Contract No. HK/2009/02
Wan Chai Development Phase II
Central – Wan Chai Bypass at Wan Chai East

Response to Comments Using the Same Nomenclature

Incoming ref.: (5) in EP2/H4/S3/15Pt.46 dated 25 April 2018

Item	EPD's Comment	CWCRGLJV's Response
Technical Comment		
1	Besides preventing sediments from dispersing out of the working areas, please clarify if there are any shoreline seawater intakes (already constructed/will be constructed) within the working area during the marine works period, and if any protection will be in place, as appropriate.	There is no shoreline seawater intakes (already constructed/will be constructed) within the working area during the marine works period.
2	S3.1, Stage 1 – Does the "Appendix E" mentioned here refer to the Appendix E in the current revision N? If not, please revise. Also will such precautionary measures of moving/deploying the silt curtain be required for stages 5 and 6 as well? Please elaborate, and supplement in the text as appropriate.	No, therefore the reference is deleted. Same precautionary measures of moving/deploying the silt curtain for stage 5 and 6 will be adopted. Minimum disturbance will be made to seabed, please also note that all marine sediment has been dredged and replaced by coarser material at time of carrying of temporary reclamation.
3	S3.5	
a.	Please elaborate if diver checking is needed after installation before starting of marine works, to ensure the underwater section is installed properly. If so, please supplement in S3.5 and a diver checklist.	A diving inspection on the connections between the silt curtains will be carried out prior to marine works. A diving inspection checklist is enclosed in Appendix D for your reference.
b.	Please also supplement a paragraph for actions before and after adverse weather and typhoon signals.	Noted, please find our response as follow:- 1. If typhoon signals T3 or above is anticipated to be hoisted, all

Item	EPD's Comment	CWCRGLJV's Response
		marine plants and vessels will be demobilized from site area, the silt curtain will remain deployed. 2. Upon cancellation of typhoon signal or typhoon signal is below T3, diving inspection will be carried out to ensure the integrity the silt curtain. A sample of diving inspection checklist is enclosed in Appendix D in this deployment plan.
Textual		
1.	S3.4 – Please clarify if "T6" and "T7" refer to no. 6 and 7 blockwork walls of Appendix A (near the Western boundary of P.9 and 10 of the PDF). If so, please supplement this briefly in the text S3.4 and make reference to Appendix A for readers, as T6 and T7 were not found anywhere else in the Deployment Plan.	Yes "T6" and "T7" refer to seawall blockwork wall Type 6 and Type 7 shown in Appendix A respectively. The section 3.4 is also updated to reflect the actual works.
2	Appendix C, P.16 & P. 17 of the PDF – The headers of the two pages are "Appendix". Please revise/remove them as it is a bit confused that the section should be Appendix C.	Noted.

Lam Geotechnics Limited
Ground Investigation & Instrumentation Professionals

華益土力有限公司

Ref : G1525/CS/L715/CW-CRGLJV
Date : 23 May 2018

Chun Wo – CRGL Joint Venture
5C, Hong Kong Spinners Industrial Building, Phase 1
601- 603 Tai Nan West Street
Cheung Sha Wan
Kowloon

Attn: Mr. Paul Yu, Site Agent

Dear Sir,

Contract No. HK/2009/02
Wanchai Development Phase II – Central –Wan Chai Bypass at Wan Chai East
Silt Curtain Deployment Plan (Rev. O)

Referring to the captioned submission dated 17 May 2018 received through email on 23 May 2018, we have reviewed your submitted details and hereby certified this submission in accordance with Condition 2.8 of FEP-03/356/2009.

Should you have any enquiry, please feel free to contact the undersigned at 2839 5666.

Yours faithfully,

Raymond Dai
Environmental Team Leader

c.c.

CEDD	- Mr. Henry Tsang	(By Fax: 2301 1277)
AECOM	- Ms. Gloria Tang	(By Fax: 2587 1877)
RAMBOLL	- Mr. David Yeung	(By Fax: 3565 2899)

11/F, Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong
Tel: (852) 2882-3939 Fax: (852) 2882-3331
Website: www.lamgeo.com Email: info@lamgeo.com

RAMBOLL

Ref.: AACWBIECEM00_0_10434L.18

23 May 2018

Chun Wo – CRGL Joint Venture
5C, Hong Kong Spinners Industrial Building, Phase 1
601 – 603 Tai Nan West Street
Cheung Shan Wan
Kowloon

By Post and Email

Attention: Mr. Paul Yu, Site Agent

Dear Sir,

Re: FEP-03/356/2009
Contract No. HK/2009/02
Wan Chai Development Phase II - Central-Wan Chai Bypass at Wan Chai East

Silt Curtain Deployment Plan (Revision O)

Reference is made to the captioned submission dated 17 May 2018 received through your email on 23 May 2018, please be informed that we have no adverse comment on the captioned submission in accordance with Condition 2.8 of FEP-03/356/2009.

Thank you for your attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,

David Yeung
Independent Environmental Checker

c.c.	CEDD	Attn: Mr. Henry Tsang	by fax: 2577 5040
	LAM	Attn: Mr. Raymond Dai	by fax: 2882 3331
	AECOM	Attn: Mr. Gloria Tang	by fax: 2587 1877

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Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

Silt Curtain Deployment Plan

Rev.	Date	Status	Prepared By	Reviewed and Approved By Construction Manager
O	17/05/18	Full Set of Submission	Ray Kwan	Hardy Lai
N	13/03/18	Full Set of Submission	Ray Kwan	Hardy Lai
M	23/11/12	Full Set of Submission	Jeff Chu	Garry Law
L	17/10/12	Full Set of Submission	Jeff Chu	Garry Law
K	02/05/12	Full Set of Submission	Jeff Chu	Garry Law
J	07/01/12	Full Set of Submission	Flora Ng	Garry Law
I	05/09/11	Full Set of Submission	Flora Ng	Garry Law
H	01/02/11	Full Set of Submission	Horace Yau	Garry Law
G	19/01/11	Full Set of Submission	Horace Yau	Garry Law
F	05/01/11	Submission for Approval	Horace Yau	Garry Law
E	29/09/10	Submission for Approval	Waffery Lau	P C Chan
D	24/09/10	Submission for Approval	Waffery Lau	P C Chan
C	08/06/10	Submission for Approval	Cecil Cheng	P C Chan
B	01/06/10	Submission for Approval	Cecil Cheng	P C Chan
A	22/03/10	Submission for Approval	Cecil Cheng	P C Chan
0	01/03/10	Submission for Approval	Cecil Cheng	P C Chan

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1.0 Introduction

The purpose of this deployment plan is to illustrate the general layout, the construction programme, details on the design, operation and maintenance of the silt curtains to be installed for the excavation and filling works of "Wan Chai Reclamation" as recommended in the approved EIA report (Registration No.:AEIAR-125/2008). Chun Wo – CRGL Joint Venture is responsible for the installation, operation, maintenance and removal of the silt curtain. The use of Genoia Silt Protector DSP15 (Tube Type) is a replacement material to previous submission for the outer layer silt curtain as recommended by the manufacturer. The Genoia Silt Protector DSP15 serves same function as previous model and it is widely used in silt control in other Projects as listed in Appendix C.

2.0 List of documentation to be referenced

2.1 Particular Specification, the relevant clauses and our remarks for the marine ground investigations is listed as follows for ease of references.

PS Clause No.	Relevant Remarks
PS Appendix 25.4	EP No. EP-356/2009 Clause 2.8 refers. The silt curtain deployment plan shall be certified by the ET Leader and verified by the IEC as conforming to the relevant information and recommendation contained in the approved EIA Report

3.0 General Layout of Silt Curtain (Hanging Type) by Stages

3.1 The deployment of Silt Curtain would be divided in to stages based on the locations of works and the working period, the details of the staging are as follow:-

Stage 1 (Completed):
The silt curtain shall be deployed in 2 modes. This 1st mode is designed for general marine works from 0700 to 2200 and the 2nd mode is designed for the overnight dredging and rockfilling works from 2200 to 0600. The deployment of hanging type silt curtain in these 2 modes will be operated for 2 months from 17 September 2010 to 16 November 2010 as per CNP no. CW-RS0817-10. In the period of overnight dredging and rockfilling, the additional semi-circular geotextile will be deployed surrounding the silt screen frame installed at the intake ports of Wan Chai pumping station and Sun Hung Kai Centre. The precautionary measurement to prevent the disturbance of the existing marine sediment is that the lower part of the hanging type silt curtain would be lifted up by using the preset nylon ropes or strings. The part of the bottom of silt curtain would be lifted up by using the nylon rope with diameter of 25mm connected to the lifting hook of the derrick lighter. Once the bottom part of the silt curtain to be lifted to the top part of the silt curtain, the nodes would be made to tie the lifted up part of the curtain resulting in the silt curtain. After the completion of the action as aforesaid, the silt curtain in "bow tie shape" would be towed to the designated locations by using tug boat so that no disturbance of the ambient marine deposit happens in the course of towing. For minimization of disturbance of seabed sediment in the course of overnight dredging works, this framed silt curtain will be deployed down to the seabed during dredging operation and will be lifted in such manner that the disturbance of seabed marine deposit is minimized.

Stage 2a (Completed):

Dredging to be carried out to remove marine deposits from existing seabed to reach the proposed dredging level within Zone A area. (approximate 15 days)

Stage 2b (Completed):
Dredging to be carried out to remove marine deposits from existing seabed to reach the proposed dredging level within Zone B area. (approximate 14 days)

Stage 2c (Completed):
Rock fill placing would be carried out at the dredged area to form a level platform upto -6mPD for the installation of temporary concrete blocks seawall upto +3.6mPD. Infill of public fill material will be placed upto -1mPD within the temporary sheetpile wall. Reclamation fill are then placed from dredged level up to proposed formation level at approximate +3.5mPD inside the WCR2. (approximate 123 days)

Stage 2d (Completed):
Dredging to be carried out to remove marine deposits from existing seabed to reach the proposed dredging level for the installation of Precast Caisson Seawall 2X. Rock fill placing would be carried out at the dredged area to form a level platform upto -6.65mPD for the installation of concrete seawall blocks up to -2.6mPD. (approximate 37 days)

Stage 3 (Completed):
Silt Curtain to be deployed for the reclamation works of WCR4 and TWCR4 for approximate 10 months, anticipated from April 2012 to January 2013.

Stage 4 (Completed):
Silt Curtain to be deployed for the reclamation works of WCR3 for approximate 11 months, anticipated from February 2014 to January 2015.

Stage 5:
Silt Curtain to be deployed for the construction of permanent seawall blocks near reclamation works of WCR4, the removal of temporary reclamation TWCR4, the reinstatement of seabed, removal of diaphragm wall, installation of permanent seawall block, filling work behind constructed permanent seawall. The silt curtains will be deployed for approximate 10 months, anticipated from March 2018 to December 2018.

Once the silt curtain is assembled on land, each span of silt curtain will be transported to the derrick lighter for storage and further joining. Different spans of silt curtain will be joined together by typing rope on the barge. The connected silt curtain will be temporarily tied up and racked. The silt curtain units with anchors will then be placed in the sea, divers will be deployed to cut the temporary typing ropes of silt curtain and allow the silt curtain hang in the sea.

When moving the silt curtain is required, the towing rope will be lifting the weight chain of silt curtain. The precautionary measurement to prevent the disturbance of the seabed by lifting up the lower part of type silt curtain would be lifted up using the

preset nylon ropes or strings prior to moving. The part of the bottom of silt curtain would be lifted up by using the nylon rope with diameter of 25mm connected to the lifting hook of the derrick lighter. Once the bottom part of the silt curtain to be lifted to the top part of the silt curtain, a node would be made tying both parts together. After the completion of the action as aforesaid, the silt curtain in "bow tie shape" would be towed to the designated locations by using tug boat so that no disturbance of the seabed happens in the course of towing. Joined span silt curtain will be pulled by a towing work boat slowly to the placement location.

Stage 6:
Silt Curtain will be deployed for modification of seawall Type 10 and 11 at Ex-PCWA Helipad. This modification includes construction of landing steps at Ex-PCWA Helipad. The silt curtains will last for approximate 5 months, anticipated from September 2018 to January 2019.

The method to deploy / relocate silt curtain in Stage 6 will be similar to the procedures stated in Stage 5.

3.2 The layout plans for deployment of silt curtains during stage 5 and stage 6 should refer to Appendix A. To suit the site condition and with reference to the tidal range, the silt curtain would be extended to as close to the seabed level as practicable.

3.3 The working procedure for installation and its technical data of silt curtain should refer to Appendix C.

3.4 In order to prevent muddy water from going out of the precast concrete block / caission, additional silt curtain is prepared on site. A single marine access point will be adopted for the outer layer silt curtain to minimize the chance of potential muddy dispersion during vessel movement into and out of the silt curtain enclosed area. In addition to the outer layer silt curtain, localized inner layer silt curtain / geotextile would be adopted to enclose the derrick lighter marine works area or cover exposed cut slope accordingly to maintain double layer silt curtain system throughout stage 5 to minimize potential silt dispersion

3.5 The maintenance procedure for silt curtain is as follow:

1. Site supervisors should be responsible to inspect the condition of the silt curtain daily during the course of marine works. A visual inspection checklist will be prepared and filled in by site supervisors. All checklists should be kept on site for record purpose. A template of checklist is attached on Appendix D.

2. If silt curtain is found to be damaged and repairing works are identified if necessary, all marine works at within 50m from the location of silt curtain would be temporary suspended. The silt curtain would be lifted up from sea by chain block pulley system, the whole/part of (depends on damaged condition) silt curtain would be replaced. In case of repairing damaged floats, temporary suspension of marine works should not imply.

3. The suspended marine works as above-mentioned would only be resumed after satisfactorily repairing of the damaged silt curtain.

4. As a regular maintenance, refuse or debris around the silt curtain would be collected on daily basis to avoid adverse effect to marine plants as well as to the public.

5. Spare silt curtain sheets and the associated material would be stored on site to maintain for prompt replacement in case of any damages observed.

6. Prior to removal/opening of the silt curtain, site supervisor should closely monitor with the marine plant's operators to ensure no marine works should be carried out at within the silt curtain enclosure area.

7. Upon adverse weather and typhoon signals are foreseen, the following actions will be carried out before and after the weather:-

- If typhoon signals T3 or above is anticipated to be hoisted, all marine plants and vessels will be demobilized from site area, the silt curtain will remain deployed.

- Upon cancellation of typhoon signal or typhoon signal is below T3, diving inspection will be carried out to ensure the integrity the silt curtain. A sample of diving inspection checklist is enclosed in Appendix D in this deployment plan.

4.0 Deployment Schedule

4.1 The deployment schedule of the silt curtain could refer to the table below. It is prepared based on the Initial Works Programme and may subject to changes to reflect the actual site progress:

Phasing	Anticipated Installation Works		Silt Curtain to be Maintained until	Anticipated Removal by	Total Duration, days
	From (a)	To		(b)	= (b) – (a)
Phase 1 (completed)	1 May, 2010	15 May, 2010	15 November, 2010	22 November, 2010	205
Phase 1a (completed)	8 February, 2011	31 March, 2011	31 March, 2011	31 March, 2011	51
Phase 2a (completed)	06 Mar 2012	21 Mar 2012	21 Mar 2012	21 Mar 2012	15
Phase 2b (completed)	22 Mar 2012	05 Apr 2012	05 Apr 2012	05 Apr 2012	14
Phase 2c (completed)	06 Apr 2012	07 Aug 2012	07 Aug 2012	07 Aug 2012	123
Phase 2d (completed)	29 Nov2012	8 Jan 2013	8 Jan 2013	8 Jan 2013	37
Phase 3 (completed)	15 August, 2012	31 Jan, 2013	31 January, 2013	31 January, 2013	169
Phase 4 (completed)	18 February, 2014	4 March, 2014	24 December, 2015	24 December, 2015	674
Phase 5	15 March, 2018	21 March, 2018	28 December, 2018	31 December 2018	289
Phase 6	28 September, 2018	13 October, 2018	28 January, 2019	31 January 2019	126

7.1 Appendix A

Layout Plan for Silt Curtain Deployment at Phase 5 and 6

LEGENDS:

12	BLOCKWORK WALL TYPE 12
———	FLEXIBLE SILT CURTAIN
□	MOORING BUOY AT ENTRANCE
↑	ANCHOR

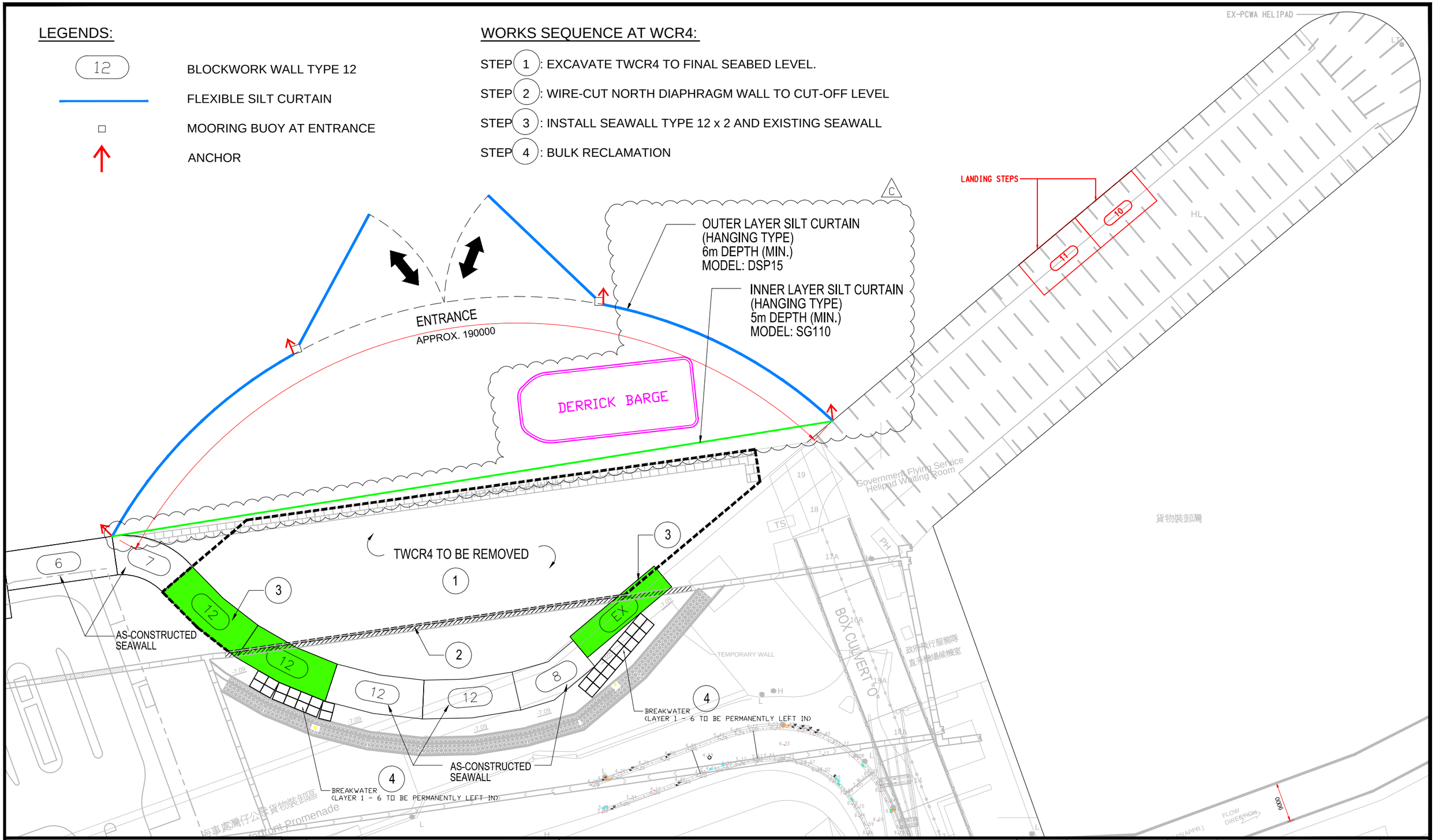
WORKS SEQUENCE AT WCR4:

STEP (1): EXCAVATE TWCR4 TO FINAL SEABED LEVEL.

STEP (2): WIRE-CUT NORTH DIAPHRAGM WALL TO CUT-OFF LEVEL

STEP (3): INSTALL SEAWALL TYPE 12 x 2 AND EXISTING SEAWALL

STEP (4): BULK RECLAMATION



CONTRACTOR	俊和－中國中鐵聯營 CHUN WO - CRGL JOINT VENTURE		
PROJECT	CONTRACT NO. HK/2009/02 WAN CHAI DEVELOPMENT PHASE II - CENTRAL - WAN CHAI BYPASS AT WAN CHAI EAST		

REV.	DATE	DESCRIPTION
A	13 MAR 2018	INCORPORATE AECOM COMMENT REF: F48831 AND F48881 DATED 27 FEB AND 1 MAR 2018 RESPECTIVELY
B	28 MAR 2018	INCORPORATE ET COMMENT DATED 28 MAR 2018
C	17 MAY 2018	REVISED SILT CURTAIN LAYOUT

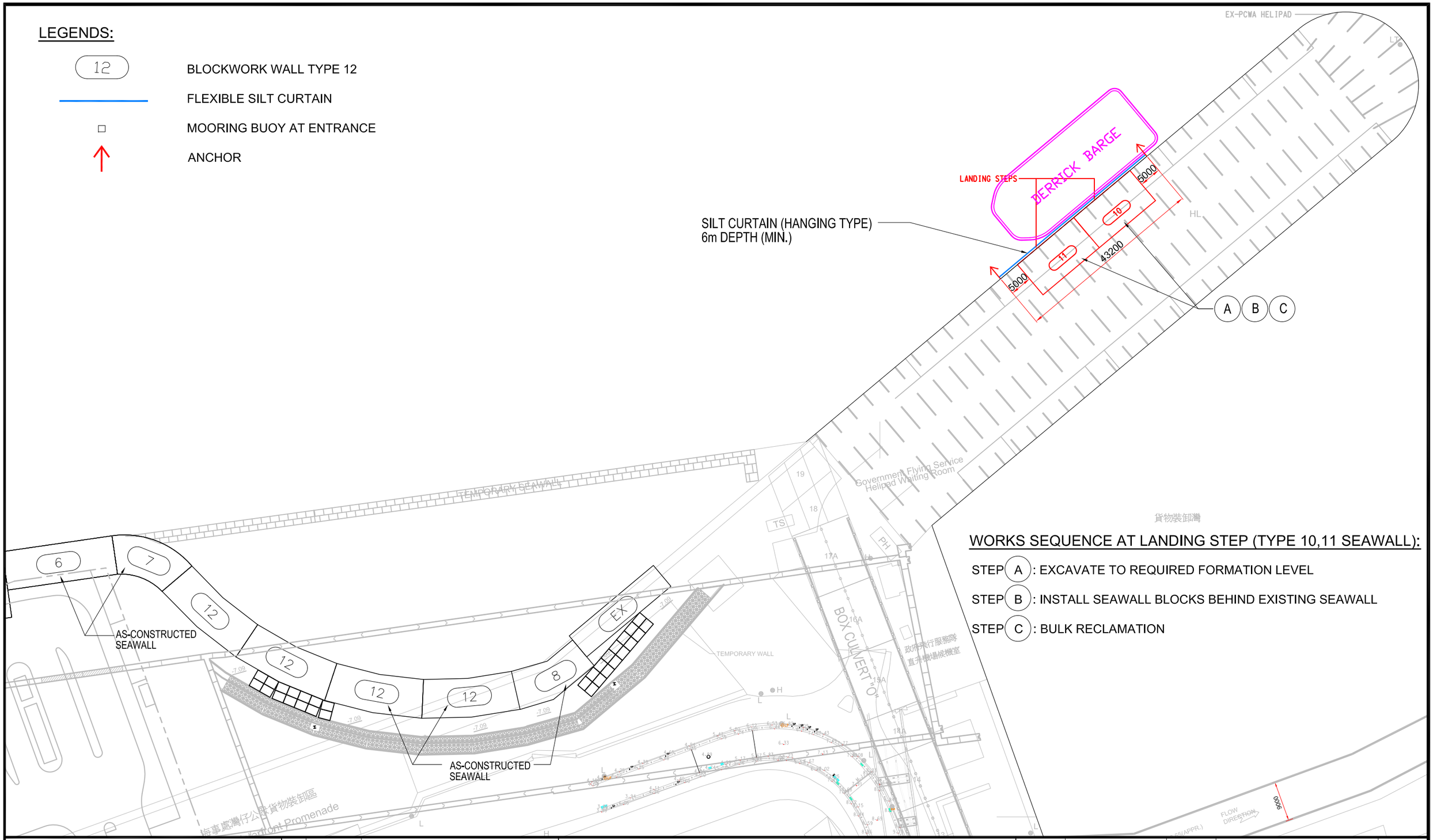
DRG. TITLE:

SILT CURTAIN DEPLOYMENT PLAN (PHASE 5)

SCALE	1 : 800 (A3)		CAD REF.	CW-CR/ENG/ENG-4662	
FIRST ISSUE DATE	17 JAN 2018				
DRAWN	YS MAK	DESIGNED	---	DRG. NO.	REV.
CHECKED	SH KWAN	APPROVED	---	CWCRJV/HK200902/SK4351	C

LEGENDS:

12	BLOCKWORK WALL TYPE 12
———	FLEXIBLE SILT CURTAIN
□	MOORING BUOY AT ENTRANCE
↑	ANCHOR



WORKS SEQUENCE AT LANDING STEP (TYPE 10,11 SEAWALL):

STEP (A): EXCAVATE TO REQUIRED FORMATION LEVEL

STEP (B): INSTALL SEAWALL BLOCKS BEHIND EXISTING SEAWALL

STEP (C): BULK RECLAMATION

CONTRACTOR

俊和－中國中鐵聯營
CHUN WO - CRGL JOINT VENTURE

PROJECT
CONTRACT NO. HK/2009/02
WAN CHAI DEVELOPMENT PHASE II -
CENTRAL - WAN CHAI BYPASS AT WAN CHAI EAST

REV.	DATE	DESCRIPTION

DRG. TITLE:

SILT CURTAIN DEPLOYMENT PLAN (PHASE 6)

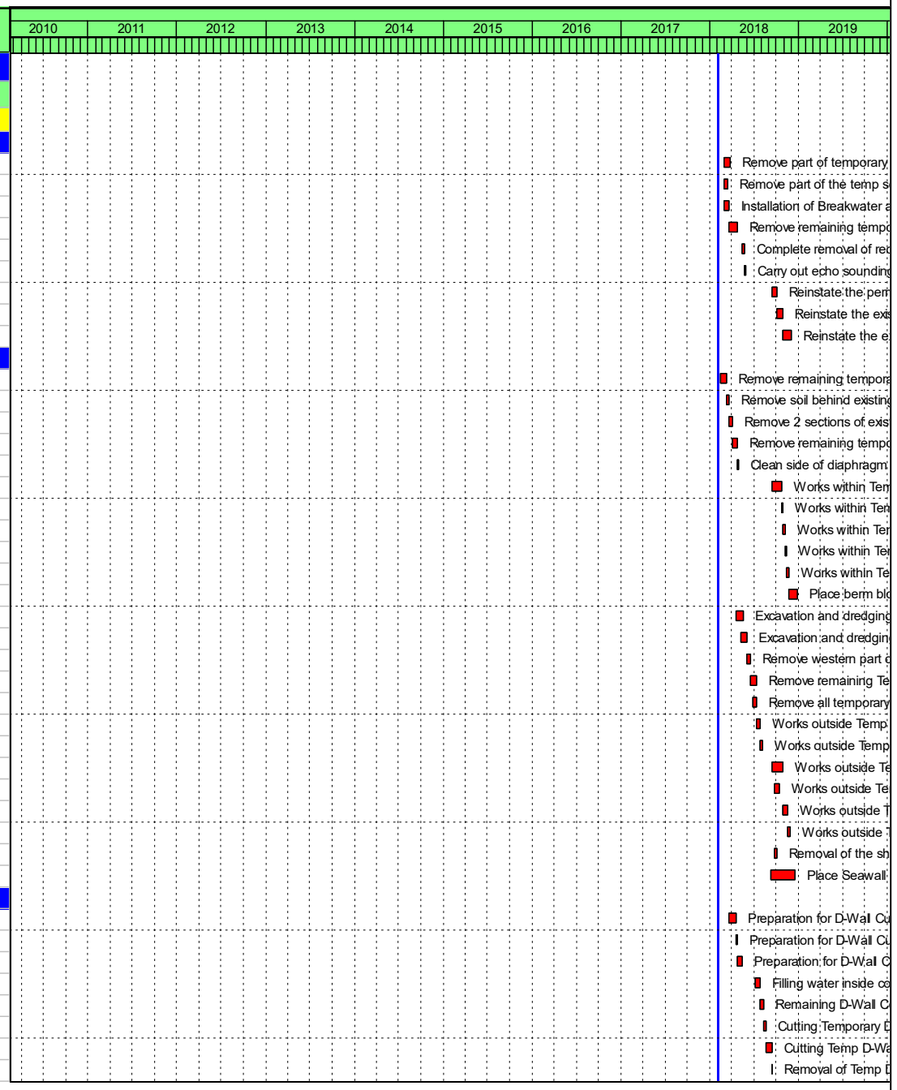
SCALE	1 : 800 (A3)		CAD REF.	CW-CR/ENG/ENG-4674	
FIRST ISSUE DATE	28 MAR 2018				
DRAWN	YS MAK	DESIGNED	---	DRG. NO.	REV.
CHECKED	SH KWAN	APPROVED	---	CWCRJV/HK200902/SK4412	—

7.2 Appendix B

Works Programme

CEDD CONTRACT HK/2009/02

Activity ID	Activity Name	OD	RD	Start	Finish	Total Float	Calendar
Three Month Rolling Programme 2018-03-06 (dd 03-March-18)							
Section 11 of the Works - Remainder of Works							
Misc. Works							
Removal of Temporary Reclamation CH 3710 to CH 3790 (East)							
S11-RTC-3120	Remove part of temporary reclamation by barge (10.000 out of 32,000 m3 @ 800 m3/day)	20	20	03-Mar-18	24-Mar-18	-737	HK Working Day
S11-RTC-3122	Remove part of the temp seawall to form marine entrance to temp reclamation zone (400 out of 886 nos. @ 30 nos./day)	16	16	27-Feb-18	15-Mar-18	-737	HK Working Day
S11-RTC-3123	Installation of Breakwater as temporary protection to fill slope (340 nos. @ 2 nos./day)	20	20	28-Feb-18	20-Mar-18	-737	HK Working Day
S11-RTC-3125	Remove remaining temporary reclamation by barge (22.000 out of 32,000 m3 @ 800 m3/day)	28	28	20-Mar-18	23-Apr-18	-668	HK Working Day
S11-RTC-3131	Complete removal of reclamation on diaphragm wall	10	10	12-May-18	24-May-18	-635	HK Working Day
S11-RTC-3133	Carry out echo sounding to dredged seabed level	3	3	24-May-18	28-May-18	-635	HK Working Day
S11-RTC-3140	Reinstate the permanent seawall at the interface with the Temporary D-Wall (North) (90 nos. @ 5 nos./day)	20	20	13-Sep-18	05-Oct-18	-737	HK Working Day
S11-RTC-3150	Reinstate the existing seawall (lower part in dry) at the east of Type 8 seawall (35 nos. @ 2 nos./day)	20	20	05-Oct-18	27-Oct-18	-353	HK Working Day
S11-RTC-3150a	Reinstate the existing seawall (upper part & seawall coping after cutting temp D-wall) at the east (55 nos. @2 nos./day)	35	35	27-Oct-18	03-Dec-18	-353	HK Working Day
Removal of Temporary Reclamation CH 3630 to CH 3710 (West)							
S11-RTC-3247	Remove remaining temporary reclamation from +4mPD to -6mPD by barge (22,000 m3@1000m3/day)	22	22	12-Feb-18	13-Mar-18	-152	HK Working Day
S11-RTC-3249	Remove soil behind existing seawall (5,000 m3@1000m3/day)	6	6	13-Mar-18	19-Mar-18	-152	HK Working Day
S11-RTC-3251	Remove 2 sections of existing seawall (320 nos.@30nos./day)	12	12	20-Mar-18	06-Apr-18	-152	HK Working Day
S11-RTC-3253	Remove remaining temporary seawall blocks by barge (486 of 886 nos.@30 nos./day)	17	17	07-Apr-18	25-Apr-18	-152	HK Working Day
S11-RTC-3255	Clean side of diaphragm wall	5	5	25-Apr-18	30-Apr-18	-152	HK Working Day
S11-RTC-3395	Works within Temp D-Wall - Install Permanent Seawall Blocks in wet condition 521nos.@18 nos./d	33	33	13-Sep-18	22-Oct-18	-737	HK Working Day
S11-RTC-3400	Works within Temp D-Wall - Place Type A Rockfill and Filter from -3.0mPD to +1.5mPD	6	6	22-Oct-18	27-Oct-18	-737	HK Working Day
S11-RTC-3410	Works within Temp D-Wall - Place Sorted Public Fill from -3.0mPD to+1.5mPD (10,300m3@1,000m3/d)	11	11	27-Oct-18	08-Nov-18	-737	HK Working Day
S11-RTC-3418	Works within Temp D-Wall - Cut down temporary D-Wall (south) to +1.5mPD	6	6	08-Nov-18	14-Nov-18	-737	HK Working Day
S11-RTC-3419	Works within Temp D-Wall - Place Sorted Public Fill from +1.5mPD to +4.20mPD (9,500m3@1,000m3/d)	10	10	14-Nov-18	24-Nov-18	-737	HK Working Day
S11-RTC-3422	Place berm blocks (1500m2@50m2/day)	30	30	24-Nov-18	28-Dec-18	-375	HK Working Day
S11-RTC-3442	Excavation and dredging between Temp Seawall & D-Wall to Temp Seawall (middle)	30	30	18-Apr-18	19-May-18	-737	HK Working Day
S11-RTC-3443	Excavation and dredging between Temp Seawall & D-Wall to Temp Seawall (west side)	25	25	09-May-18	05-Jun-18	-737	HK Working Day
S11-RTC-3460	Remove western part of the Temp Seawall to form marine entrance to west side (486 nos. @ 40 nos./day)	13	13	05-Jun-18	19-Jun-18	-737	HK Working Day
S11-RTC-3470	Remove remaining Temp Seawall by barges (486 nos. @ 30 nos./day)	19	19	20-Jun-18	10-Jul-18	-737	HK Working Day
S11-RTC-3480	Remove all temporary reclamation (CH3630-Ch 3710) and carry out echo sounding to dredged seabed level	12	12	29-Jun-18	13-Jul-18	-368	HK Working Day
S11-RTC-3530	Works outside Temp D-Wall - Place rock mound to -6.0mPD(Grade 400: 8,000m3@750m3/d)	12	12	13-Jul-18	26-Jul-18	-368	HK Working Day
S11-RTC-3550	Works outside Temp D-Wall - Place Levelling Stone (1,200m2)	12	12	26-Jul-18	07-Aug-18	-368	HK Working Day
S11-RTC-3570	Works outside Temp D-Wall - Install Permanent Seawall Blocks outside D-wall (507 nos. @ 15nos./day)	40	40	13-Sep-18	27-Oct-18	-403	HK Working Day
S11-RTC-3580	Works outside Temp D-Wall - Construct the remaining part of Type 7 seawal	18	18	26-Sep-18	16-Oct-18	-361	HK Working Day
S11-RTC-3590	Works outside Temp D-Wall - Place Rock fill and Geotexile behind Permanent Seawall Blocks	20	20	27-Oct-18	17-Nov-18	-379	HK Working Day
S11-RTC-3592	Works outside Temp D-Wall - Bulk Reclamation for remaining areas behind Permanent Seawall Blocks (4,865m3 @500m3/d)	10	10	17-Nov-18	28-Nov-18	-379	HK Working Day
S11-RTC-3596	Removal of the sheet piles adjacent to the Type 7 seawall at the west side	6	6	26-Sep-18	03-Oct-18	-310	HK Working Day
S11-RTC-3600	Place Seawall Coping and complete reminaing reclamation	90	90	10-Sep-18	15-Dec-18	-365	HK Working Day
Removal of Temporary D-Wall CH 3630 to CH 3710							
S11-RTC-3341b	Preparation for D-Wall Cutting - Remaining Coring inside D Wall (72 nos.for lifting, 3 machine@1no./machine/day)	24	24	23-Mar-18	21-Apr-18	-686	HK Working Day
S11-RTC-3342	Preparation for D-Wall Cutting - Excavation within tunnel cofferdam for cutting holes (350m3 @ 100m3/day)	4	4	21-Apr-18	26-Apr-18	-686	HK Working Day
S11-RTC-3345	Preparation for D-Wall Cutting - Advance Coring within tunnel cofferdam (37 nos., 3 machines@1no./machine/day)	15	15	26-Apr-18	12-May-18	-686	HK Working Day
S11-RTC-3348	Filling water inside cofferdam (2 pumps)	20	20	09-Jul-18	28-Jul-18	-737	HK Working Day
S11-RTC-3355	Remaining D-Wall Coring underwater (37 nos. at 3nos./day)	13	13	28-Jul-18	11-Aug-18	-737	HK Working Day
S11-RTC-3385	Cutting Temporary D-Wall (18 vertical cuts; 2 machines@ 1cut/machine/day)	10	10	11-Aug-18	22-Aug-18	-737	HK Working Day
S11-RTC-3394	Cutting Temp D-Wall (36 horizontal cuts; 2 machines@ 1cut/machine/day) to original seabed level	21	21	22-Aug-18	12-Sep-18	-737	HK Working Day
S11-RTC-3398	Removal of Temp D-Wall blocks	0	0	13-Sep-18	13-Sep-18	-737	HK Working Day



◆ Milestone
◆ Critical Milestones
Current Works
Critical Works
Remaining Level of Effort
Actual Level of Effort

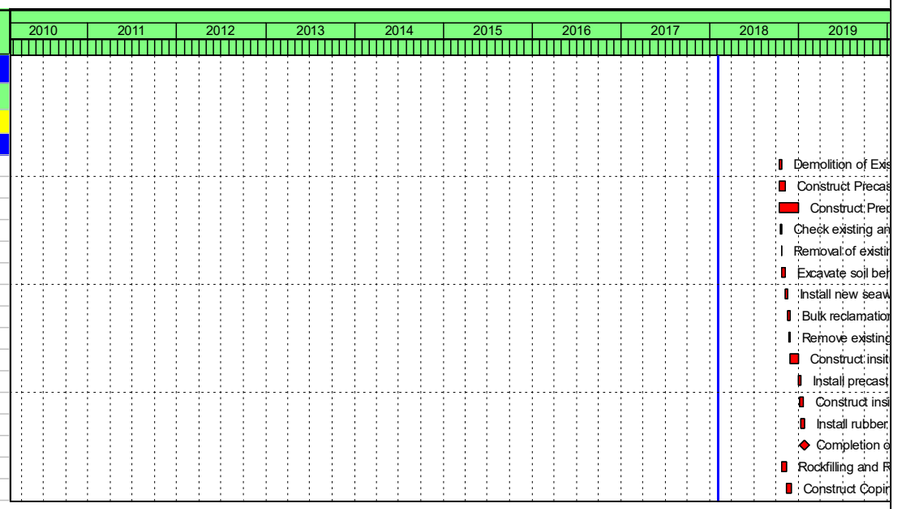
CHUN WO - CRGL JOINT VENTURE

CEDD CONTRACT NO. HK/2009/02
WD II - Central Wanchai Bypass at Wan Chai East (Contract 2)
REVISED WORKING PROGRAMME
(Date Date on 03-Feb-18)

Date	Revision	Checked	Approved
30-Nov-17			

CEDD CONTRACT HK/2009/02

Activity ID	Activity Name	OD	RD	Start	Finish	Total Float	Calendar
Three Month Rolling Programme 2018-03-06 (dd 03-March-18)							
Section 11 of the Works - Remainder of Works							
Misc. Works							
Landing Step at Ex-Helipad							
S11-MIS-1000	Demolition of Existing Seawall for Proposed Landing Step at Ex-Helipad	6	6	13-Oct-18	22-Oct-18	-403	HK Working Day
S11-MIS-1010	Construct Precast Concrete Blocks	27	27	14-Oct-18	10-Nov-18	-444	Calendar Day
S11-MIS-1015	Construct Precast Concrete Step Units	80	80	15-Oct-18	03-Jan-19	-446	Calendar Day
S11-MIS-1020	Check existing and relocate utilities , if necessary, at Ex-Helipad	4	4	18-Oct-18	23-Oct-18	-403	HK Working Day
S11-MIS-1030	Removal of existing furnitures and road surface	4	4	23-Oct-18	26-Oct-18	-403	HK Working Day
S11-MIS-1040	Excavate soil behind proposed landing areas (3,500m3 @ 300m3/day)	14	14	26-Oct-18	10-Nov-18	-403	HK Working Day
S11-MIS-1050	Install new seawall blocks behind existing seawall (70nos. @10 nos./day)	7	7	10-Nov-18	17-Nov-18	-403	HK Working Day
S11-MIS-1060	Bulk reclamation with sorted public fill at the back of new landing (3,000 m3@300m3/day)	12	12	17-Nov-18	29-Nov-18	-403	HK Working Day
S11-MIS-1070	Remove existing seawall blocks	6	6	23-Nov-18	29-Nov-18	-403	HK Working Day
S11-MIS-1080	Construct insitu RC concrete coping	30	30	30-Nov-18	03-Jan-19	-403	HK Working Day
S11-MIS-1090	Install precast concrete step units	7	7	03-Jan-19	10-Jan-19	-403	HK Working Day
S11-MIS-1092	Construct insitu concrete steps	15	15	07-Jan-19	22-Jan-19	-403	HK Working Day
S11-MIS-1094	Install rubber fenders, 10-tonne bollards and railings	14	14	12-Jan-19	28-Jan-19	-403	HK Working Day
S11-MIS-1096	Completion of landing step at Ex-Helipad	0	0		28-Jan-19	-403	HK Working Day
S11-MIS-1100	Rockfilling and Reinstate Removed Tie Beam	21	21	22-Oct-18	12-Nov-18	-354	HK Working Day
S11-MIS-1200	Construct Coping and Landing Step Construction	21	21	12-Nov-18	04-Dec-18	-354	HK Working Day



◆ Milestone
◆ Critical Milestones
Current Works
Critical Works
Remaining Level of Effort
Actual Level of Effort

CHUN WO - CRGL JOINT VENTURE

CEDD CONTRACT NO. HK/2009/02
WD II - Central Wanchai Bypass at Wan Chai East (Contract 2)
REVISED WORKING PROGRAMME
(Date Date on 03-Feb-18)

Date	Revision	Checked	Approved
30-Nov-17			

7.3 Appendix C

Technical Details of the Silt Curtain

Part 1: Genoia Silt Protector DSP15

Structural Calculation

Of Tube Type Silt Protectors

HK/2009/02

February, 2018

Daeyoun

1. INTRODUCTION

The following structural calculation is to be made based on the “Method of installation of Silt Protectors”.

2. DESIGN CONDITIONS

Conditions used for determining the specification are as shown in Table 1.

Table 1 Design Condition

Item	Condition	Item	Condition
Wind Speed ; V	17m/s	Depth of water	7.3m
Current speed ; U	1m/s	Wave length ; L	6.94m
Significant wave height ; H1/3	0.3m	Significant wave period ; T	2.11s
High water level	+2.0mPD	Low water level	+0.5mPD

Note 1) Depth uses M.W.L.(7.3m) .

Note 2) Wave length were calculated as described below.

$$Wave\_period : T = 3.86\sqrt{H}$$

$$Wave\_length : L = \frac{gT^2}{2\pi}\tanh\frac{2\pi h}{L} \approx \frac{gT^2}{2\pi} \bullet 1$$

(g: Gravity = 9.8 m/s^2)

Table 2 Silt Protector installation conditions

Item	Condition	Item	Condition
Float diameter	Ø 0.5m	Inclination angle of anchor rope	30°
Width of silt protector	20m	Service period	6 months
Depth of silt protector	7m	Curtain weight	15.7Kg/m
Space between main anchors/blocks/ton bags	20m	Anchor wire rope	16mm dia

3. Summary of the examination base on above design conditions.

Table 3 Summary

Item	Condition
Wire rope length (Lr)	19 m
Wire rope tension (fw)	>9305.44kg
Anchor	>1550.91kg
Tensile strength on fabric	(75.36 kN/m)
Float diameter (d)	0.5 m

4. Material have to fulfill the requirement of project should be as follows.

Item	Condition
Wire rope length (Lr)	19 m
Wire rope tension (fw)	16mm dia. (11.9 ton) >9305.44kg
Any Anchor with weight over 1.55 ton.	>1550.91kg
Geonia Silt Protector DSP15 Tensile strength of DSP15	150 kN/m > (75.36 kN/m)
DSP15 with Float diameter (d)	0.5 m

Note:

In case of abnormal weather such as typhoon that may produce external forces exceeding design conditions which can damage the units.

Daeyoun Geotech

GEONIA Silt Protector

Product Catalogue of Daeyoun Geotech GEONIA Silt Protector

www.**DYGEOTECH**.com

GEONIA®
Silt Protector

We develop geosynthetics, under the mission of protecting environment as well as human, and supplying highly efficient and cost-effective solutions to global clients.




GEONIA®

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Printed in Jun. 2015

DAEYOUN GEOTECH

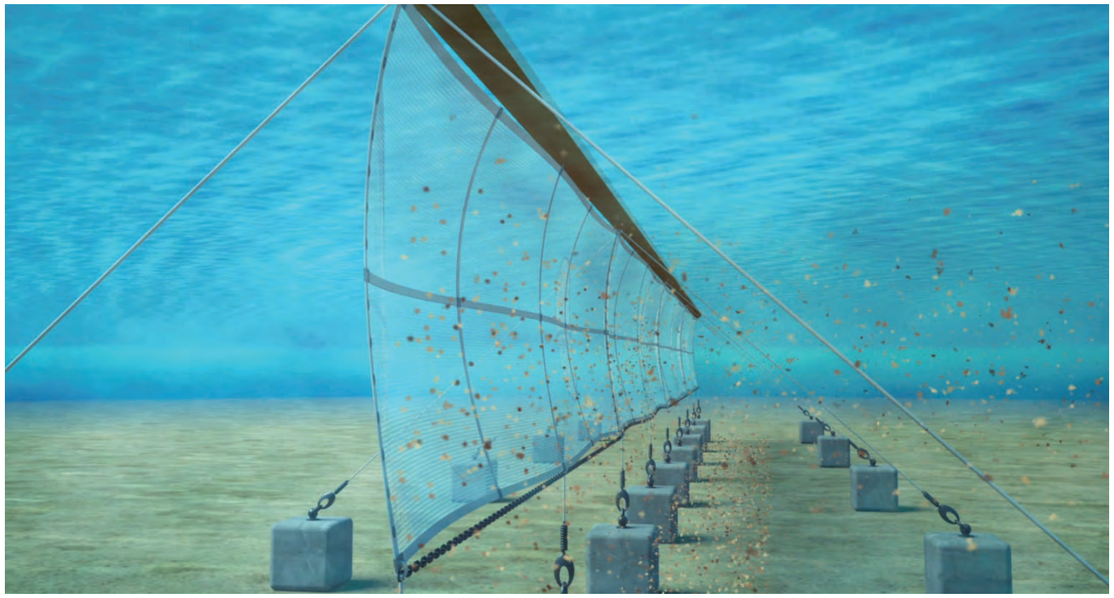
SILT PROTECTOR

PRODUCT

GEONIA® Silt Protector

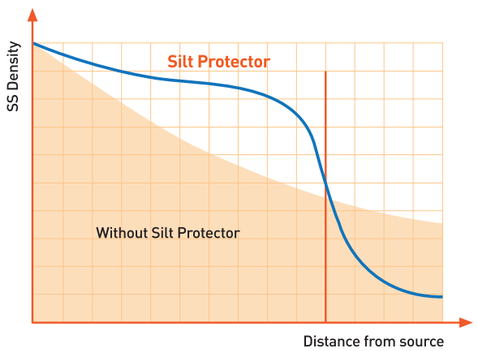
GEONIA® Silt Protector is a silt fence installed in water for preventing spread of environmental contaminants induced by coastal and riverside construction.
Leakage of silt from marine and sewage constructions has a serious influence on marine resources and natural environment of surrounding regions.

GEONIA® Silt Protector is used to preserve the natural environment and protect marine resources. By blocking a specific water zone with a special membrane composed of high strength synthetic fiber, soil particles that occur in the area are filtered and precipitated to prevent leakage and spread of silt water.



Application

- Protection of sea farming and swimming beach from nearby coastal construction
- Reclamation Protection
- Protection of revetment contamination
- Revetment of contaminant

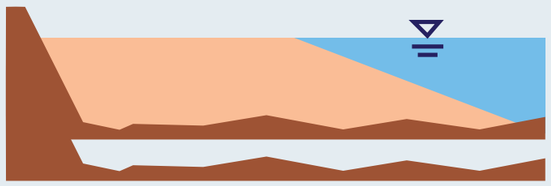


Function

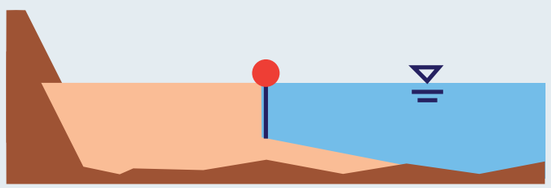
The main function of the GEONIA® Silt Protector is to enclose turbidity and to minimize the influences on outside sensitive areas. Enclosed by Silt Protector, current velocity inside is much lower than outside velocity. This means the GEONIA® Silt Protector is accelerating sedimentation of silt by reducing the flow of velocity.

- The acceleration of the settlement of silt by interference of particles – The installation of GEONIA® Silt Protector suppresses the diffusion of the pollution and make the soil particles interfere with each other to accelerate their settlement.
- The reduction of distance required to settle the silt – As shown, the installation of GEONIA® Silt Protectors narrows the settlement range, resulting in minimizing the diffusion of pollution after the unit.

Without GEONIA® Silt Protector



With GEONIA® Silt Protector

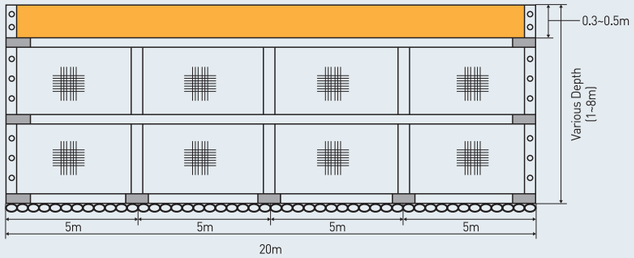


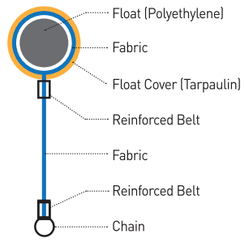
GEONIA® SILT PROTECTOR

TYPES

Tube Type

High external force of tide, wave and wind.

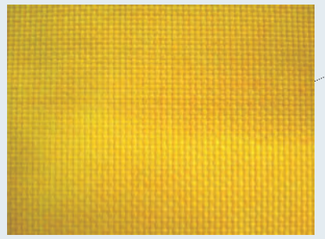




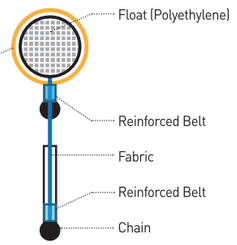
Durable Tube Type

High external force of tide, wave and wind + long resistance from the sunlight

A broken PVC coated fabric in a part of the float



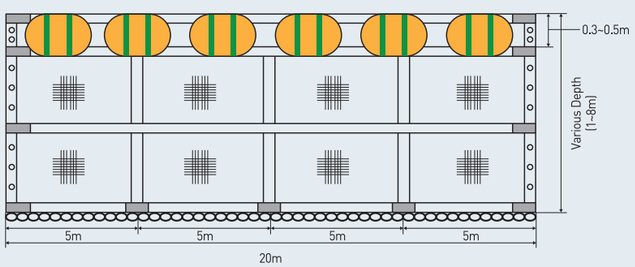
A durable fabric for the float using high tenacity colored yarn

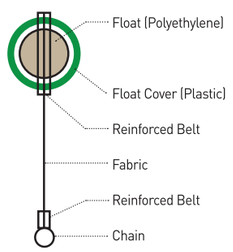


Durable Tube Type GEONIA® Silt Protector applies a durable fabric for the float device by using high tenacity colored yarn, which was improved to solve the problem of fault construction, poor visibility caused by a damaged PVC coated fabric, and marine pollution of a broken PVC coated fabric.

Covering Head Type

Less external force than tube type / easy to install

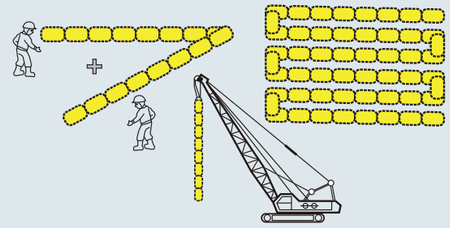




INSTALLATION

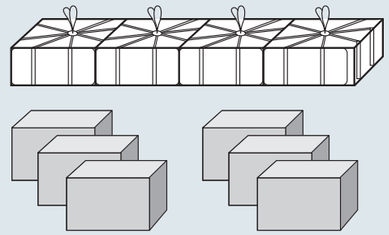
Installation of Tube Type GEONIA® Silt Protector

Assembly

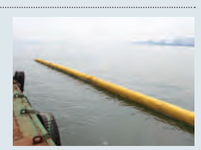


■ Connect each unit of Silt Protectors (Assemble on land)

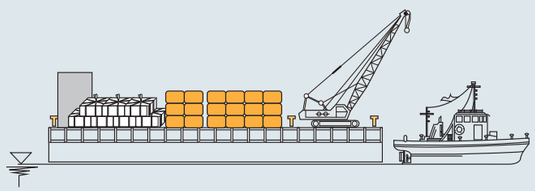
Production of Anchors



■ Make Ton Bag Anchors or Concrete Blocks

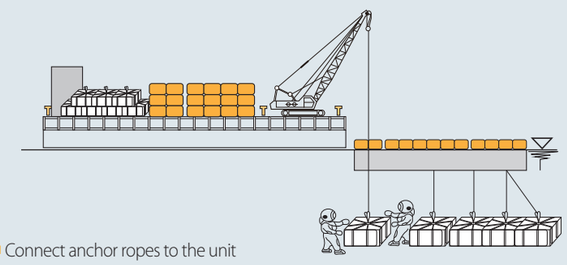


Transportation



■ Load on to barge and move to where you want to install

Installation



■ Connect anchor ropes to the unit

TON BAG ANCHOR

PRODUCT

GEONIA® Ton Bag Anchor

The problem of the most commonly used concrete Anchor Block is that it is difficult to collect, a large area is required for assembly, dust scattering occurs and high payback leads to high expenses. In terms of environmental impact, the concretes exposure to the sea may adversely affect the ecosystem.

GEONIA® Ton Bag Anchor has the advantage of overcoming the limitations and high cost of the concrete anchor.

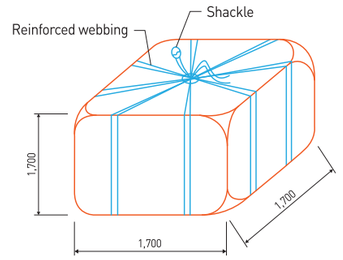
Rubble being added to GEONIA® Ton Bag Anchor

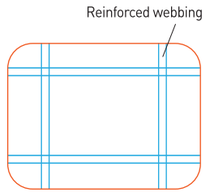
GEONIA® Ton Bag Anchor being installed

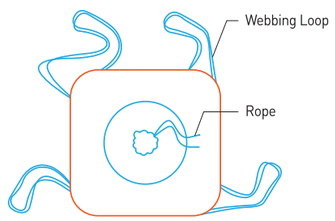
Comparison of Anchors

	Concrete Anchor	Ton Bag Anchor
Material	Concrete	Polypropylene
Recovery	Less than 50%	More than 90%
Production Area	A large area is required	A small area is required
Environmental	Generates dust scattering during production, adverse aquatic effects	Recyclable
Workability	Difficult to carry	Easy to handle

GEONIA® TON BAG ANCHOR is a perfect alternative, that overcomes all the problems of existing anchors in the economical, constructible and environmental aspects.







SPECIFICATION

GEONIA® Silt Protector

Property	Unit	TEST METHOD	DSP 15	DSP 20	DSP 25	DSP 30
Fabric Unit Weight	g/m2	ASTM D 5261	450	650	750	900
Fabric Tensile Strength	kN/m	ASTM D 4595	150	200	250	300
Fabric Elongation	%	ASTM D 4595	20	20	25	25
Fabric Permeability	cm/s	ASTM D 4491	α X 10-2~-4 (α=1~9.9)			
Rate of Contraction	%	ISO 7771	± 0.2			
Material of Fabric		ASTM D 276	Polyester			
Float Diameter			300 mm ~ 500 mm			

GEONIA® Ton Bag Anchor

Property	Unit	Ton Bag Anchor	TEST METHOD
Fabric Weight	g/m2	350	ASTM D 5261
Fabric Tensile Strength	kN/m	100	ASTM D 4595
Fabric Elongation	%	30	ASTM D 4595
Fabric Permeability	cm/sec	α X 10-2~-4 (α=1~9.9)	ASTM D 4491
Raw Material		Polypropylene	ASTM D 276
Size	m	1.5 × 1.5 × 1.5 1.6 × 1.6 × 1.6 1.7 × 1.7 × 1.7	

Daeyoun Geotech

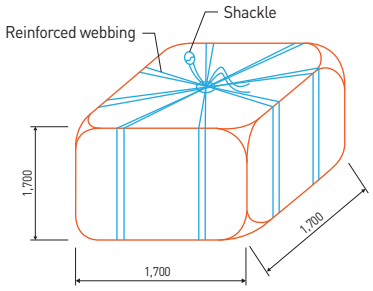
GEONIA Silt Protector

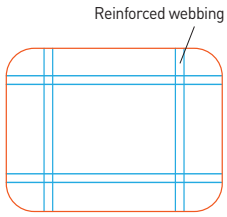
Product Specification of GEONIA Silt Protector

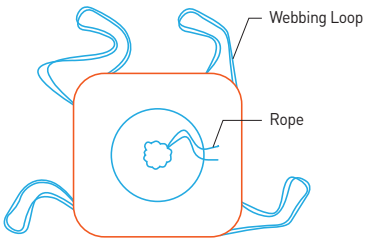
SPECIFICATION

GEONIA® Silt Protector

Property	Unit	TEST METHOD	DSP 15	DSP 20	DSP 25	DSP 30
Fabric Unit Weight	g/m2	ASTM D 5261	450	650	750	900
Fabric Tensile Strength	kN/m	ASTM D 4595	150	200	250	300
Fabric Elongation	%	ASTM D 4595	20	20	25	25
Fabric Permeability	cm/s	ASTM D 4491	α X $10^{-2\sim-4}$ (α=1~9.9)			
Rate of Contraction	%	ISO 7771	± 0.2			
Material of Fabric		ASTM D 276	Polyester			
Float Diameter			300 mm ~ 500 mm			







GEONIA® Ton Bag Anchor

Property	Unit	Ton Bag Anchor	TEST METHOD
Fabric Weight	g/m2	350	ASTM D 5261
Fabric Tensile Strength	kN/m	100	ASTM D 4595
Fabric Elongation	%	30	ASTM D 4595
Fabric Permeability	cm/sec	α X $10^{-2\sim-4}$ (α=1~9.9)	ASTM D 4491
Raw Material		Polypropylene	ASTM D 276
Size	m	1.5 X 1.5 X 1.5 1.6 X 1.6 X 1.6 1.7 X 1.7 X 1.7	

Daeyoun Geotech

GEONIA Silt Protector

Certificate

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www.egeonia.com E-mail: overseas@egeonia.com

CERTIFICATE OF QUALITY AND QUANTITY

2018-03-2

* PO NO: PO NO. 180301-01 DATED MAR.01,2018
PO NO. 180301-02 DATED MAR.01,2018

* APPLICANT: G AND E COMPANY LIMITED
14/F KIU YIN COMMERCIAL BUILDING
361-363 LOCKHART ROAD, WANCHAI, HONG KONG
TEL: +852-2570 0103 FAX:+852-2570-0089
* MANUFACTURER: DAEYOUN GEOTECH CO., LTD
123, APOGONGDAN-GIL, APO-EUP, GIMCHEON-SI,
GYEONGSANGBUK-DO, 39670, SOUTH KOREA.
TEL: +82-2-539-9700 FAX: +82-2-539-9710
* SHIPPING DATE : 2018-03-09

* DESCRIPTION OF GOODS
- GEONIA SILT PROTECTOR DSP30
SIZE: 20M (W) X 3M (D)/SPAN
TYPE: TUBE TYPE (FLOAT INCLUSIVE)
FLOAT SIZE: D500mm
STEEL PLATE: UPGRADE STEEL PLATE
BALLAST Chain: CHAIN: 5KG/M

- GEONIA SILT PROTECTOR DSP15
SIZE: 20M (W) X 7M (D)/SPAN
TYPE: TUBE TYPE (FLOAT INCLUSIVE)
FLOAT SIZE: D500mm
STEEL PLATE: NORMAL STEEL PLATE
BALLAST Chain: CHAIN: 5KG/M

COMMODITY	NO. OF UNIT	N/WEIGHT(KGS)	G/WEIGHT(KGS)
DSP 30	10 SPANS	3,100	3,150
DSP 15	13 SPANS	4,082	4,147

DSP30 TUBE TYPE	Q'TY/SPAN	TOTAL Q'TY	SPARE
19MM SHACKLE	4 EA	40 EA	0 EA
14MM SHACKLE	2 EA	20 EA	0 EA
PP ROPE	10 M	100 M	0 M

DAEYOUN GEOTECH
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Tel +82-2-539-9700 Fax: +82-2-539-9710
www.egeonla.com E-mail: overseas@egeonla.com

DSP15 TUBE TYPE	Q'TY/SPAN	TOTAL Q'TY	SPARE
19MM SHACKLE	6 EA	78 EA	0 EA
14MM SHACKLE	2 EA	26 EA	0 EA
PP ROPE	14 M	200 M	0 M

WE GUARNTEE THAT THE ABOVE GOODS DELIVERED IN ACCORDANCE WITH THE CONTRACT WILL BE FREE FROM ANY DEFECT IN DESIGN AND MATERIALS THAT IT WILL WORK PROPERLY WITH HIGH PERFORMANCE.

DAEYOUN GEOTECH CO.,LTD.
Sangki Lee
PRESIDENT S . K . L E E

Certification of Registration

DAEYOUN GEOTECH CO., LTD.

Head Office : 11, Dangsan-ro 41-gil, Yeongdeungpo-gu, Seoul, Korea
Factory : 123, Apogongdan-gil, Apo-eup, Gimcheon-si, Gyeongsangbuk-do, Korea

STANDARDS

ISO 9001 : 2008 / KS Q ISO 9001:2009

SCOPE OF SUPPLY

Manufacture and Servicing of Industrial Fabrics (PET Woven Geotextile, PP Woven Geotextile, Geocomposite, Base Cloth, Geotextiles & Geosynthetics) , Twisted Yarns, Silt Protector & Sewing

ITS Certification Body certifies that Quality Management System of this organization is conforming to the standard and certificate scope.

Certificate Valid Date : 19-Apr-2016 ~ 30-Aug-2019

Certifcate No. : ITS-KQ-00426

Date of Initial Approval : 11-Oct-2010
Initial Certificate Expiry Date : 30-Aug-2016
Recertificate Issued Date : 13-Jul-2016

13-Jul-2016

by *Joon Young Park*
President

ITS
Intelligence Technology Standard Inc.

INTELLIGENCE TECHNOLOGY STANDARD ASSURANCE

서울시 영등포구 63로 32 (여의도동 라이프콤비 B/D) 1302 Website: www.itscert.or.kr webmaster@itscert.or.kr

* KAB 마크는 한국인정원으로부터 품질/환경 인증기관으로 지정 (지정번호 : KAB-QC-46/KAB-EC-41)되었음을 나타내는 인정마크입니다.
* IAF MLA 마크는 QMS/EMS에 대한 국제인정기관협력기구의 국제다자간상호 인정협정가입인정기관에 의한 인정마크입니다.

*This certificate is available by September 14 2018 in accordance with the revised 2015 version of ISO standard.
Recertification Audit Date : 2016 07.11~12

Version 1.0

Certification of Registration

DAEYOUN GEOTECH CO., LTD.

Head Office : 11, Dangsan-ro 41-gil, Yeongdeungpo-gu, Seoul, Korea
Factory : 123, Apogongdan-gil, Apo-eup, Gimcheon-si, Gyeongsangbuk-do, Korea

STANDARDS

ISO 14001 : 2004 / KS I ISO 14001:2009

SCOPE OF SUPPLY

Manufacture and Servicing of Industrial Fabrics (PET Woven Geotextile, PP Woven Geotextile, Geocomposite, Base Cloth, Geotextiles & Geosynthetics) , Twisted Yarns, Silt Protector & Sewing

ITS Certification Body certifies that Environment Management System of this organization is conforming to the standard and certificate scope.

Certificate Valid Date : 31-Aug-2016 ~ 30-Aug-2019

Certifcate No. : ITS-KE-00231

Date of Initial Approval : 11-Oct-2010
Initial Certificate Expiry Date : 30-Aug-2016
Recertificate Issued Date : 13-Jul-2016

13-Jul-2016

by *Joon Young Park*
President

ITS
Intelligence Technology Standard Inc.

INTELLIGENCE TECHNOLOGY STANDARD ASSURANCE

서울시 영등포구 63로 32 (여의도동 라이프콤비 B/D) 1302 Website: www.itscert.or.kr webmaster@itscert.or.kr

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*This certificate is available by September 14 2018 in accordance with the revised 2015 version of ISO standard.
Recertification Audit Date : 2016 07.11~12

Version 1.0

ZERTIFIKAT

Certification Body CE 1213
SKZ – TeConA GmbH
Friedrich-Bergius-Ring 22
97076 Würzburg
Germany

EC Certificate of Factory Production Control
1213–CPD–5431

In compliance with Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (the Construction Products Directive or CPD), as later amended, it has been stated that the construction products

Geonia DM-10, Geonia DM-15, Geonia DM-20, Geonia DM-25, Geonia DML-10, Geonia DML-20, Geonia DML-30, Geonia DML-40

Geotextile, woven; Raw material: PET
used for the function: S + R

placed on the market by

Daeyoun Geotech Co. Ltd.

#1121, Poonglim Bldg
404, Gongduch-dong
Mapo-gu
Seoul
South Korea

and produced in the factory

Gyeongsangbuk-do

are submitted by the manufacturer to the initial type-testing of the products, a factory production control (FPC) and to the further testing of samples taken at the factory in accordance with a prescribed test plan and that the notified body No. 1213 - SKZ – TeConA GmbH, Würzburg, Germany - has performed the initial inspection of the factory and of the FPC and performs the continuous surveillance, assessment and approval of the FPC.
This certificate attests that all provisions concerning the attestation of FPC described in Annex ZA of the standard

EN 13249:2000/A1:2005; EN 13250:2000/A1:2005; EN 13251:2000/A1:2005; EN 13257:2000/A1:2005

were applied.
This certificate was first issued on 2012-12-19 and remains valid as long as the conditions laid down in the harmonised standard in reference or the manufacturing conditions in the factory or the FPC itself are not modified significantly.

SKZ - TeConA GmbH
SKZ
Zertifizierungsstelle

i. V.

Würzburg, 19 December 2012

Dipl.-Ing. Helmut Zanzinger
Certification Body

Daeyoun Geotech

GEONIA Silt Protector

Installation, Caution & Maintenance Guideline

DAEYOUN GEOTECH
GEONIA®

Silt Protector

Installation
Caution
Maintenance

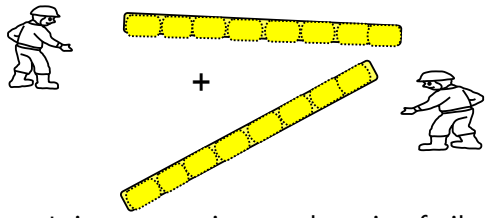
2013. 12. 26

DAEYOUN GEOTECH
GEONIA®

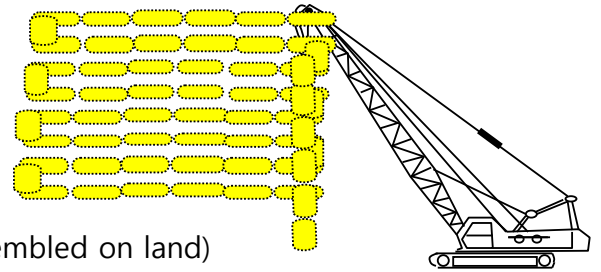
Basic Installation Guide

Silt Protector

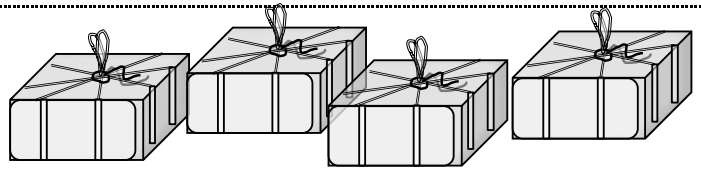
Flot & Curtain part



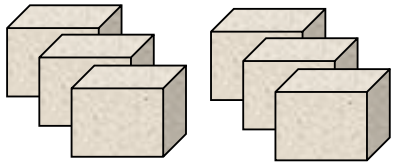
- Joint connetion each unit of silt protector (assembled on land)



Silt Protector Tonbag Anchor

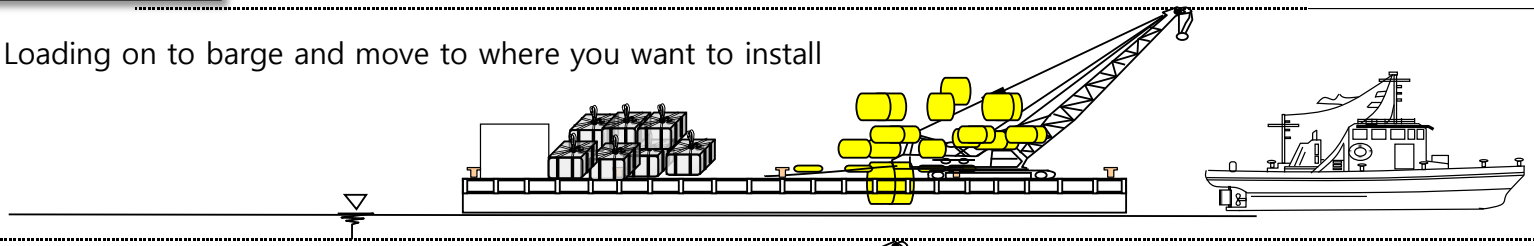


- Make Tonbag Anchor or Concrete Block

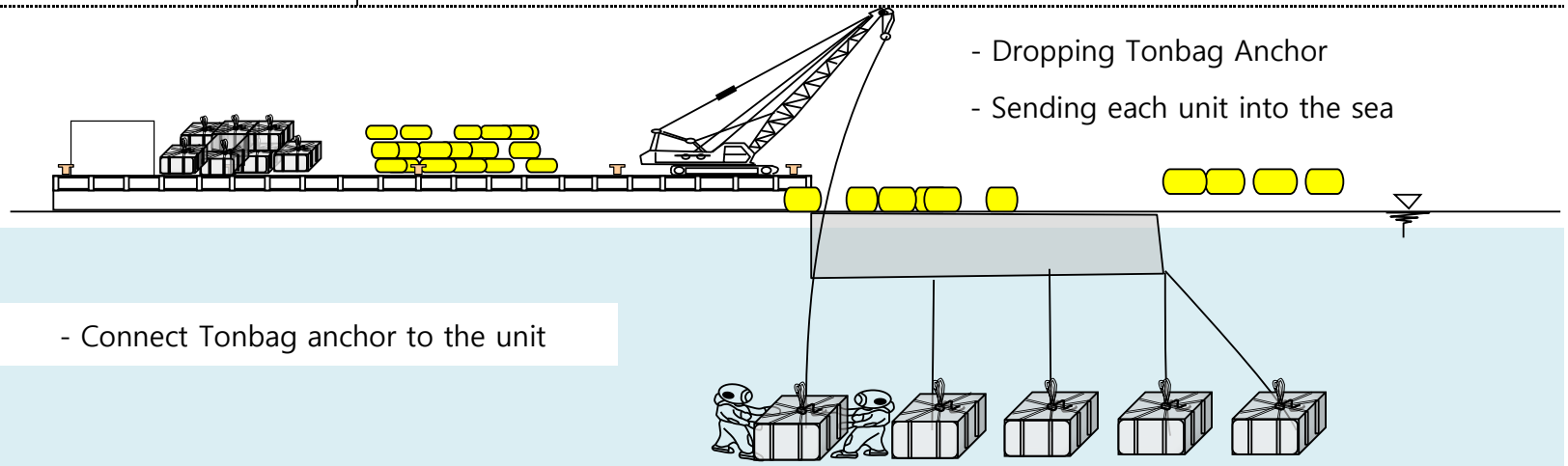


Loading & move

- Loading on to barge and move to where you want to install



Installation



- Dropping Tonbag Anchor
- Sending each unit into the sea
- Connect Tonbag anchor to the unit

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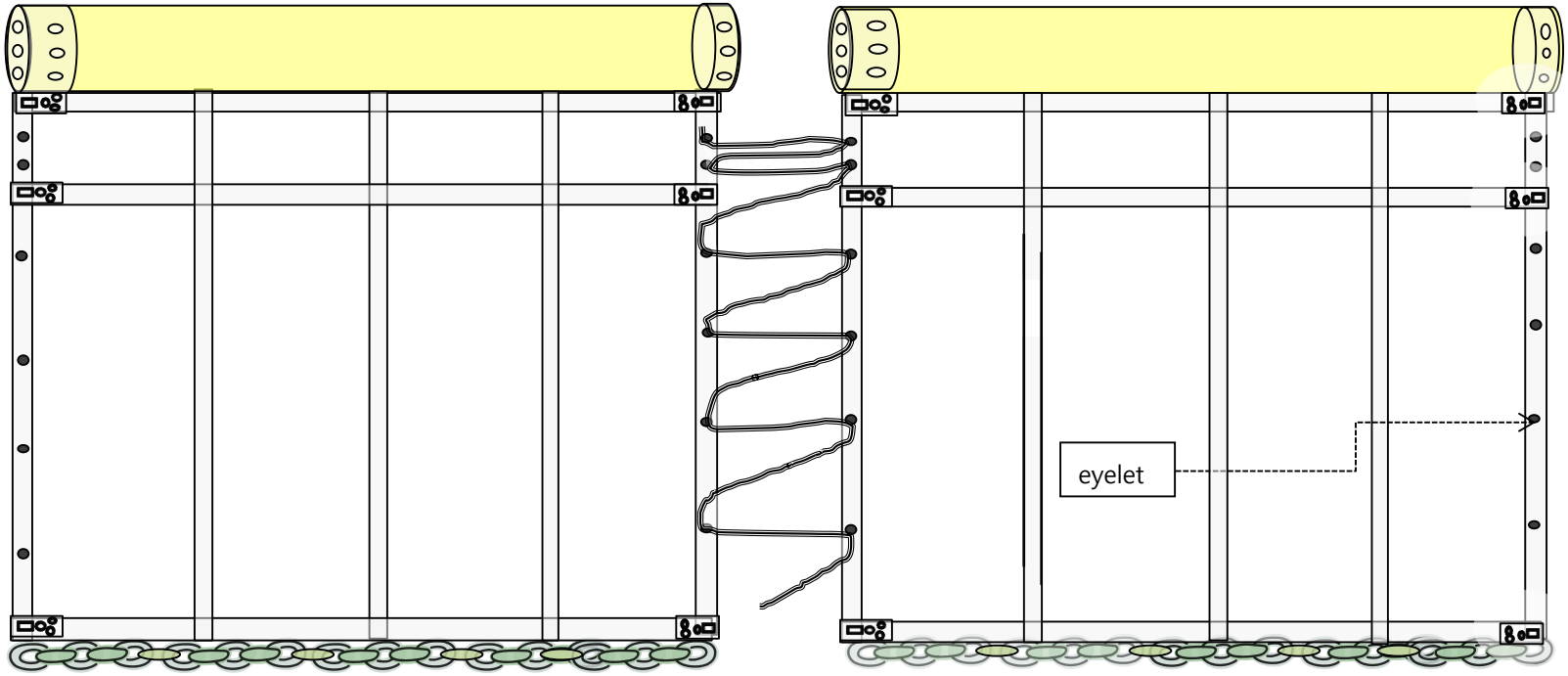
Installation Guide (Connecting curtain and curtain)



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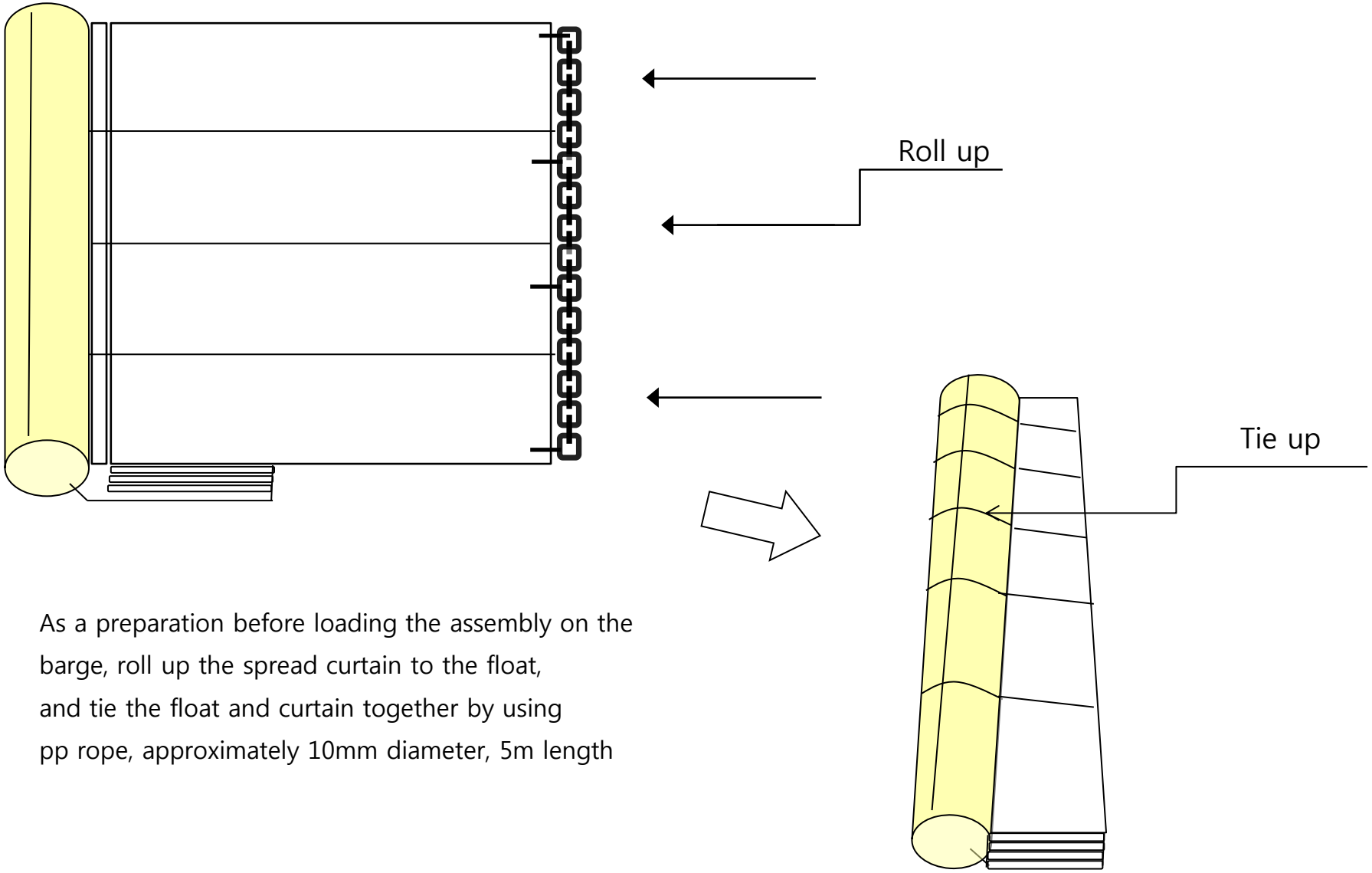
GEONIA®

Installation Guide (Tempory tying curtains)



As a preparation before loading the assembly on the barge, roll up the spread curtain to the float, and tie the float and curtain together by using pp rope, approximately 10mm diameter, 5m length

DAEYOUN GEOTECH
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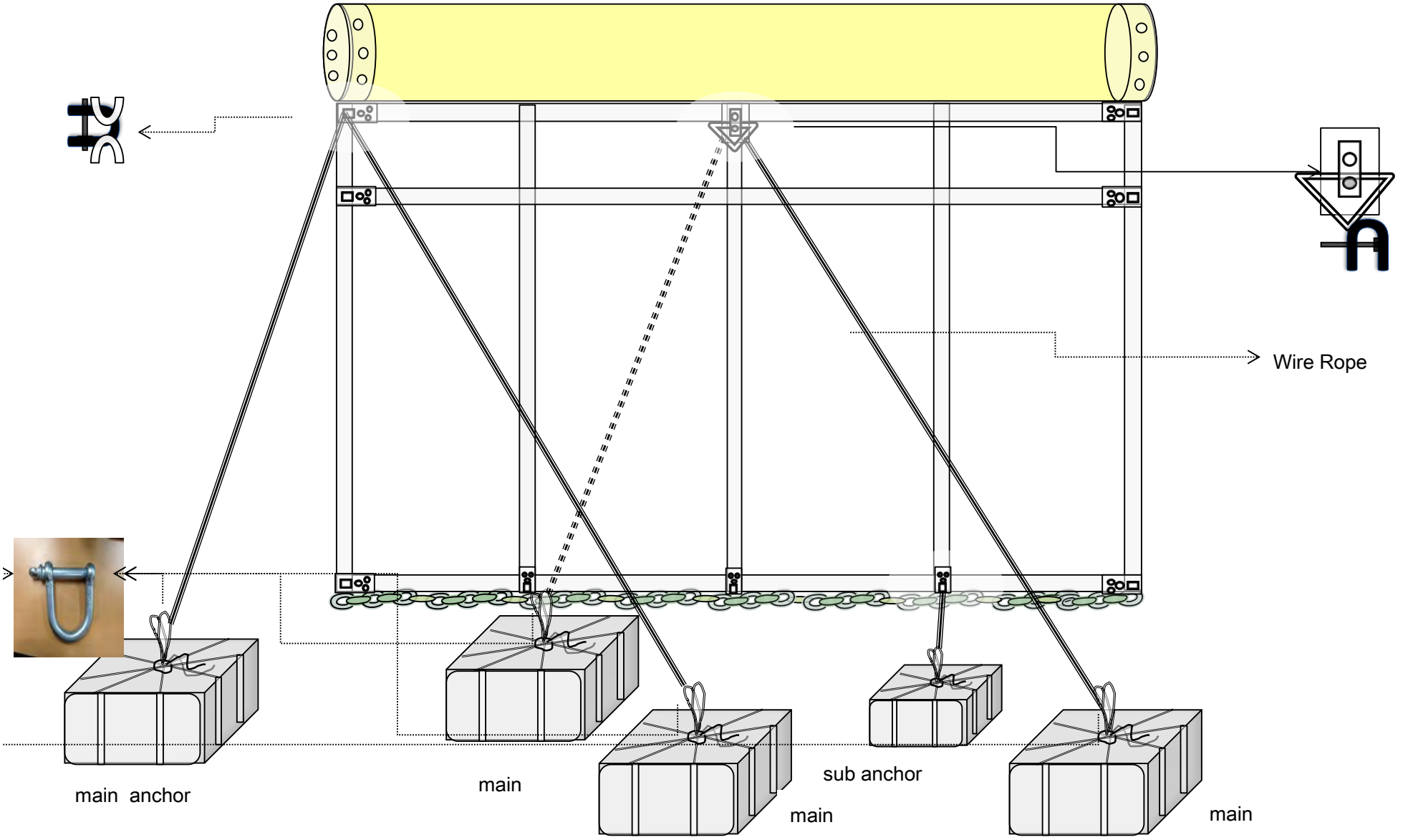
Installation Guide (Connecting Curtain and Anchor)



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Caution

Caution

Designate a person who is in charge of management of the Silt Protector.
If an environment that exceeds the design conditions is estimated, remove the Silt Protector immediately, or the unit may be da
If the Silt Protector requires a repair, take necessary actions soon. If it is left without being repaired, the function of the unit may be affected adversely or the damage may expand so that it cannot be repaired.

In casethe Silt Protector has been dislocated from the proper position or the layout has been deformed, restore it to original position or formation immediately. Otherwise, serious accident may be caused.

Be careful not to damage the float and curtain when removing sea shells and plants from these components.
The float is made of Styrofoam which is inflammable . Keep fire away from this component.

Preconditions for maintenance

This Silt Protector has been designed based on the precondition that it must be removed in environmental conditions that exceed the design condition, Therefore, in case it was not removed in such condition, it must be inspected after such environmental condition has ended, and must be repaired as soon as possible if necessary.

Check the unit periodically, and any component that have been deteriorated due to aging must be repaired or replaced with ne

Table 1 presents the conditions on which this Silt Protector is designed.

Table 1 Design conditions

Item	Condition	Item	Condition
Speed of wind	m/second	Diameter float	m
Speed of current	m/second	Length of curtain	m
Wave Height	m/second	Serviceable life	months
Period of wave	Seconds	Range of tide	H.W.L + m
Wave length	m		L.W.L . .m
Depth of water	m	Sediment	

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Maintenance 1

Maintenance

Daily inspection

The Silt Protector should be visually monitored by patrol during the period it is placed in the water. The patrol is performed on the boat for the purpose of preventing ships from running against the unit and of finding abnormality in earlier phase. (once per day)

Caution: In case the Silt Protector has a serous trouble , Failure to do the daily check may cause serious trouble in addition to the loss of its normal pollution protection performance.

Peridodic inspection

In addition to visual inspection on the boat, periodicallty dive to check the unit thoroughly. (Once per every three month)

Caution: In case the Silt Protector has been damaged, failure to do the periodical check may cause the loss of its normal pollution peotection performance and a damage that cannot be repaired to occur.

Extra inspection

After typhoon or other abnormal weather, check the unit for the purpose of finding possible damages or troubles earlier. This check is performed basically on the boat, but dive to check the unit if necessary.

Caution: In case the Silt Protector has been seriously damaged, failure to do the extra check may cause the loss of its nomal pollution protection performance and a damage that cannot be repaired to occure.

Sea shell removal

If it is found that the freeboard of the float is less than 1/2 of its diameter due to increase of the total weight with the growth of sea shells and plants on the float and curtain, dive to clean these components. It is recommended to monitor the change of the freeboard of the float. check it at the periodical inspection, and record the growth of the sea organisms. (perform these works as necessary.)

Caution: Failure to do the cleaning may increase the weight of the Silt Protector resulting in sinking it to cause loss of the function. Be careful not to damage the Silt Protector when cleaning the unit.

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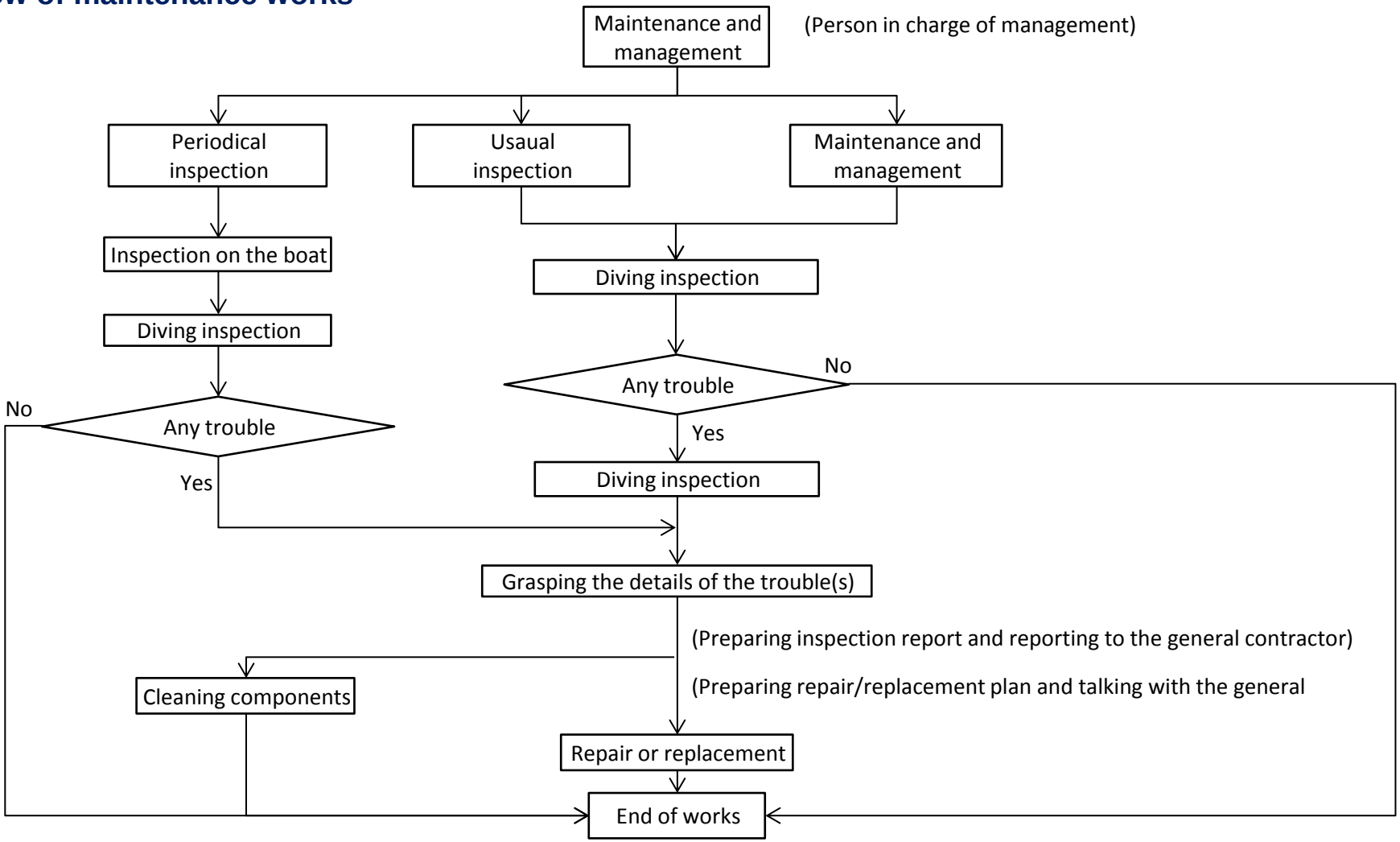
Maintenance 2

Flow of maintenance works



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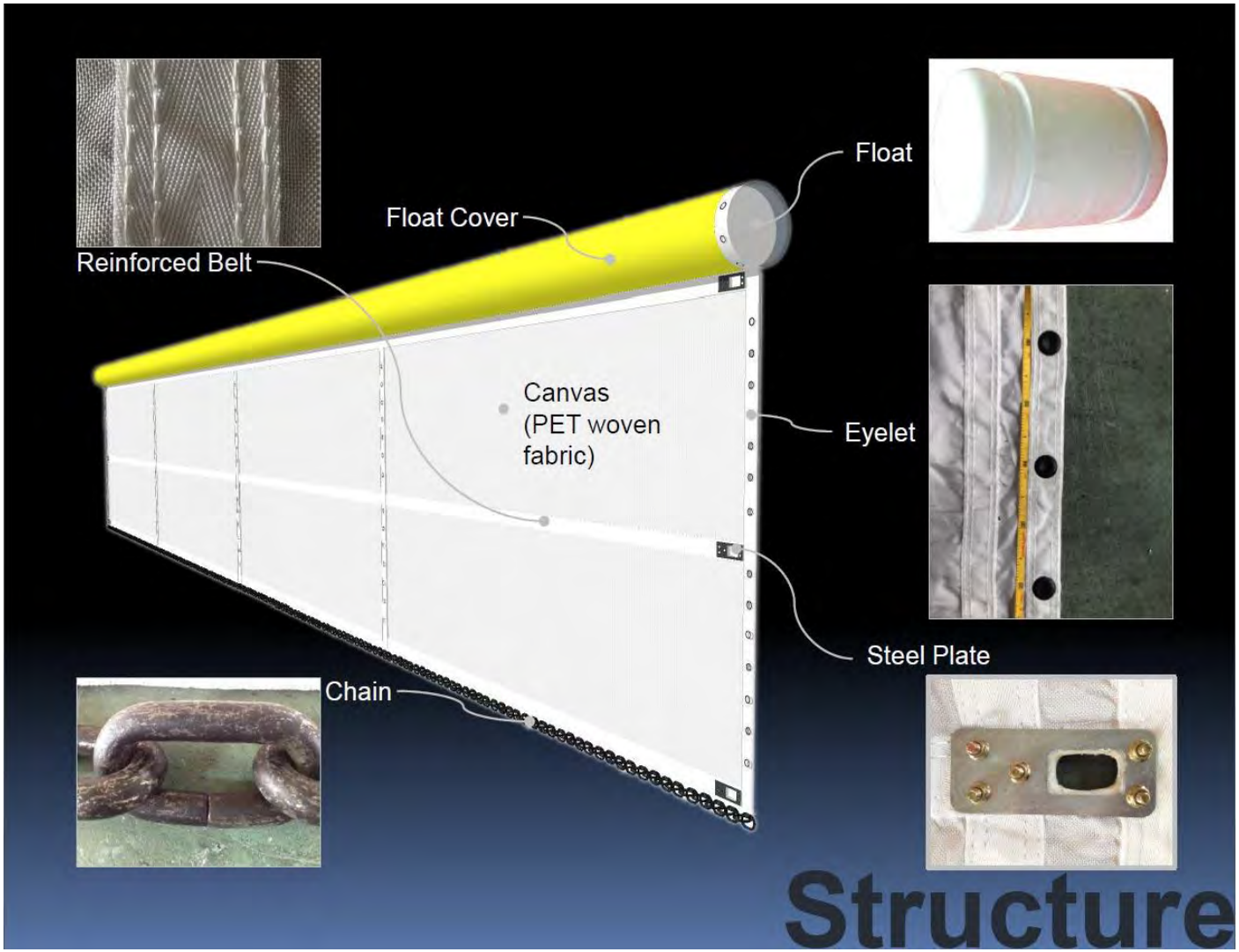
Parts



DAEYOUN GEOTECH
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2014-03-04

Project list of Silt Protector

We, Daeyoun Geotech, hereby certify that the following are our main project list in **Vietnam.**

Name of Project	Contract Amount (USD)	Month/Year	Span
NSRP Project	300,000	Sep. 2013	150 spans
Lach Huyen Project	100,000	Sep. 2013	100 spans
Total	400,000	-	250 spans

We, Daeyoun Geotech, hereby certify that the following are our main project list in **Korea.**

Name of Project	Contract Amount (USD)	Month/Year	Span
Gamcheon Port (International Fish Market) Construction	160,000	Nov. 2013	267 spans
Boryeong-Taean 2 Sector	210,000	Oct. 2013	350 spans
Heaundae Beach	432,000	May. 2013	720 spans
Dangjin Thermal Power Plant Construction	450,000	Aug. 2013	750 spans
Incheon Port International Passenger Wharf Construction	10,000	Sep. 2012	17 spans
Pusan New Port Second (2-5 Step)	10,000	Sep. 2012	17 spans
Galsa Bay Shipbuilding Industry Construction	100,000	Aug. 2012	167 spans
Mokpo South-Port Government Ships Pier Construction	50,000	Aug. 2012	83 spans
Aewol Port Step 2	10,000	Jul. 2012	17 spans
Port Mooring Facilities Construction	15,000	Mar. 2012	25 spans
Gogyunsan 3 Sector	10,000	Jan. 2012	17 spans
Gwangyang Drainage Construction	15,000	Jan. 2012	25 spans
Sinma Port Construction	25,000	Jul. 2011	42 spans
Ulsan New Port Construction	12,000	Jul. 2011	20 spans
Gwangyang Plant Expansion Construction	20,000	May. 2011	33 spans
Yeosu Oil Tank Construction	10,000	Apr. 2011	17 spans
Samcheong Green Power Construction	13,000	Feb. 2011	22 spans
Pusan Port Coast Guard Pier Construcition	10,000	Feb. 2011	17 spans
Jeongoghang Aquarium Relocation	10,000	Feb. 2011	17 spans
Dangjin Thermal Power Plant Construction	15,000	Feb. 2011	25 spans
Kyungin-Ara Waterway Construction	12,000	Feb. 2011	20 spans
Seogmun 5 Sector	10,000	Jan. 2010	17 spans
Daewoo Tongyeong LNG Construction	20,000	Sep. 2009	33 spans
Total	1,629,000	-	2715 spans

DAEYOUN GEOTECH
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www.egeonia.com E-mail: overseas@egeonia.com

SILT PROTECTOR PROJECT LIST (OVERSEAS)

We, Daeyoun Geotech, hereby certify that the following are our main overseas project list in overseas

Name of Project	Nation	Contract (USD)	Month/Year
Pinang Island Reclamation Project	Malaysia	11,585	MAR. 2016
Tsuen Wan West Station, TW-6 Property Development	HongKong	898	AUG. 2015
Replacement and rehailitaion of water mains at Peng Chau	HongKong	3,016	MAR. 2015
Deep vemet Mixing Trial Works	HongKong	10,186	MAR. 2015
Dual 2-lane carriageway between HZMB BCF and North Lantsu Highway	HongKong	20,306	APR. 2014
Catbi airport	VIETNAM	300,000	DEC. 2013
Congio Island development	VIETNAM	100,000	DEC. 2013
Congio Island development	VIETNAM	100,000	DEC. 2013
Pomosa Posco	VIETNAM	300,000	DEC. 2013
Hanoi~Haiphong pkg7 GS	VIETNAM	500,000	DEC. 2013
Pomosa Hathin Steel	VIETNAM	200,000	DEC. 2013
Camau Road & etc	VIETNAM	1,500,000	DEC. 2013
The Sothern Coastal Corridor-Minh Luong project	VIETNAM	730,000	DEC. 2012
Siltprotect(NSRP Project)	VIETNAM	300,000	SEP. 2013
Siltprotect(Lach Huyen Project)	VIETNAM	100,000	SEP. 2013
The Sothern Coastal Corridor-Kenh 14 Bridge	VIETNAM	100,000	NOV. 2012
Rach Gia Giang Bypass Project	VIETNAM	250,000	NOV. 2012
Hanoi-Haiphong Express Way 5 Sector	VIETNAM	500,000	AUG. 2012
Hanoi-Haiphong Express Way 4 Sector	VIETNAM	1,000,000	MAR. 2012
Hanoi-Haiphong Express Way 6 Sector	VIETNAM	520,000	MAR. 2012
Hanoi-Haiphong Express Way 2 Sector	VIETNAM	520,000	OCT. 2011
Hanoi-Haiphong Express Way 10 Sector	VIETNAM	520,000	SEP. 2011
Hanoi-Haiphong Express Way 3 Sector	VIETNAM	600,000	SEP. 2011
Hanoi-Haiphong Express Way 8 Sector	VIETNAM	600,000	SEP. 2011
Hanoi-Haiphong Express Way 7 Sector	VIETNAM	615,000	APR. 2011
Hochiminh TBO Project	VIETNAM	50,000	APR. 2011
Posco port for steel process factory in Phu My	VIETNAM	150,000	APR. 2010
National way Hochiminh~Trung Luong project	VIETNAM	200,000	FEB. 2010
Caimep Industrial Park	VIETNAM	200,000	JUN. 2010
National way No. 61B project	VIETNAM	200,000	JUN. 2010
National way No.51 project	VIETNAM	300,000	JUN. 2009
Hanoi~Hochiminh Express Way Caugie-Ninh binh project	VIETNAM	400,000	JAN. 2008
Hanoi Than Tri Bridge	VIETNAM	300,000	JAN. 2008

Daeyoun Geotech

GEONIA Silt Protector

Project Reference

G & E ENGINEERING Since 1984

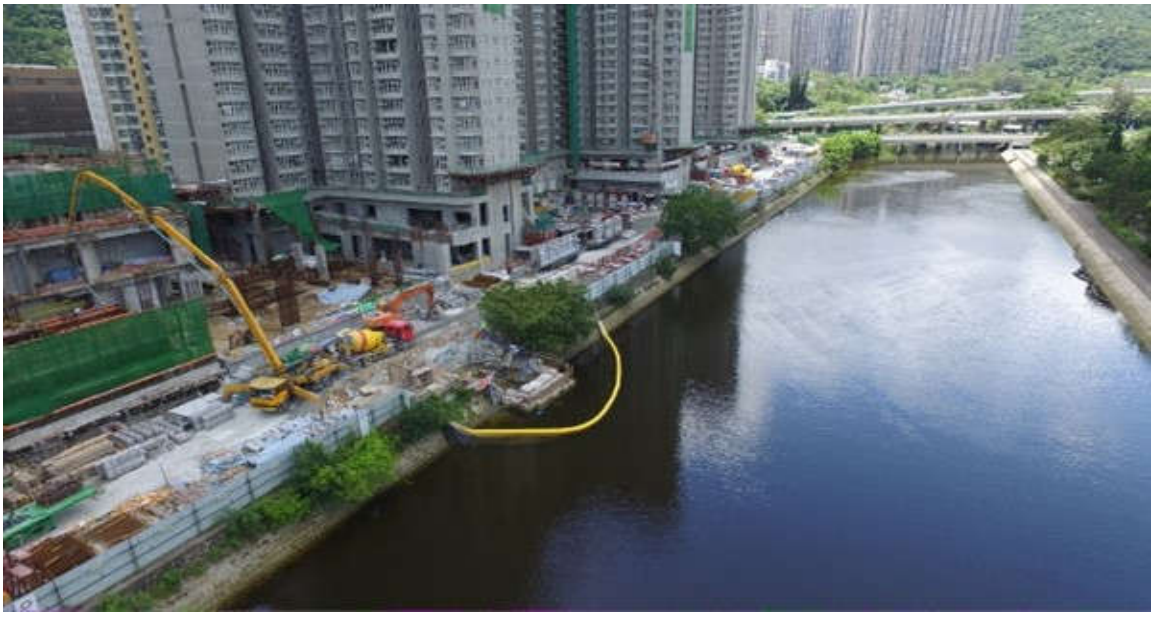
GEONIA Essential Geosynthetics

Daeyoun Geotextile Silt Protector

Date	Project	Client	Consultant	Model	Size (W x Lm)	No. of Span
Jul-03	CV/2002/04 Penny's Bay Reclamation Stage 2	Gammon Construction Ltd	Scott Wilson Ltd		5 x 20m 5 x 10m	86 256
May-13	DC/2011/01 Drainage Maintenance and Construction in Mainland South Districts (2011-2015)	World Diamond Engineering Ltd	Drainage Services Department	GSP 15	5x20m 3x5m 3x2m 3x13m	1 10 1 4
Apr-14	HY/2012/07 Dual 2-lane carriageway between HZMB BCF and North Lantau Highway	Gammon Construction Ltd	AECOM Asia Co Ltd	DSP15	6 x 20 7 x 20 9 x 20	24 10 10
Mar-15	16/WSD/11 Replacement and rehabilitation of water mains at Peng Chau, Sunshine Island and Hei Ling Chau	Pipe Tech Ltd MIRDTEC HK Ltd	AECOM Asia Co Ltd	DSP 15 DSP 15 DSP 15	0.6 x 20 1.2 x 20 1.5 x 20	1 22 6
Mar-15	P552 Deep Cement Mixing Trial Works	Penta Ocean Construction Co Ltd	Atkins China Ltd & Mott MacDonald	DSP30 DSP30	8 x 20 8 x 25	2 6
Aug-15	Tsuen Wan West Station, TW-6 Property Development	Hip Hing Construction Co Ltd	Mannars Chan & Associates	DSP15	4 x 20	1
Dec-15	HK/2012/08 Wan Chai Development Phase II - Central Wan Chai Bypass at Wan Chai West	China State - Leader JV	AECOM Asia Co. Ltd	DSP30 DSP30 DSP15 DSP15 DSP15	10 x 20 5 x 10 10 x 20 9 x 20 8 x 20	6 6 5 5 5
Mar-16	Asia Pacific Gateway (APG) - Tseung Kwan O (Cape Collinson)	Maritime Mechanic Ltd	Environmental Resources Management	DSP15	14 x 12	20
Nov-16	Dredging works at Marina Cove	Fung Kau Kee Contractors Ltd		DSP15	5 x 20	2
Nov-16	HY/2012/08 Tuen Mun - Chek Lap Kok Link Northern Connection Sub-sea Tunnel Section	Crown Asia Engineering Ltd Dragages - Bouygues JV	AECOM Asia Co. Ltd	DSP15 Marker Buoy	8 x 20 9 x 20 10 x 20 Dia: 520mm	5 35 5 12 nos.
Dec-16	C3203 3rd Runway System Project DCM Ground Improvement Works (Package 3)	Sambo E & C Co Ltd	Atkins China Ltd & Mott MacDonald	DSP 30 Barge Type	4 x 10 2 x 10 4 x 9 1.6 x 9 2.8 x 9 1.8 x 9 2 x 9	46 2 246 4 2 2 2
Dec-16	C3204 3rd Runway System Project DCM Ground Improvement Works (Package 4)	CRBC-Sambo JV	Atkins China Ltd & Mott MacDonald	DSP30	6 x 5.3 6 x 11.3 6 x 12.3 6 x 12.8 6 x 13.8 6 x 6	2 2 20 4 4 100
Jan-17	C3201 3rd Runway System Project DCM Ground Improvement Works (Package 1)	Penta Ocean-China State- Dong Ah JV	Atkins China Ltd & Mott MacDonald	DSP 30	6 x 8	154
Feb-17	P560 Aviation Fuel Pipeline Diversion Works	Kat Yue Construction Engineering Ltd	Mott MacDonald	DSP15	1.5 x 20	8
Apr-17	HKHA20120023 Public rental housing, Shek Mun Estate	Hin Sum Engineering Co Ltd	Wong & Ouyang (Building Services) Ltd	DSP / SG110	3 x 20	2
Jul-17	Refuse Boom at Tai O by World Wide Fund	World Wide Fund		DSP15	0.5 x 20	3
Aug-17	Lyric Theater Complex and Extended Basement Project for the WKCD Authority	Gammon Construction Ltd	AECOM Asia Co. Ltd / Mott Macdonald HK Ltd	DSP15	8 x 20	6

G AND E COMPANY LIMITED

14/F Kiu Yin Commercial Building
361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com



Date	April 2017
Project	Contract No. HKHA20120023 Public Rental Housing, Shek Mun Estate
Client	Housing Authority
Consultant	Housing Authority
Main Contractor	Hin Sum Engineering Co. Ltd
Works	Silt Curtain to Enclose Marine Work
Material	DSP System with Woven Geotextile Bontec SG110/110
Quantity	2 spans of 3m Depth x 20m Length

G AND E COMPANY LIMITED

14/F Kiu Yin Commercial Building
361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com

Date	October 2016
Project	Contract C3201 Three Runway System Project Deep Cement Mixing Works (Package 1)
Client	Hong Kong Airport Authority
Consultant	Atkins in association with Mott MacDonald
Main Contractor	Penta Ocean-China State- Dong Ah JV
Works	Barge Type Silt Curtain
Material	DSP 30 6m Depth x 8m Width
Quantity	134 spans

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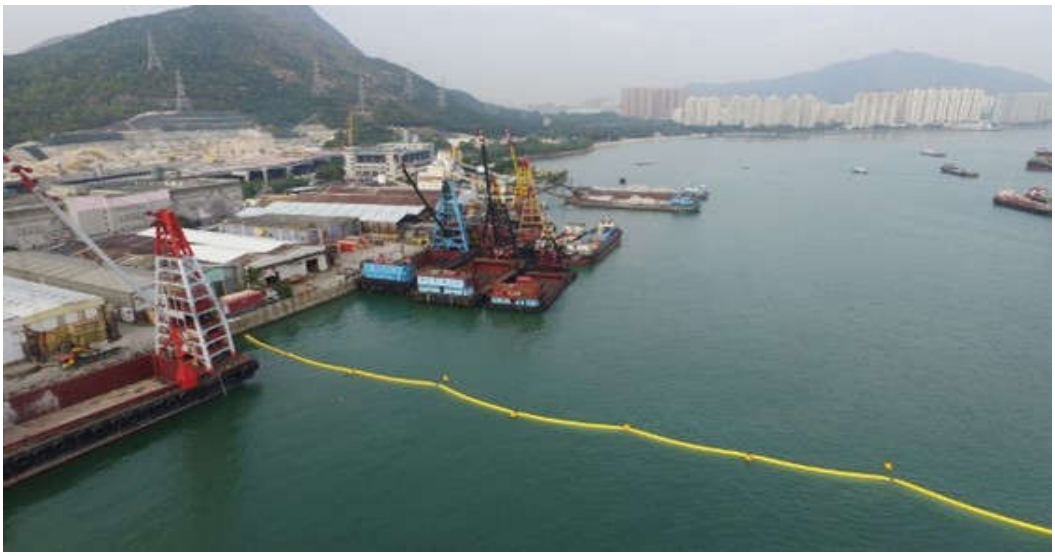

Date	June 2014
Project	Contract No. HY/2012/08 Tuen Mun - Chek Lap Kok Link Northern Connection Sub-sea Tunnel Section
Client	Highways Department
Consultant	AECOM Asia Co. Ltd
Main Contractor	Dargages Hong Kong
Works	Turbidity Control in Reclamation Works
Material	Geonia Silt Curtain
Quantity	45 spans of various depth

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Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com

Date	March 2016
Project	Asia Pacific Gateway (APG) - Tseung Kwan O
Client	China Mobile International Limited
Consultant	Environmental Resources Management
Main Contractor	Maritime Mechanic Ltd
Works	Fiber Optic Laying Turbidity Control
Material	DSP15 Silt Curtain

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Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com

Date	May 2014
Project	HY/2012/07 Tuen Mun - Chek Lap Kok Link- Sothern Connection Viaduct Section
Client	Highway Department
Consultant	AECOM Asia Co. Ltd
Main Contractor	Gammon Construction Ltd
Material	DSP 15 Silt Curtain
Quantity	6m x 20m 24 spans 7m x 20m 10 spans 9m x 20m 10 spans

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14/F Kiu Yin Commercial Building
361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com

Date	April 2015
Project	Contract No. 16/WSD/11 Replacement and rehabilitation of water mains, stage 4 phase 2
Client	Water Service Department
Consultant	AECOM Asia Company Limited
Main Contractor	Pipe Tech Ltd
Material	Daeyoun Geotech DSP 15 Silt Curtain
Quantity	1.2 x 20m 2 spans 1.5 x 20m 4 spans

G AND E COMPANY LIMITED

14/F Kiu Yin Commercial Building
361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com

Date	October 2016
Project	Contract C3201 Three Runway System Project Deep Cement Mixing Works (Package 1)
Client	Hong Kong Airport Authority
Consultant	Atkins in association with Mott MacDonald
Main Contractor	Penta Ocean-China State- Dong Ah JV
Works	Barge Type Silt Curtain
Material	DSP 30 6m Depth x 8m Width
Quantity	134 spans

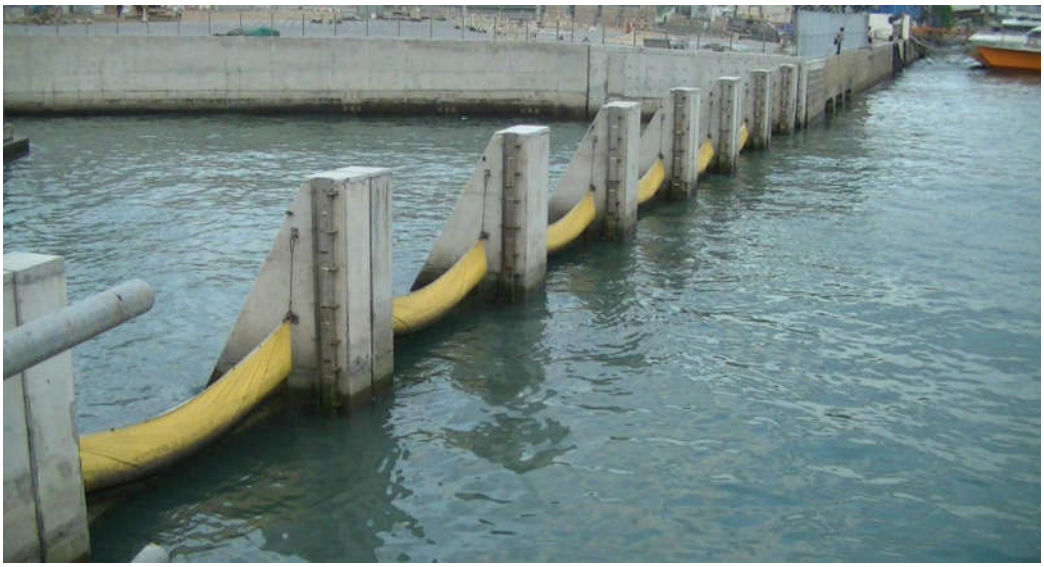
G AND E COMPANY LIMITED

14/F Kiu Yin Commercial Building
361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com

Date	March 2015
Project	Contract No. P552 Deep Cement Mixing Trial Works
Client	Hong Kong Airport Authority
Consultant	Atkins - Mott MacDonald
Main Contractor	Penta Ocean Construction Co Ltd
Works	Primary Barge Silt Curtain
Material	DSP30 Silt Curtain
Quantity	8m x 20m 2 Spans 8m x 25m 6 Spans

G AND E COMPANY LIMITED

14/F Kiu Yin Commercial Building
361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com



Date	Sep 2013
Project	DC/2011/01 Drainage Maintenance and Construction in Mainland South Districts (2011-2015)
Client	Drainage Service Department
Consultant	Drainage Service Department
Main Contractor	Paul Y. Construction Co. Ltd
Works	Inflow Interceptor Silt Curtain
Material	GEOS GSP 15 Silt Curtain
Quantity	16 spans

Daeyoun Geotech

GEONIA Silt Protector

Approval Letter

		CONTRACTOR'S SUBMISSION NEC Option C	CR-CPJV	CS No. / Rev CCOM No. 1503

CONTRACT:	Improvement of Fresh Water Supply to Cheung Chau	CONTRACT No.:	1/WSD/13
LETTER REF.:	CR-CPJV/1WSD/13/S210(01)/574	ISSUE DATE:	26-Sep-2015
CAPTION:	Submission of Alternative Design and Material for Silt Curtain	PREVIOUS SCOMM.:	
DISCIPLINE:	N/A	REVISION No.:	

Section A:

LETTER OUT No. 1404

To: The *Project Manager*

Copies to: Mr. Stephen Cheung W/E

Period for reply:

Submission for Acceptance of:

- ☐ Drawings
- ☐ Programme
- ☐ Test Results
- ☐ Method Statement
- ☐ Others:

The following is submitted for your review and acceptance:-

Copies	Date	No.	Description
1	26-Sep-15		**Submission of Alternative Design and Material for Silt Curtain**

We submit herewith the alternative design and material for silt curtain. The material is supplied by "G AND E COMPANY LIMITED". Attached please find the quotation of materials, design drawings and materials catalogue for your information and approval. the proposed materials shall be "Covering Head Type" as shown in the

Signed for *Contractor*:

Title: Gordon Ng (Site Agent)

Section B: **Response** | **COMM No.:** | **Letter Ref.:**

To: The *Contractor*

Copy to:

The Submission is returned as indicated:

- ☐ Accepted
- ☐ Revise and Re-submit as Noted
- ☐ Accepted as Noted
- ☐ Rejected as Noted

Notes:

Signed by:

Contractor reply needed: Yes / No

Name / Title:

Period for reply:

Date:

	CONTRACTOR'S SUBMISSION NEC Option C	CR-CPJV	CS No.	Rev
			CCOM No.	1541

CONTRACT:	Improvement of Fresh Water Supply to Cheung Chau	CONTRACT No.:	1/WSD/13
LETTER REF.:	CR-CPJV/1WSD/13/S210(01)/589	ISSUE DATE:	13-Oct-2015
CAPTION:	RE: Submission of Alternative Design and Material for Silt Curtain	PREVIOUS SCOMM.:	SCOM/01448
DISCIPLINE:	N/A	REVISION No.:	

Section A:

To: The *Project Manager*

Copies to: Mr. Stephen Cheung W/E

Period for reply:

Submission for Acceptance of:

- ☐ Drawings
- ☐ Programme
- ☐ Test Results
- ☐ Method Statement
- ☐ Others: _____

LETTER IN No. 1897

The following is submitted for your review and acceptance:-

Copies	Date	No.	Description
1	13-Oct-15		**RE: Submission of Alternative Design and Material for Silt Curtain**

We refer to your letter SCOM/01448 dated 7 October 2015 regarding the captioned, we submit herewith the supplementary document in response to the comments given for your approval.

1. Confirmation letter from supplier.
2. As shown in the quotataion, one span is 20m length.
3. Verification of material from ET.

RECEIVED
20 OCT 2015
BY: _____

Signed for *Contractor*: (Original Signed)

Title: Gordon Ng (Site Agent)

Section B: Response | **COMM No.:** SCOM/01472 | **Letter Ref.:** 1/WSD/13/M25/350/02655

To: The *Contractor*
Attn: Mr. Gordon Ng (Site Agent)

Copy to:

Caption: **RE: Submission of Alternative Design and Material for Silt Curtain**

The Submission is returned as indicated:

- ☐ Accepted
- ☐ Revise and Re-submit as Noted
- ☑ Accepted as Noted
- ☐ Rejected as Noted

Notes:

We have no adverse comment on the proposed silt curtain subject to the following:

1. Please ensure the depth of the silt curtain is longer than the water depth at the installation location as recommended by the ET in the submitted email;

2. The verification from the ET would be forwarded to the IEC accordingly and addition comments may be issued; and

3. Please detail the subcontracting arrangement for the installation, maintenance and repair as commented in our previous reply (SCOM/01503).

Signed by:

Name / Title: Stephen S. S. CHEUNG / SRE
Supervising's representative

Contractor reply needed: Yes / ~~No~~ (for comment no. 3)

Period for reply: 21 days

Date: 19 October 2015

SSC/CMY/EC/mm

Daeyoun Geotech

GEONIA Silt Protector

Prototype Sample

Prototype Sample

Tube Type

Registration Certificate

This is to certify that the Management Systems of

G & E Company Limited

have been assessed by AJA Registrars and registered
against the requirements of

ISO 9001:2008

Certificate No. : **AJA14/17026** Date of Original Registration : **22nd January 2014**

Expiry Date : **15th September 2018** Date of Re-Registration : **16th February 2017**

Previous Expiry Date : **14th December 2016**

UKAS MANAGEMENT SYSTEMS
0059

Chief Executive - AJA Registrars Ltd

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

AJA REGISTRARS
ANGLO JAPANESE AMERICAN

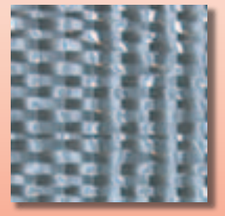
This certificate is issued in respect of the locations & scope of registration detailed in the Associated Registration Schedule.
This certificate is the property of AJA Registrars Ltd Unit 6 Gordano Court Gordano Gate Business Park Serbert Close Portishead Bristol UK BS20 7FS
and must be returned on request. A member of the AJA Group of Companies

7.3 Appendix C

Technical Details of the Silt Curtain

Part 2: Bontec SG110/110

SG WOVEN GEOTEXTILES



we under^{cover} the world

bontec

woven and nonwoven geotextiles

A TOTAL RANGE OF GEOTEXTILES

Headquarters:
BONAR TECHNICAL FABRICS NV/SA
Industriestraat 39
B-9240 Zele
BELGIUM
T.: +32 (0) 52 457 487
F.: + 32 (0) 52 457 495
E-MAIL: geotextiles@bonartf.com

For UK and Ireland:
BONAR YARNS & FABRICS Ltd
St. Salvador Street
Dundee Scotland
DD3 7EU
T.: +44 (0)1382 346102
F.: +44 (0)1382 229238
E-MAIL: geotextiles@bonaryarns.com

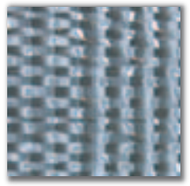
website: www.bonartf.com

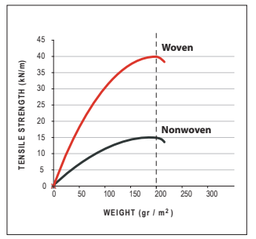
bontec

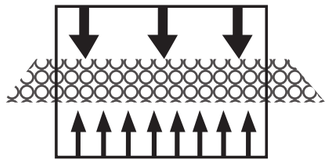
woven and nonwoven geotextiles

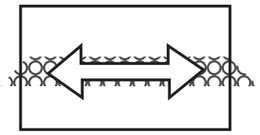
SG Woven Geotextiles

PRODUCT PROFILE









Other geotextiles available within the Bontec range include Highflow, High strength Wovens and Thermally Bonded & Needlepunched Nonwovens

Visit us at our website:
www.bonartf.com

"An exciting range of Standard Grade geotextiles that offer the perfect solution to your Separation requirements. With tensile strengths ranging from 10 to 300 kN/m you can be certain that an SG fabric will be available with the performance that you are looking for."

DAILY SEPARATION, SOIL STRENGTHENING
OR GROUND REINFORCEMENT?

Bontec SG woven geotextiles are manufactured from polypropylene tapes & yarns, and exhibit an excellent chemical resistance to commonly encountered acids and alkalis at ambient temperatures. Available in a lightweight range with products from 80 to 200g/m2, and a heavyweight range from 200 to 800g/m2.

Bontec SG facts include:

- Tensile strengths up to 300 kN per metre (kN/m) width
- CBR Puncture Strengths ranging from 1.800 N to 12.500 N

SG Mechanical Properties that offer maximum strength at minimal cost and ensure the products survivability both against installation damage and in the longer term.

Lightweight woven geotextiles typically offer greater mechanical strengths per unit weight than comparable nonwoven grades. This makes lightweight woven geotextiles the ideal choice for separation

- Waterflows normal to the plane that are generally several times more than that required by design
- A range of consistent opening sizes suited for use in soils ranging from clay to coarse granular fill.

SG hydraulic properties that are suited to the demands of everyday separators.

Available ex-stock in 4.5m and 5.25m wide rolls or other widths to order

Typical applications for SG woven geotextiles include:

- As a general purpose separator for use under site access roads and areas of hardstanding.
- As a separation and strengthening layer under new roadways, car parks, industrial units etc.
- As an erosion control layer under heavy rock armour in coastal defence projects.
- For any separation application where there exists a need to prevent the intermixing of soft foundation soils with good clean granular fill.

SG Woven Geotextiles have been manufactured as a cost effective solution to your soil separation and stabilisation applications. They are manufactured from highly durable polypropylene polymer and have a long life expectancy when used in permanent structures.

For further product information, be it a technical data sheet or to discuss your project with one of our in-house geotextile experts please do not hesitate to contact one of our offices listed below.

For UK and Ireland: BONAR YARNS & FABRICS Ltd
St. Salvador Street | Dundee | Scotland | DD3 7EU
T.: +44 (0)1382 346102 | F.: +44 (0)1382 229238
E-MAIL: geotextiles@bonaryarns.com

Headquarters: BONAR TECHNICAL FABRICS NV/SA
Industriestraat 39 | B-9240 Zele | BELGIUM
T.: +32 (0) 52 457 487 | F.: + 32 (0) 52 457 495
E-MAIL: geotextiles@bonartf.com

BONAR TECHNICAL FABRICS
invisibly good

Bontec SG110/110

Woven Polypropylene Geotextile

Product Specification

bontec

a bonar technical fabrics product

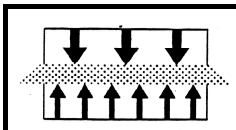
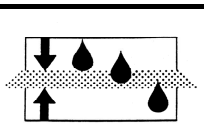
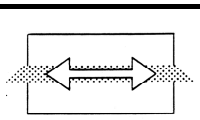
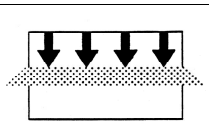
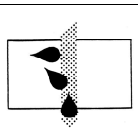
SG 110/110

Woven polypropylene geotextile made of slit film tapes

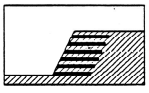
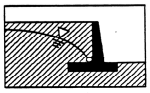
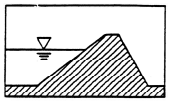
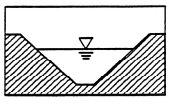
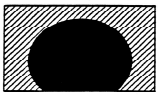
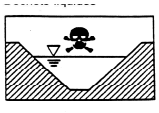
Technical data sheet according to internal specifications Bonar TF: version 06 dd. 05/01/10
Accompanying documents CE marking: version 04 dd. 05/01/10

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 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

Any person aware of misuse of this certificate may address himself to the BQA, sa. This certificate may only be disclosed in its entirety.

BQA, sa - rue Montoyer 24 (b9) - 1000 Brussels.

DS/AJ/C/

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

Any person aware of misuse of this certificate may address himself to the BQA, nv. This certificate may only be disclosed in its entirety.

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

DS/AJ/CM/12-07-2004

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 Industriestraat 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 Industriestraat 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
invisibly good

BONAR Technical Fabrics nv/sa
Industriestraat 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 7BJ • United Kingdom
Tel +44 (0)1382 346102 • Fax +44 (0)1382 202378
E-mail rguild@bonaryarns.com

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

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 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	March, 2010
Project	Contract No. HK/2009/01 Wan Chai Development Phase II -Central - Wanchai Bypass at Hong Kong Convention and Exhibition Centre
Client	Civil Engineering and Development Department
Consultant	AECOM Asia Co. Ltd
Main Contractor	Chun Wo - Leader Joint Venture
Works	Woven Geotextile SG100/100
Size	4,200 sqm
Application	Intake Silt Curtain

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	Mar 2010
Project	Contract No. KL/2009/01 Site formation for Kai Tak Cruise Terminal Development
Client	CEDD
Consultant	Scott Wilson Ltd
Main Contractor	Penta-Ocean Construction Co. Ltd
Works	SG100/100 as Silt Curtain
Size	1,050 sq m

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	March 2010
Project	KL/2009/01 Site formation for Kai Tak Cruise Terminal Development
Client	CEDD
Consultant	Scott Wilson Ltd
Main Contractor	Penta-Ocean Construction Co. Ltd
Materials	SG100/100
Size	1,050 sqm

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	March 2006
Project	Contract No. HY/2005/06 Castle Peak Road Improvement West of Tsing Lung Tau
Client	Highway Department
Consultant	Mouchel Halcrow JV
Main Contractor	Chun Wo Construction & Engineering Co., Ltd.
Works	Silt Curtain
Size	1,050 sqm

Bontec SG110/110

Woven Polypropylene Geotextile

Approval Letters

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/R20/340 Pt.01
Your reference 來函檔號 : CIV:002091/1.2/HW/SY/CC/me(S0087), CIV:002091/1.2/HW/SY/CC/me(S011&)

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/elem

Post-it® Fax Note 7671 | Date 24/2/05 | # of pages ▶ 1
To MR. STANLEY WAN | From CHAN SZE-HO
Co./Dept. G&E | Co. SFK
Phone # 25960028 | Phone # 68477005
Fax # 25700089 | Fax #

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

RECEIVED

土木工程處
Civil Engineering Office

Web site 網址 : http://www.ccdd.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.1
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

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 Chau – 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. CV/04/02			
Post	Initial	Copy	Action
CM			
PM			
SA			✓
Sub-A			
Eng.(1)			
Eng.(2)			
C.F			
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

cls

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
SA		
DSA		
QS		
ENG		
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 6262 F +852 2691 2649 www.maunsell.aecom.com
SRE's Office T +852 2669 0708 F +852 2631 2889 E sre@jtriw.com.hk

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

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/BC/ek

7.4 Appendix D

Visual Inspection Checklist & Diving Inspection Checklist

俊和－中國中鐵聯營
CHUN WO – CRGL JOINT VENTURE

Contract No.: HK/2009/02

Contract Title: Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East

Silt Curtain Diving Inspection Checklist

1. Location: _____
2. Time and Date: _____
3. Diver: _____

整潔	**狀況**
1. 沒有垃圾在隔泥布內	
2. 已清理隔泥布內垃圾	
其他問題(請註明)：	
隔泥布狀況	
1. 隔泥布沒有損壞	
2. 隔泥布沒有鬆脫	
3. 隔泥布接口位沒有鬆脫	
其他問題(請註明)：	
簽署：	
說明: ✓ = 滿意	
✗ = 不滿意，須改善	
- = 不適用	

JV: _____ (Sign)

_____ (Name)

RSS: _____ (Sign)

_____ (Name)

俊和－中國中鐵聯營
CHUN WO – CRGL JOINT VENTURE

Contract No. HK/2009/02

Contract Title Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East

Silt Curtain Daily Visual Inspection Checklist

位置: _____

日期: _____ 檢查員: _____

清洗員:	星期一	星期二	星期三	星期四	星期五	星期六
整潔						
1. 沒有垃圾在隔泥布內						
2. 已清理隔泥布內垃圾						
其他問題(請註明)：						
隔泥布狀況						
1. 隔泥布沒有損壞						
2. 隔泥布沒有鬆脫						
其他問題(請註明)：						
說明: ✓ = 滿意 × = 不滿意，須改善 - = 不適用	簽署：					

JV: _____ (Sign)

_____ (Name)

RSS: _____ (Sign)

_____ (Name)

7.5 Appendix E

Photo of Genoia Silt Protector DSP15 (Tube Type)


俊和－中國中鐵聯營


G AND E COMPANY LIMITED
DSP15 (150/150 KN/M)
TUBE TYPE
SIZE : 20M (W) X 7M (D)/SPAN
BUNDLE NO.2/2 (6 SPANS)
MADE IN KOREA