shall be Grade 43C.
Maximum flow rate of the water at the intake pipe is 3m/s
Density of Water is 1000kg/m^3
Maximum cross section area of intake pipe is 4m^2 (2mx2m)

Steel Frame for Silt Screen



Top View



Plan View

Load Path:

Geotextile (in tension) > Member A (in bending) >
Weld between Member A / Member B >
Member B (in compression / tension) >
Weld between Member B / Member C >
Weld between Member C and Steel Plate > Steel Plate to Bolts.

Determination of Thrust Force due to Water Flow

$$\text{Thrust Force} = \rho v^2 A/2$$
$$= 1000 \times 3^2 \times 4/2$$
$$= 18 \text{ kN}$$
$$\text{or} = 4.5 \text{ kN/m}^2$$

Checking of Steel Members

Design of 152x152x23 UC Grade 43C (Member B)

Design Effective Length,	L_x	=	2000	mm
	L_y	=	2000	mm
Inclined Angle of Strut, q		=	0	^{o}
Maximum Axial Force on Strut, N		=	18.00	kN

Section Dimension / Properties:

D	=	152.40	mm
B	=	152.40	mm
t	=	6.10	mm
T	=	6.80	mm
r_x	=	6.51	cm
r_y	=	3.68	cm
Z_x	=	165.70	cm^3
A	=	29.80	cm^2

Determination of Permissible Axial Stress, P_{cx} and P_{cy} :

L_y/r_y = 54.348

n_y = $0.3 \times (L_y / 100r_y)^2$ = 0.089

C_{0y} = $p^2E / (L_y/r_y)^2$ = 668.251

For Y_s = 250 Mpa, K_2 = 1.7 ,

P_{cy} = 129.873 * 1.0 = 129.873 N/mm^2

L_x/r_x = 30.722

n_x = $0.3 \times (L_x / 100r_x)^2$ = 0.028

C_{0x} = $p^2E / (L_x/r_x)^2$ = 2091.25

For Y_s = 250 Mpa, K_2 = 1.7 ,

P_{cx} = 142.495 * 1.0 = 142.495 N/mm^2

f_c = N / A

= 6.040 < 129.87 N/mm^2 O.K.

Checking of Member B (as simple supported beam)

Max. span of Waling, L = 3000 mm

Max. B.M. on Waling, M = $4.5 \times 3 \times 3^2 / 8$

= 15.1875 kNm

Max. S.F. on Waling, V = $4.5 \times 3 \times 3 / 2$

= 20.25 kN

Max. A.F. on Waling, F = wL_s , where L_s = 0.00m

= 0 kN

Use 152 x 152 x 23 UC (Grade 43)

Section Dimension / Properties:

D	=	152.40	mm
B	=	152.40	mm
t	=	6.10	mm
T	=	6.80	mm
r_x	=	6.51	cm
r_y	=	3.68	cm
Z_x	=	165.70	cm^3
A	=	29.80	cm^2

Determination of Permissible Bending Stress, P_{hc} :

$B' = (1675 / (L/r_y))^2$

$= 422.17 \ N/mm^2$

$A' = 544.18 \ N/mm^2$

For Equal Flange I-beams or Channels,

$F_{0b} = A' = 544.177 > Y_s$

$P_{bc} = 152.775 > 150 \ N/mm^2$

Therefore, $P_{bc} = 150.00 \ N/mm^2$

Determination of Permissible Axial Stress, P_{cx} and P_{cy} :

$L_y/r_y = 81.522$

$n_y = 0.3 \times (L_y / 100r_y)^2 = 0.199$

$C_{0y} = \pi^2 E / (L/r_y)^2 = 297.001$

For $Y_s =$ 250 Mpa, $K_2 =$ 1.7 ,

$P_{cy} = 100.207 \times 1.25 = 125.295 \ N/mm^2$

L/r_x = 46.083

n_x = $0.3 \times (L / 100r_x)^2$ = 0.064

C_{0x} = $\pi^2 E / (L/r_x)^2$ = 929.445

For Y_s = 250 Mpa, K_2 = 1.7 ,

P_{cx} = 135.574 * 1.25 = 169.467 N/mm^2

Determination of Permissible Shear Stress, P_{qv} :

P_{qv} = o.37 Y_s * 1.00 = 92.5 N/mm^2

Check Bending Stress, f_{bc}:

f_{bc} = M / Z_x = 91.66 < 150.0 N/mm^2 O.K.

Check Axial Stress, f_c:

f_c = N / A = 0.00 < 125.3 N/mm^2 O.K.

Check Shear Stress, f_{qv}:

f_{qv} = V / (D x t)= 21.783 < 92.50 N/mm^2 O.K.

Check Combined Bending and Axial Stresses :

f_c / P_{cx} = 0.000 < 0.15

$X = f_{bc} / P_{bc}$ = 0.611

Therefore, $f_c / P_{cx} + X$ = 0.611 < 1 O.K.

Check Combined Bending and Shear Stresses :

f_e = 99.118 < $Y_s / 1.1$ = 227.3 N/mm^2 O.K.

Checking of Fixing Detail between Base Plate and Existing Structure

Tension Force due to the water thrust force per intake = 18 kN
Number of Intake = 4
Total tension force = 72 kN

Shear Force due to self-weight of steel frame:

152 x 152 x 23 UC :

Total length	=	(6 x 6 + 9 x 2) x 2	=	108	m
Weight	=	108 x 23 kg	=	24.84	kN

102 x 51 x 10.42 U Channel :

Total length	=	6 x 3	=	18	m
Weight	=	1.8 x 10.42 kg	=	0.2	kN

Total Weight = 25.04 kN
Say 100 kN

No. of Connections = 8
Tension force at each connection = 9 kN
Shear force at each connection = 12.5 kN

Provide 4 nos. of M12 bolts at each connections
Provide 240 kN shear resistance and 220 kN tensile resistance.

Provide 4mm fillet weld all round between steel plate and 152 x 152 x 23 UC
Provide 4mm fillet weld all round between vertical and horizontal members

Checking of Welding between Member C and Steel Plate

Provided Weld length = 500 mm
Weld strength = $500 \times 4 / 2^{0.5} \times 110$
= 155.6 kN
> 100 kN O.K.

Checking of Welding between Member A and Member B (Similar between Member B and Member C)

Provided Weld length = 600 mm

Weld strength = $600 \times 4 / 2^{0.5} \times 110$

= 186.7 kN

> 18 kN O.K.

Checking of tie beam (102 x 51 x 10.42)

Design Effective Length, L_x = 6000 mm

L_y = 6000 mm

In compression (18 kN / 3) = 6 kN per member

Section Dimension / Properties:

D	=	101.6	mm
B	=	508	mm
t	=	6.10	mm
T	=	7.60	mm
r_x	=	3.95	cm
r_y	=	1.48	cm
Z_x	=	40.8	cm^3
A	=	13.3	cm^2

Determination of Permissible Axial Stress, P_{cx} and P_{cy} :

L_y/r_y = 405.41

n_y = $0.3 \times (L_y / 100r_y)^2$ = 4.931

C_{0y} = $\pi^2 E / (L_y/r_y)^2$ = 12.01

For Y_s = 250 Mpa, K_2 = 1.7 ,

P_{cy} = 5.67 N/mm^2

k = 6 x 1000 / 1330

= 4.51 < 5.67 N/mm^2 O.K.

Flow Rate Calculation for Silt Screen

CONTRACT NO. HK/2012/08
Wan Chai Development Phase II –
Central-Wan Chai Bypass at Wan Chai West

Flow rate calculation of geotextile material "Bontec SG110/110" for Silt Screen

The maximum flow rate of each pump house = $700\ l/s$. To meet this flow rate requirement, it is proposed to use Bontec SG110/110 (flow rate =$25\ l/m^2/s$) as the geotextile of the silt screen.

For existing pump house:

Maximum flow rate of each pump house = $700\ l/s$

For proposed Bontec SG110/110 geotextile:

Flow rate = $25\ l/m^2/s$

∴ Total silt screen area required for each pump house = $700/25 = 28\ m^2$

The total area for the proposed silt screen:

The area of silt screen = $(6\text{m x } 6\text{m}) + (2\text{m x } 6\text{m})$
$= 48\ m^2$

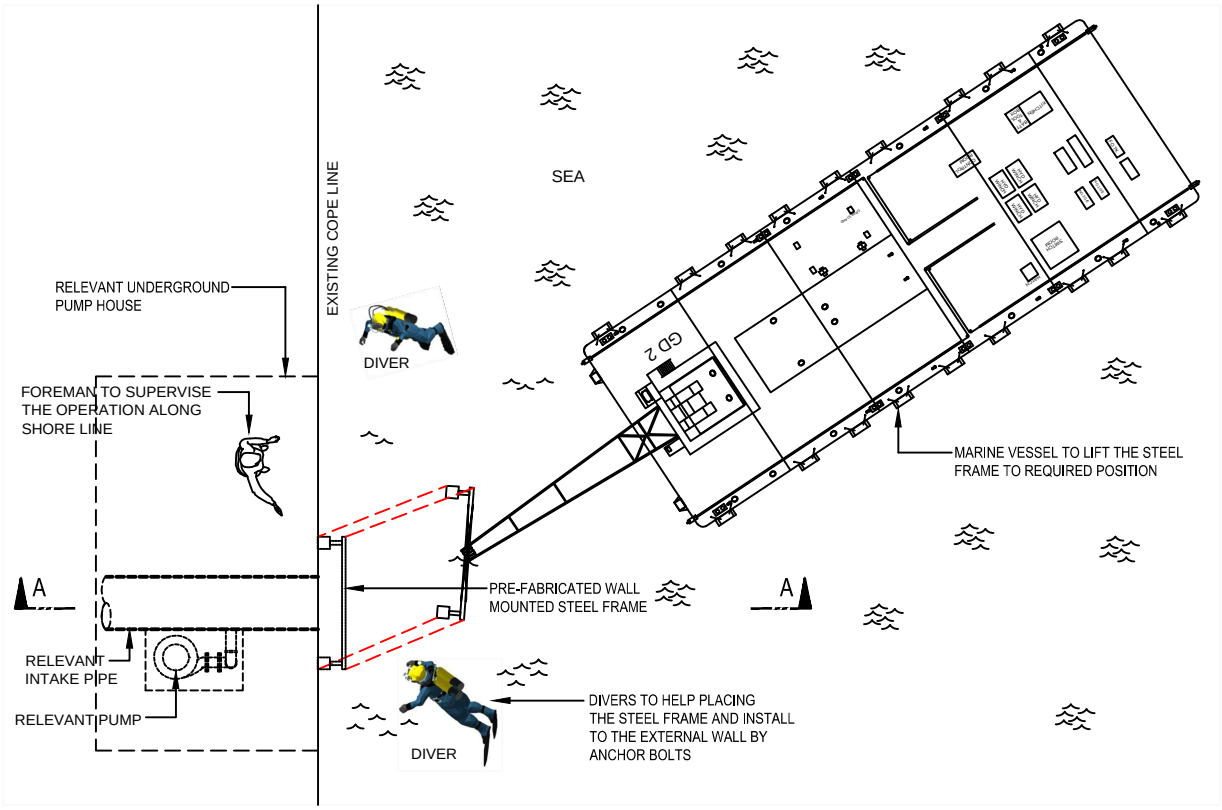
∴ The actural area for the proposed silt screen = $48m^2 > 28\ m^2$ is O. K.

Appendix III

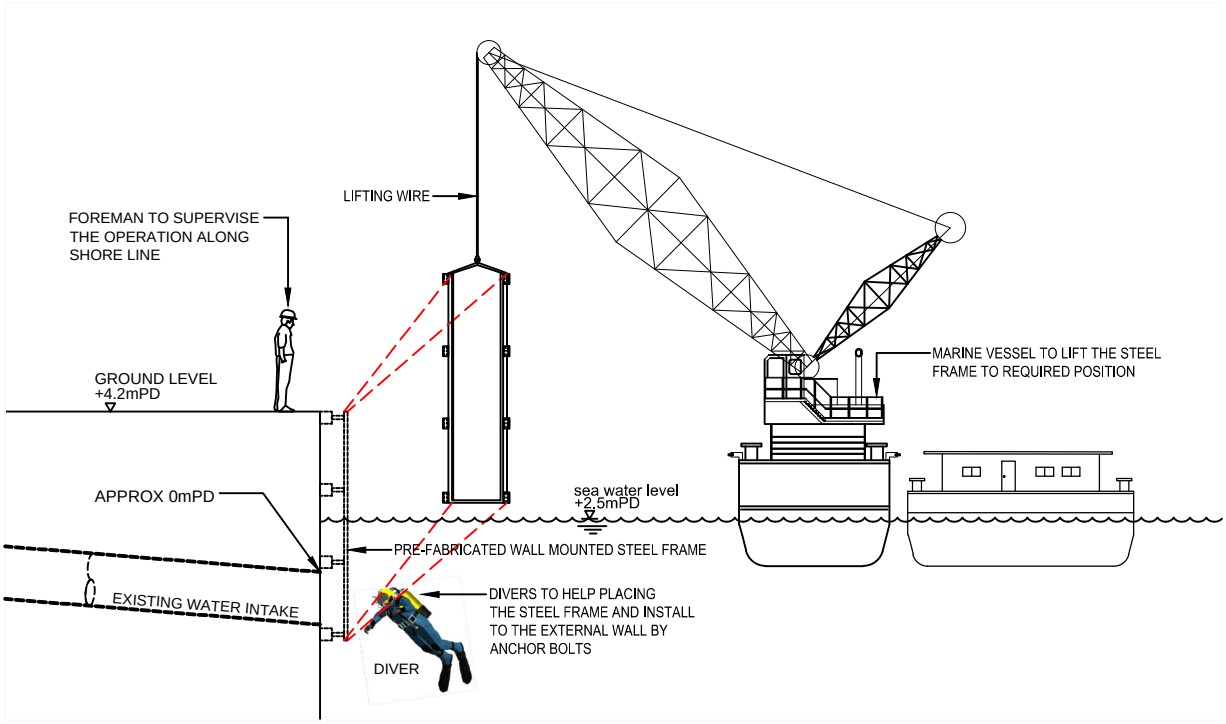
Silt Screen Installation and Removal

Graphical Illustration for Silt Screen Installation (Wall Mounted Frame)

1. Switch off the relevant intake pump.
2. Lift the pre-fabricated steel frame to the required position.



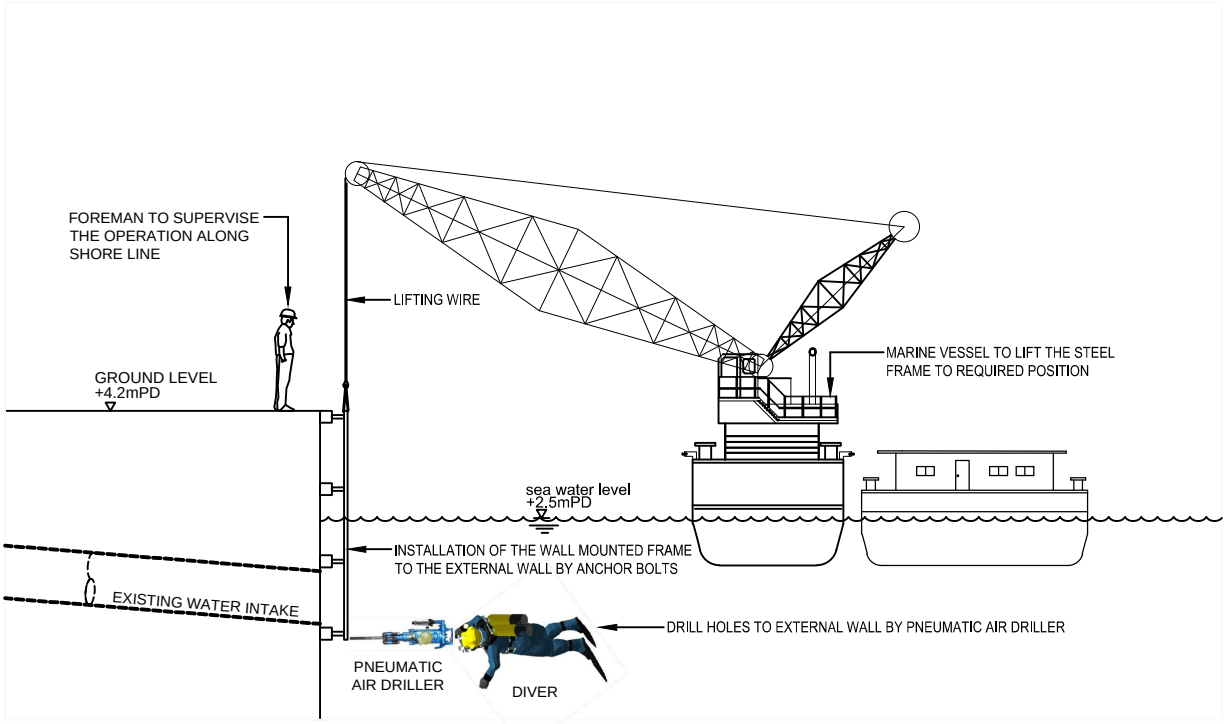
PLAN VIEW



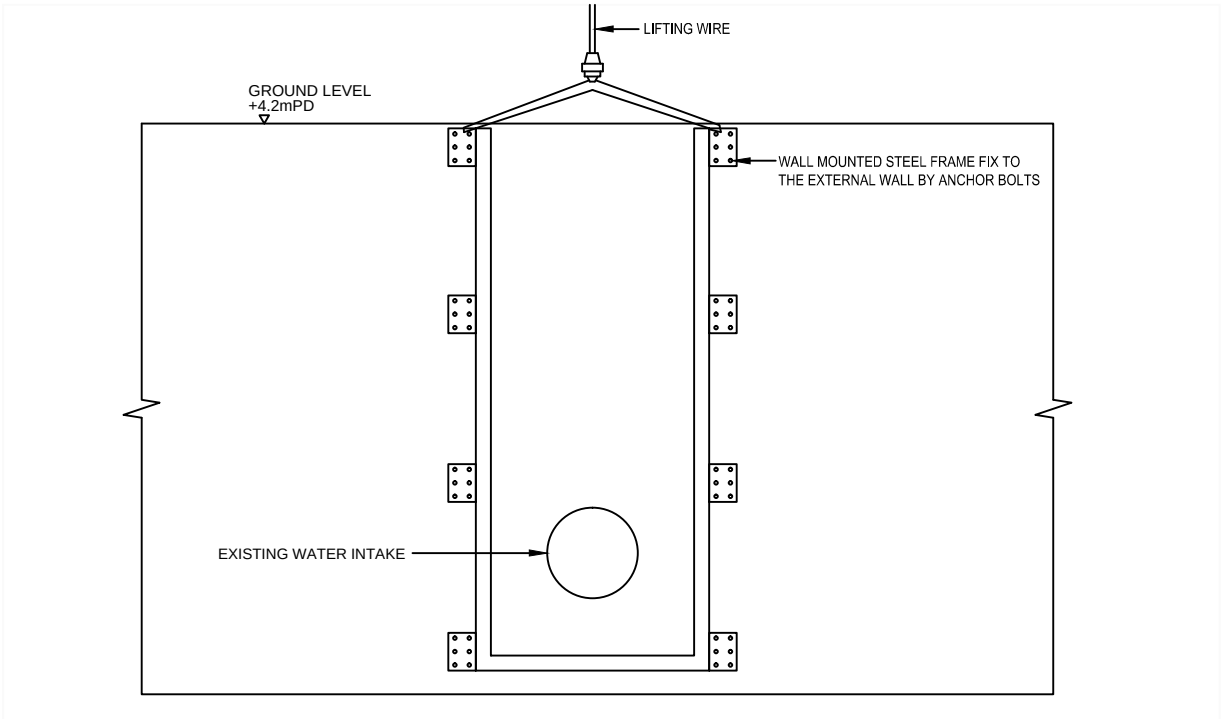
SECTION "A - A"

Graphical Illustration for Silt Screen Installation (Wall Mounted Frame)

3. Drill holes to the external wall by pneumatic air driller and install Hilti type HSL-3 bolts.



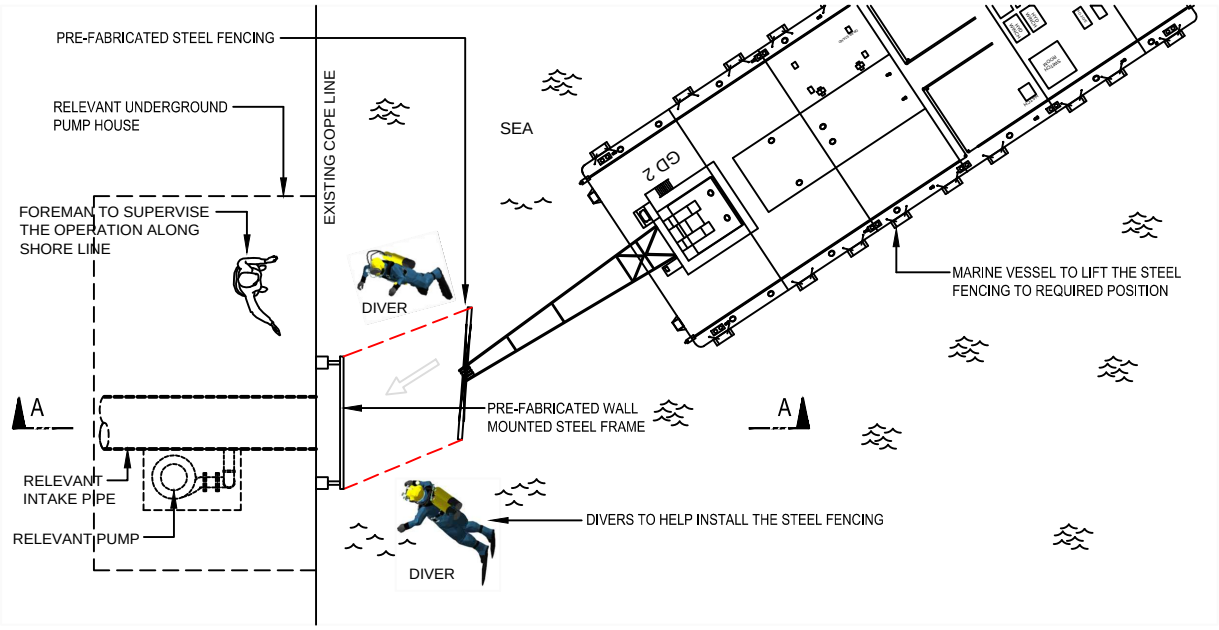
SECTION "A - A"



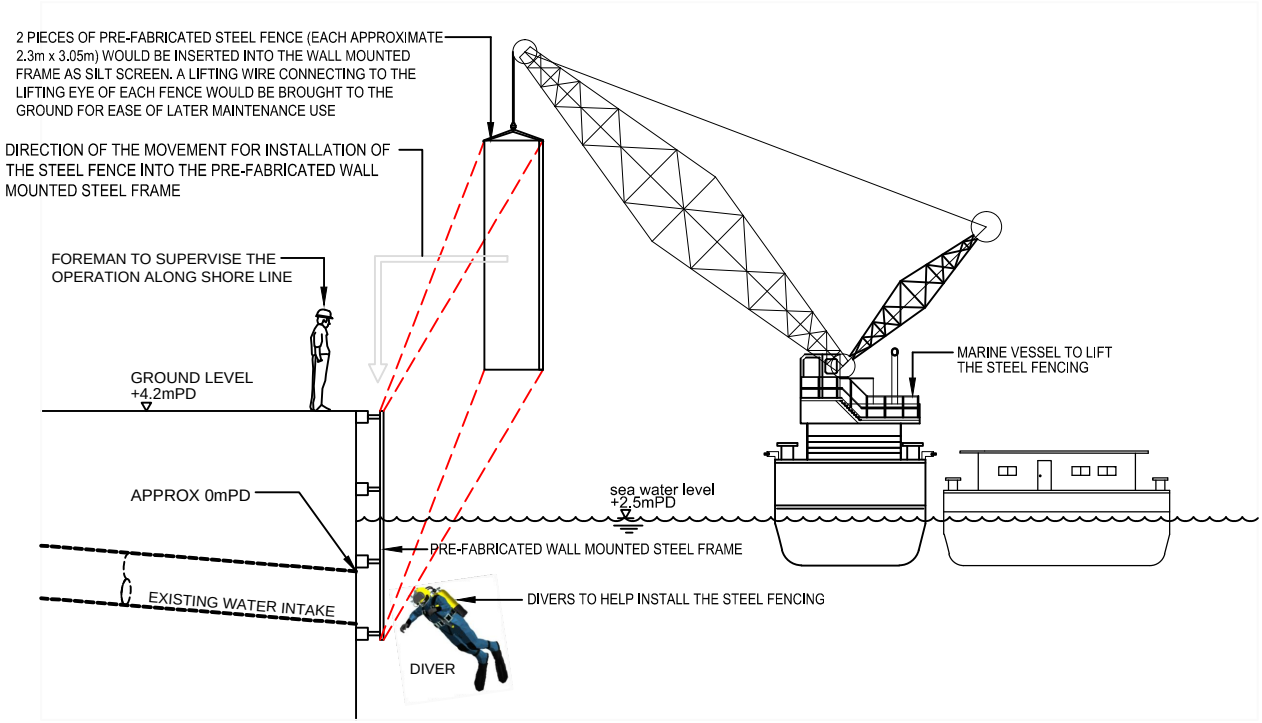
ELEVATION VIEW

Graphical Illustration for Silt Screen Installation (Silt Screen Fencing)

1. Switch off the relevant intake pump.
2. Lift the pre-fabricated silt screen fencing (bottom piece) to the required position and insert into the frame.
3. Maintain a steel wire at the lifting eye of the steel fence and bring it to ground.
4. Lift the other piece of pre-fabricated silt screen fencing (upper piece) and insert into the wall mounted frame.
5. Maintain another piece of steel wire at the lifting arm of the pump house for ease of later maintenance use .
6. Tie the two pieces of steel wire properly at existing lifting arm of the pump house for ease of later maintenance use.
7. Later maintenance would be carried out by lifting up the steel fencing by using typical chain block pulley system.



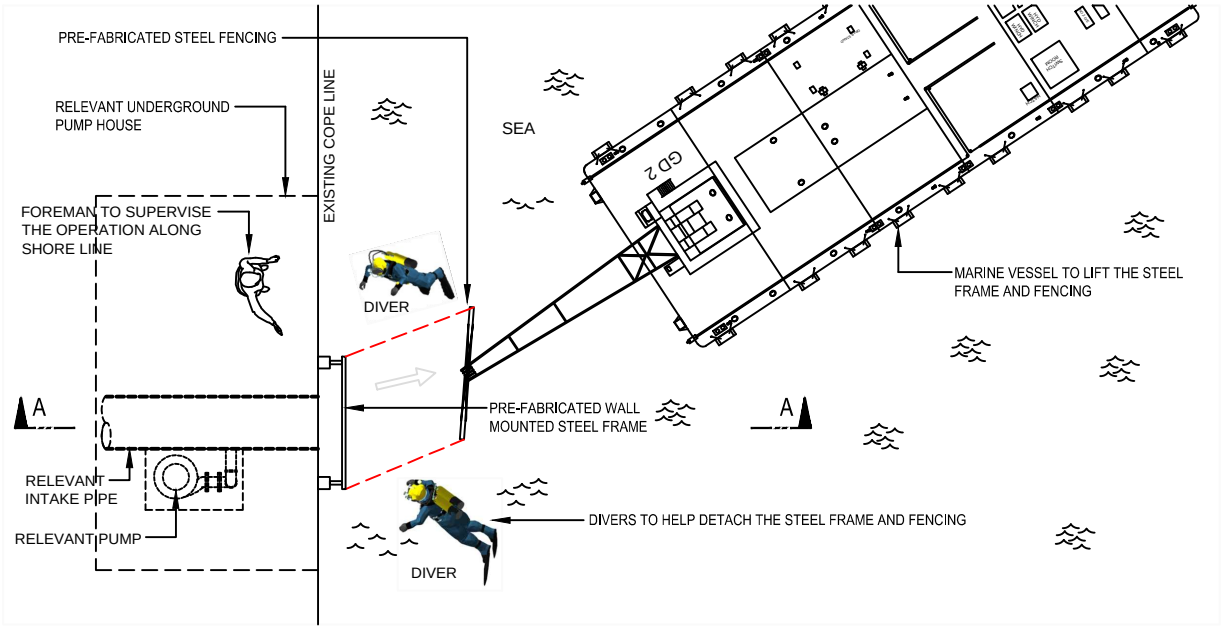
PLAN VIEW



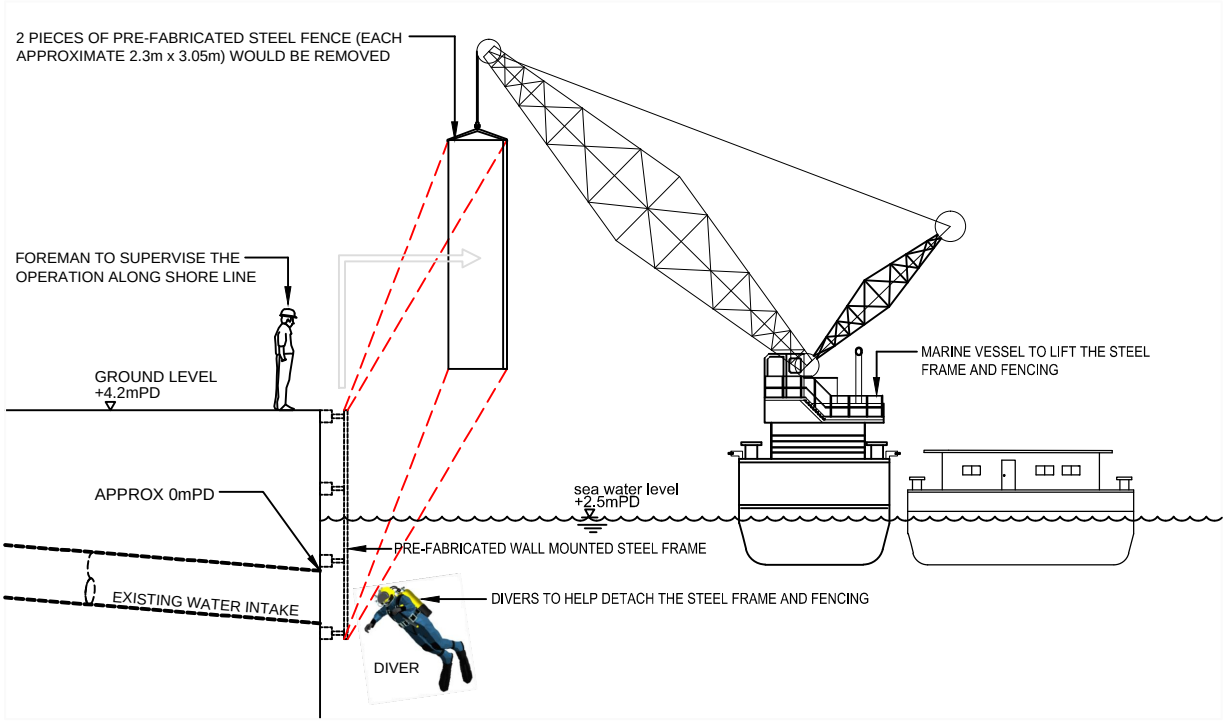
SECTION "A - A"

Graphical Illustration for Removal of Silt Screen (Wall Mounted Frame and Silt Screen Fencing)

1. Detach and remove the steel fence from seawall, followed by removal of wall mounted steel frame.



PLAN VIEW



SECTION "A - A"

Appendix IV

Material Catalogue of Silt Screen

bontec

a bonar technical fabrics product

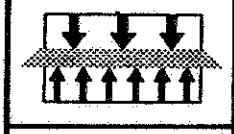
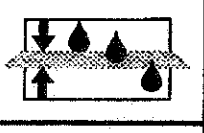
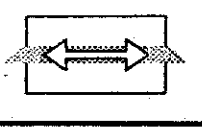
SG 110/110

Woven polypropylene geotextile made of slit film tapes

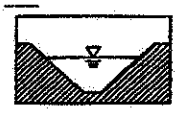
Technical data sheet according to internal specifications Bonar TF: version 06 dd. 05/01/10
Accompanying documents CE marking: version 04 dd. 05/01/10

CE

1137-CPD-615
10

				
separation	**filtration**	**reinforcement**	**protection**	**drainage**

	test method	value	tolerance
Mechanical properties			
Tensile strength MD	EN ISO 10319	**110,0 kN/m**	-9,9 kN/m
Tensile strength CD		**110,0 kN/m**	-9,9 kN/m
Elongation MD	EN ISO 10319	**12,0 %**	+/-2,8 %
Elongation CD		**8,0 %**	+/-1,8 %
Static puncture resistance – CBR	EN ISO 12236	**12,50 kN**	-2,50 kN
Dynamic perforation resistance – cone drop	EN ISO 13433	**10,0 mm**	+2,0 mm
Hydraulic properties			
Water permeability normal to the plane	EN ISO 11058	**25x10-3 m/s**	-8x10-3 m/s
Water flow normal to the plane (*)		**25 l/m².s**	-8 l/m².s
Characteristic opening size (AOS)	EN ISO 12956	**230,0 µm**	+/-69,0 µm
Physical properties			
Thickness under 2 kPa (*)	EN ISO 9863-1	**1,53 mm**	+/-0,31 mm
Weight (*)	EN ISO 9864	**464,0 g/m²**	+/-46,4 g/m²
Composition	100 % polypropylene woven geotextile		
Durability	predicted to be durable for a minimum of 25 years in natural soil with 4 < pH < 9 and soil temperatures < 25° C		

				
roads	**railways**	**foundations & retaining walls**	**drainage systems**	**erosion control systems**
EN 13249:2000	EN 13250:2000	EN 13251:2000	EN 13252:2000	EN 13253:2000
				
reservoirs & dams	**canals**	**Tunnels & under-ground structures**	**solid waste**	**liquid waste**
EN 13254:2000	EN 13255:2000	EN 13256:2000	EN 13257:2000	EN 13265:2000

1. This geotextile is intended for use in both functions & applications highlighted with a bold border.
2. It is the responsibility of all users to satisfy themselves that the above data is current.
3. Roll dimensions are 5,25 m x 100 m. Other dimensions on demand.
4. Bonar Technical Fabrics reserves the right to alter product specifications without prior notice.
5. Although not guaranteed, these results do to the best of our knowledge offer a true and accurate record of the product's performance.
6. Bonar Technical Fabrics cannot accept responsibility for the performance of these products as the conditions of use are beyond our control.
7. Geotextile has to be covered within 2 weeks after installation

(*) Not mandated characteristics for CE marking.

BONAR TECHNICAL FABRICS
invisibly good

BONAR Technical Fabrics nv/sa, Industriestraat 39, 9240 Zele, BELGIUM - ☎ +32(0)52 457411 - 🖷 +32(0)52 457495
BONAR Yarns & Fabrics Ltd, St. Salvador Street, Dundee DD3 7EU, UK - ☎ +44(0)1382 346102 - 🖷 +44(0)1382 202378

G AND E COMPANY LIMITED
Room B, 13/F Cheung Lee Industrial Bldg.
9 Cheung Lee Street
Chai Wan, Hong Kong
Tel: 2508 0058 Fax: 2570 0089 website: www.g-and-e.com

July 9, 2010

OFFICIAL ANNOUNCEMENT

I would like to inform you that geotextile Bontec SG100/100 is upgraded to SG110/110 effective immediately, and that SG100/100 has become obsolete. The performance of SG110/110 is superior to that of SG100/100.

No adjustment and adaptation are necessary to the current application, installation method, packaging and quality control assurance program with the improved properties of SG110/110.

Bonar Technical Fabrics is Europe's premier manufacturer of woven and non-woven geotextile products, with continuous commitment to quality, product development and production improvement. One of Bonar's many advantages is that they are vertically integrated. This means they have their own fiber production which helps ensure consistent product performance. Bonar also has a high production capacity with the facility locates in close proximity to the Antwerp port. These translate into more efficient supply.

I have attached the manufacturer's letter here about the change for your reference. We would be happy to answer any questions that you may have.

Thank you for your kind attention.

Best regards

Gary Ng

Gary Ng
General Manager

bontec

a bonar technical fabrics product

Date: 5-Jul-10	
To: G and E – Hong Kong Gary	**From:** Isabelle Ruyffelaere – 0032 52 457 487 Philippe Grimmelprez – 0032 52 457 486
E mail: nannette@g-and-e.com	**Pages:** 1 +
Your reference: Bontec® SG 110/110	
	Our reference: G&E07052010.doc

Dear Gary,

We are pleased to confirm that the old name of the Bontec® SG100/100 has been replaced with the Bontec® SG 110/110.

Bonar constantly strives to increase the performance of the products over time. Thanks to improved polymers, extrusion and weaving techniques we managed to produce stronger geotextiles with the same unit weight. Hydraulic characteristics were not affected either.

Bonar uses very strict -in house- and ISO 9001:2000 quality and ISO 14001 environmental standards (in annex) and is using electricity generated from 100 % renewable sources.

We send hereby the newest datasheet as well for your information.

Should you require any further information, please do not hesitate to contact us.
Best regards

Philippe Grimmelprez
Global Sales & Marketing Manager

BONAR TECHNICAL FABRICS
invisibly good

BONAR Technical Fabrics nv/sa
Industrielaan 39 • B-9240 Zele • Belgium
Tel +32 (0)52 457 411 • Fax +32 (0)52 457 495
E mail geotextiles@bonartf.com

BONAR Yarns & Fabrics ltd
St. Salvador Street • Dundee DD3 7EU • United Kingdom
Tel +44 (0)1382 346102 • Fax +44 (0)1382 202375
E mail sguild@bonaryarns.com

G&E
ENGINEERING

Bontec SG110/110
Woven Polypropylene Geotextile

Certification

QUALITY MANAGEMENT SYSTEM CERTIFICATE

ISO 9001 : 2000

The BQA, sa hereby declares that the quality management system of

Bonar Technical Fabrics NV – Site in Zele en Lokeren

located at Industriestraat 39 - 9240 Zele - Belgium, has been examined on 05-05-2008
and found in conformity with the ISO 9001, edition 2000, standard for the following application field:

Development, manufacture and sales of a standard range of fibres and textiles such as agrotextiles, building textiles and geosynthetics, as well as similar products especially designed to customer specifications

This certificate has been issued by the BQA, sa according to its quality manual concerning the certification of quality systems, and after concluding the contract of certification N° DS/AJ/CER/ 05-05-2008/301, under which the company accepts a regular control of its quality management system.

Certificate N° BQA_QMS019_C_2004301
Valid until 04-05-2011

BQA N° 019-QMS

D.SIMOENS
Directeur

DS/AJ/CI

CERTIFICATE OF ENVIRONNEMENTAL MANAGEMENT SYSTEM

ISO 14001 : 2004

The BQA, nv hereby declares that the environmental management system of the company
Bonar Technical Fabrics NV – Site in Zele en Lokeren

located at Industriestraat 39 – 9240 Zele - Belgium, has been examined on 05-05-2008
and found in conformity with the ISO 14001, edition 2004, standard for the following application field:

Development, manufacture and sales of a standard range of fibres and textiles such as agrotextiles, building textiles and geosynthetics, as well as similar products especially designed to customer specifications.

This certificate has been issued by BQA, nv according to its quality manual EMS concerning the certification of environmental management systems, and after the contract of certification N° DS/AJ/CER-EMS/05-05-2008/84 under which the company accepts a regular control of its environmental management system.

Certificate N° BQA_EMS019_C_200484
Valid until 04-05-2011

BQA N° 019-EMS

D. SIMOENS
Directeur

BQA, nv - rue Montoyer 24 (b9) - 1000 Brussels

bontec

a bonar technical fabrics product — *woven and non woven geotextiles*

Zele,05.10.09

CERTIFICATION OF COMFORMANCE

The undersigned supplier BONAR TECHNICAL FABRICS, hereby states under his responsibility that the following product complies with the indicated technical properties :

Invoice F0918342

Type	NW 9 525 : 10500 m²
Type	NW 10 525 :18375 m²
Type	NW 20 5250 : 10500 m²
Type	SG 100/100 : 5250 m²
Delivery docs :	Packing list N. T0908524 and T0908557

Manufacturer : Bonar Technical Fabrics N.V.

BONAR TECHNICAL FABRICS N.V.

BONAR TECHNICAL FABRICS N.V
p/a Industrielaan 39
B-9240 Zele

bontec

A bonar technical fabrics product

Fax

Date: 11-Aug-04	
To: G and E – Hong Kong Mr. Gary NG	From: Isabelle Ruyffelaere – 0032 52 457 487 Philippe Grimmelprez – 0032 52 457 486
Fax:	Pages: 1 +
Your reference: Bonar TF acquisition of Uco Technical Fabrics	
	Our reference: G&E11082004.fax

To Whom it may concern

We hereby confirm that Bonar acquired the company UCO Technical Fabrics in October 1996 and all activities of the manufacturing and sales of Woven and Non woven geotextiles.

The Company changed name to **BONAR TECHNICAL FABRICS.**

Its headquaters are moved to Industrielaan 39, 9240 Zele, Belgium. At the same location is a new manufacturing plant of non woven geotextiles based.

The plant where woven geotextiles are produced is based on the old UCO location: weverslaan 15, Lokeren, Belgium.

Should you require any further information, please do not hesitate to contact us.

Best regards

Philippe Grimmelprez
Sales & Marketing Manager geotextiles.

BONAR Technical Fabrics nv/sa
Industrielaan 39 • B-9240 Zele • Belgium
Tel: +32 (0)52 457 411 • Fax: +32 (0)52 457 495
E-mail geocontact@bonartf.com

BONAR Yarns & Fabrics Ltd.
St. Salvador Street • Dundee DD3 7EJ • United Kingdom
Tel: +44 (0)1382 200100 • Fax: +44 (0)1382 202178
E-mail mail@bonaryarns.com

G&E
ENGINEERING

Bontec SG110/110

Woven Polypropylene Geotextile

Installation Guideline

BONTEC: Woven and Non Woven Geotextiles manufactured by Bonar Technical Fabrics - Belgium.

RECOMMENDATION FOR THE INSTALLATION OF GEOTEXTILES

- The **BONTEC** geotextiles shall be kept in its original packaging in order to protect it from damaging UV-rays and high temperatures.

- The **BONTEC** geotextiles shall be stored protected from wind, rain, excess moisture or sunlight.

- The **BONTEC** geotextiles shall only be unpacked just before use. The material shall be covered within 1 week

- The **BONTEC** geotextiles shall be labelled and show the following data :

  - roll number
  - quality
  - name of the manufacturer
  - roll length & width
  - roll weight

- The **BONTEC** geotextiles shall be laid with the longitudenal ascis down slopes

- A minimum overlap of 500 mm between the different sheets shall be respected. Sewing of the different fabrics shall be done with a double prayer stitching technique with non deteriorating thread.

- Wherever visibility or installation of the BONTEC geotextile is poor an extra safety overlap of +/- 1 m shall be respected

- The surfaces to be covered with **BONTEC** geotextiles shall be smooth and free of sticks, roots, sharp objects, and all debris that may damage the fabric. The surface to be covered shall be firm and unyielding, with no sudden changes or brakes in grade.
- The compacted sub-base shall be maintained in a smooth, uniform and compacted condition during installation of the fabric.
- In area's where wind is prevalent, fabric installation shall be started at the upwind side of the project and proceed downwind. The leading edgeof the fabric shall be secured at all times with sandbags or other means sufficient to hold it down during high winds. Sandbags or rubber tires may be used as required to hold the fabric in position during installation. Tires shall not have exposedsteel cords or other sharp edges which may snag or cut the fabric. Materials, equipment or other items shall not be dragged across the fabric or be allowed to slide down slopes on the fabric.

- Should the fabric be damaged during any step of the installation, the damaged section shall be repaired by covering it with a piece of fabric which extends at least 0,6 meter in all directions beyond the damaged area. The fabric shall be secured as directed by the engineer.

- Smoking shall not be permitted by personnel working on the fabric.

G&E
ENGINEERING

Bontec SG110/110
Woven Polypropylene Geotextile

List of Project Reference

Bonar

Date	Project	Client	Consultant	Style
Feb-05	CV/2003/06 Stanley Waterfront Improvement Project - Construction Pier and Boardwalk	Sun Fook Kong (Civil) Ltd	Civil Engineering and Development Department	SG100/100 NW10
Feb-05	99/9028 Lamma Power Station	Wai Kee (Zens) Construction & Transportation Co Ltd	Maunsell Geotechnical Services Ltd	SG100/100
Feb-05	CV/2004/02 Reconst. of Wong Shek & Ko Lau Wan Public Piers	Kin Shing Construction Co Ltd	Civil Engineering and Development Department	SG100/100
Apr-05	CV/2002/04 Penny's Bay Reclamation Stage 2	Gammon Skanska Ltd Shun Tat Construction Engineering Ltd	Scott Wilson Ltd	SG100/100 SG100/100
Apr-05	HK/12/02 CED, Central Reclamation Phase III, Engineering Works	Best Leader Engineering Ltd Leighton - China State - Van Oord Joint Venture	Atkins China Ltd	SG100/100 SG100/100
May-05	03/8013 Lamma Island to Cyberport	Leader Marine Contractors Ltd Honwin Engineering Ltd	Maunsell Geotechnical Services Ltd	SG100/100 SG100/100
Jul-05	Shenzhen to Tai Po Twin Submarine Gas Pipeline Project	Honwin Engineering Ltd		SG100/100
Sep-05	TP37/03 Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A	Leader - Wai Kee (C&T) Joint Venture	Hyder Consulting Ltd	SG100/100
Nov-05	HY/2002/26 Stone Cutter's Bridge	Hong Kong River Engineering Co Ltd	Ove Arup & Partners HK Ltd	SG100/100
Feb-06	CV/2005/12 Fill Reception Facilities at Tseung Kwan O Area 137 Quarry Bay and Mui Wo	Penta-Ocean Construction Co Ltd	Civil Engineering and Development Department	SG100/100
Mar-06	Maintenance Dredging at Castle Peak Power Station (CPPS) Jetty	New Concepts Engineering Development Ltd	Civil Engineering and Development Department	SG100/100
Mar-06	CV/2004/04 Maintenance and Repairs to Government / Public Piers and Immersed Tubes of Hung Hom Cross-Harbor Tunnel	China Harbour Engineering Co (Group)	Civil Engineering and Development Department	SG100/100
Mar-06	HY/2005/06 Castle Peak Road Improvement West of Tsing Lung Tau	Shun Tat Construction Engineering Limited Chun Wo Construction & Engineering Co Ltd	Mouchel Halcrow JV	SG100/100 SG100/100

May-06	212 Main Works for the Proposed Third Golf Course Development at Kau Sai Chau, Sai Kung	China Harbour Engineering Co (Group)	Ove Arup & Partners HK Ltd	SG100/100
Jun-06	Hong Kong Convention and Exhibition Centre Project - Silt Screening for Intake Pipe	Wai Kee (Zens) Construction & Transportation Co Ltd Kaden - Wai Kee (C&T) Joint Venture	NA	SG100/100 SG100/100
Aug-06	EP/SP/52/06 Development of EcoPark in Tuen Mun Area 38	Kaden Construction Limited	Scott Wilson Ltd	SG100/100
Sep-06	CV/2004/06 Management and Capping of Contaminated Mud Pit IV at East of Sha Chau - Phase III	Kaden - Wai Kee (C&T) Joint Venture	Civil Engineering and Development Department	SG100/100
Oct-06	Lamma Island Cable Landing	United Marine Co Ltd	Hong Kong Electric Co Ltd	SG100/100
Nov-06	CV/2004/01 Maintenance and Repairs to Seawalls, Piers and Other Port Works	Kin Shing Construction Co Ltd	Civil Engineering and Development Department	SG100/100
Dec-06	Private project	Friendly Benefit Engineering Ltd		SG100/100
Feb-07	Prebored Socketted H-Piles at Hong Kong Convention & Exhibition Centre	Yee Hop Engineering Co Ltd	NA	SG100/100
May-07	HY/2005/06 Castle Peak Road Improvement - West of Tsing Lung Tau	Chun Wo Construction & Engineering Co Ltd	Mouchel Halcrow JV	SG100/100
May-07	CV/2004/05 Dredging Maintenance	China Harbour Engineering Co Ltd	Civil Engineering and Development Department	SG100/100
Aug-07	Dredging Project in Lai Chi Kok Shipyard	Maritime Mechanic Ltd	NA	SG100/100
Aug-07	6/WSD/06 Construction of Salt Water Supply System for Penny's Bay	Univic Engineering Ltd	Water Supplies Department	SG100/100
Nov-07	Permanent Aviation Fuel Facility Hong Kong International Airport (Contract No. H2104)	UDL Dredging Ltd	Babtie Asia Ltd	SG100/100
Dec-07	Seawall Modify, Tuen Mun Area 38	Cheer Engineering Ltd	Scott Wilson Ltd	SG100/100
May-08	DC/2007/10 Design and Construction of HK West Drainage Tunnel	Tapbo Civil Engineering Co Ltd	Ove Arup & Partners HK Ltd	SG100/100
Sep-08	CV/2006/05 Maintenance of Seawalls and Navigation Channels	China Harbour Engineering Co Ltd	Civil Engineering and Development Department	SG100/100

Sep-08	Marine Works at Maldives	Kwan Sing Engineering & Construction Co Ltd		SG100/100
Nov-08	DC/2007/06 River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River	Kwan Lee Construction Co Ltd	Maunsell Consultants Asia Ltd	SG100/100
Mar-09	DC/2007/01 Drainage Improvement Works in Ki Lun Tsuen, Kwu Tung, Ma Tso Lung and Sha Ling	Shanghai Urban Construction Group Corp	Mott Connell Ltd	SG100/100 SG40/40
Jun-09	CHEC247 Lamma Power Station - Navigation Channel Improvement	China Harbour Engineering Co Ltd		SG100/100

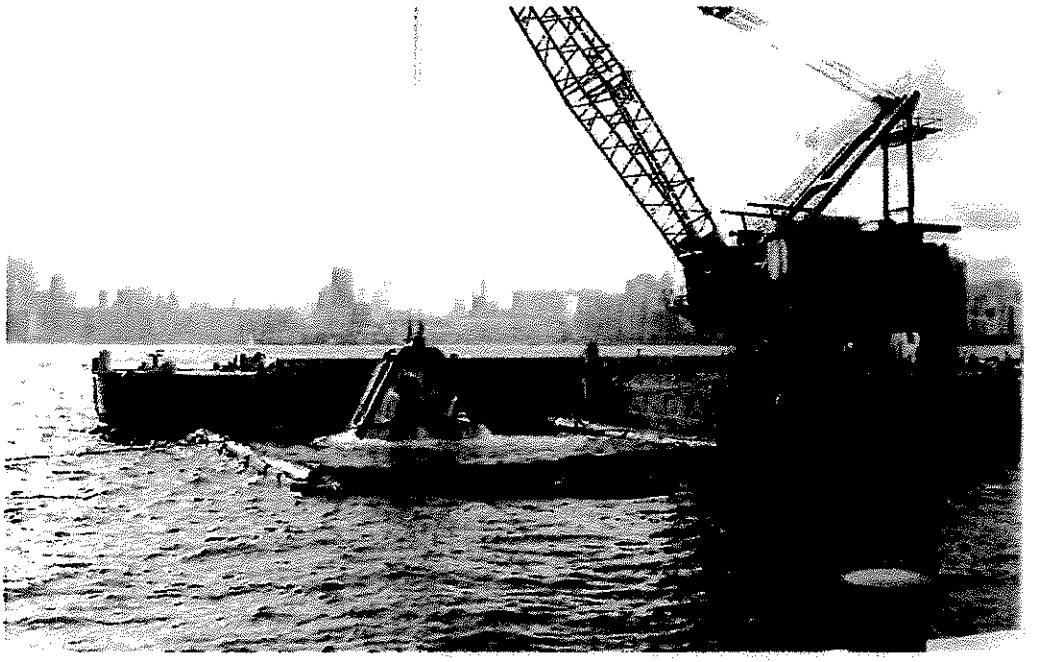
Updated November 26, 2009

G & E
ENGINEERING

Bontec SG110/110
Woven Polypropylene Geotextile

Photo References

G AND E COMPANY LIMITED
Room B, 13/F Cheung Lee Industrial Building
9 Cheung Lee Street,
Chai Wan, Hong Kong
Tel: 852-2508 0058 Fax: 852-2570 0089
website: www.g-and-e.com



Date	Feb-10
Project	Contract No. HY/2009/11 Central - Wanchai Bypass - North Point Reclamation
Client	Highways Department
Consultant	AECOM
Main Contractor	China Habour Engineering Company
Works	Silt Curtain
Materials	Woven Geotextile SG100/100
Size	3,675 sqm

G&E
ENGINEERING

Bontec SG110/110
Woven Polypropylene Geotextile

Approval Letters

土木工程拓展署
CEDD Civil Engineering and Development Department

土木工程處
Civil Engineering Office

Web site 網址 : http://www.cedd.gov.hk
E-mail 電子郵件 :
Telephone 電話 : (852) 2760 5737
Facsimile 傳真 : (852) 2714 2054
Our reference 本署檔號 : ( ) in PW WC/CV0402/R20/340 Pt.I
Your reference 來函檔號 : KS330/2005

香港九龍公主道101號
土木工程拓展署大樓四樓
4/F, Civil Engineering and Development Building,
101 Princess Margaret Road,
Kowloon, Hong Kong

RECEIVED

24 January 2005

BY MAIL & FAX No. 2780 2085

Kin Shing Construction Company Limited
1/F,
27 Yin Chong Street,
Mong Kok
Kowloon
(Attn.: Mr. Patrick P K Chan – Site Agent)

Dear Sirs,

Contract No. CV/2004/02
Reconstruction of Wong Shek and Ko Lau Wan Public Piers

Material Submission – Geotextile for Silt Curtain

I refer to your letter of 14.1.2005 enclosing the particulars of the geotextile for fabrication of silt curtain.

In accordance with PS Clause 26.08(2), the proposed "SG 100/100" woven geotextile manufactured by Bonar Technical Fabrics is approved to be used under the captioned Contract.

Pursuant to PS Clause 26.08(1), you are required to submit details of the silt curtains 3 weeks before their deployment.

Contract No.			
Post	Initial	Copy	Action
CM			
PM			
SA			
Sub-A			
Eng.(1)			
Eng.(2)			
C.P			
Foreman			
Q.S			
Safety			
Material			
Survey			

Yours faithfully,

(W H LEE)
Engineer's Representative
Port Works Division
Civil Engineering and Development Department

c.c.
SIOW/P2B – Site Copy

clr

FROM : G AND E COMPANY LIMITED PHONE NO. : + 852 2570 0089 Apr. 28 2005 12:02PM P7

24-FEB-2005 10:57 FROM SFK TO 25700089 P.01/01

TOTAL P.01

112

土木工程拓展署
CEDD Civil Engineering and Development Department

Web site 網址 : http://www.cedd.gov.hk
E-mail 電子郵件 :
Telephone 電話 : (852) 2762 5035
Facsimile 傳真 : (852) 2714 2054
Our reference 本署檔號 : (15) in PW WC/CV0306/R20/240 Pt.01
Your reference 來函檔號 : CIV/002091/1.2/HW/SY/CC/mc(S0087), CIV/002091/1.2/HW/SY/CC/mc(S0118)

土木工程處
Civil Engineering Office

香港九龍公主道101號
土木工程拓展署大樓4樓
4/F, Civil Engineering and Development Building,
101 Princess Margaret Road,
Kowloon, Hong Kong

18 February 2005

Sun Fook Kong (Civil) Limited
Rms. 3207-10,
Great Eagle Centre,
23 Harbour Road,
Wan Chai,
Hong Kong
(Attn: Mr. Howard KONG - Fax No.2827 6275)

Dear Sirs,

Contract No. CV/2003/06

Stanley Waterfront Improvement Project – Construction of Pier and Boardwalk

Fabric for Silt Curtain

I refer to your above letters dated 21.1.2005 and 15.2.2005 proposing the SG100/100 fabric supplied by "Bonar Technical Fabrics" for silt curtain.

I have no objection to your proposed material for silt curtain.

Yours faithfully,

(Paul Y K MA)
Engineer's Representative
Port Works Division
Civil Engineering and Development Department

c.c.
Site Office (Attn: SIOW/P1A)
CEG/P1A

File PW WC/CV0306/M10/300

YKM/mc

Post-it® Fax Note 7671 | Date 24/2/05 | pages ▸ 1
To MR STANLEY WAN | From CRAIG SZE TO
Co./Dept. G&E | Co. SFK
Phone # 25080028 | Phone # 68417709
Fax # 25700089 | Fax #

TOTAL P.01

Mott MacDonald Hong Kong Limited

Consulting Engineers

Chief Resident Engineer's Office
North Lantau Development - Tung Chung
for Territories Development Department

Our Ref : S287/NL1/25.7/283/JY 30 June 1992

China Harbour Engineering Company
19/F, China Harbour Building
370-374 King's Road
North Point
Hong Kong.

Attn : Mr. S. Y. Yu

T.D.D. CONTRACT NO. NL 1/91
C. E. Dept.

DATE	ACTION	INFORM
RA		
DRA		
QS		
SRG		
SUR		
FOREMAN		
FILE		

Dear Sirs,

North Lantau Development
Contract No. NL1/91
Tung Chung Development Phase I - Site Formation
Materials for Subsoil Drains

I refer to your letter ref. NL1/C/0097/008/MM/145 of 10/6/92 submitting materials for subsoil drains for our approval.

I have the following comments :

1) The proposed subsoil drain material - i.e. 300mm diameter ADS corrugated polyethylene subsoil drain pipes from Benpak Waterwise company is acceptable.

2) The proposed Geotextile SG17/15 from UCO (2 layers) as protection for subsoil drainage is acceptable in principal. Please submit further technical specification such as lapping and site storage requirements recommended by the manufacturer.

3) The proposed Greenfix Eromat Special type 5 from CCL is still under review. You will be notified of the outcome if a decision is made.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Luke Chi
Engineer's Representative

LC/JY/ak

MAUNSELL | AECOM

Maunsell Consultants Asia Ltd
8/F Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road Shatin, N.T., Hong Kong
茂盛(亞洲)工程顧問有限公司
香港新界沙田鄉事會路 138 號新城市中央廣場第 2 座 8 樓
T +852 2605 6282 F +852 2691 2649 www.maunsell.aecom.com
SRE's Office T +852 2669 0706 F +852 2631 2889 E sre@ltriw.com.hk

Your Ref. : DC0706/M1.2/1512 & 1529
Our Ref. : (DC/2007/06)/R20/106(0023)

RECEIVED
13 NOV 2008
BY:

Chiu Hing Construction & Transportation Co. Ltd.
Room 201, 2/F Fuk Shing Commercial Building
28 On Lok Mun Street
On Lok Tsuen, Fanling
New Territories, Hong Kong

Attn : Mr. Roger Lau (Site Agent)

13 November 2008

Dear Sir,

Contract No. DC/2007/06
River Improvement Works in Upper Lam Tsuen River,
She Shan River and Upper Tai Po River

Proposed Geotextile at Gabion Wall in She Shan River and Upper Tai Po River

I refer to your letter dated 7 November 2008 and 12 November 2008 respectively.

Please be advised that since the water flow rate of the proposed geotextile model Bontec SG100/100 meets the requirements in accordance with P.S. Clause 7.150, I have no further objections to your proposed use of woven geotextile model Bontec SG100/100, supplied by "G and E Company Ltd." at gabion wall in She Shan River and Tai Po River, subject to its satisfactory performance on site.

Yours faithfully,

Adrian Ng
Resident Engineer

cc MCAL - Attn : Mr. Conder Yan
Chiu Hing H.O.

AN/[redacted]/ek