



Agreement No. SP 05/2012 Environmental Audit for Sewerage Works at Pik Shui Sun Tsuen

Monthly Environmental Audit Report No. 39 – February 2017

March 2017

Drainage Services Department Ref: 322036/ENL/02/39/A

20/F AIA Kowloon Tower Landmark East 100 How Ming Street Kwun Tong Kowloon Hong Kong

T +852 2828 5757 F +852 2827 1823 mottmac.hk



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Recycled Paper

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Pursuant to Condition 2.2 of Environmental Permit No. EP-435/ 2011/A, this Monthly Environmental Audit Report has been reviewed and certified by the Independent Checker (IC)

Certified by:

Gary Chow Independent Checker Mott MacDonald Hong Kong Limited 15 March 2017

Date

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Executive summary

On 3 May 2013, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by the Drainage Services Department (DSD) under Agreement No. SP 05/2012 to undertake the Independent Checker (IC) services for the Sewerage Works at Pik Shui Sun Tsuen (The Project).

The Environmental Permit (EP) No. EP- 435/2011 for the "Sewerage Works at Pik Shui Sun Tsuen" was granted by the Environmental Protection Department (EPD) on 20 December 2011. The construction works was carried out Welcome Construction Co Ltd. (the Contractor), commenced on 26 August 2013.

In accordance with Section 5.1 and 5.3 of the Brief for the Project and Condition 2.2 of the EP, a Monthly Environmental Audit Report shall be prepared and submitted at monthly intervals to confirm in writing the full implementation of the mitigation measures recommended in the Project Profile (PP) (Register No. PP- 454/ 2011) during and upon completion of the construction works.

When construction of the sewerage works at Pik Shui Sun Tsuen commenced, objections from the local residents were encountered. Therefore, the sewerage works were temporarily suspended. DSD arranged meetings with the local residents and tried to resolve the objections. However, there were still majority amongst the local residents showing their objections to the proposed works in a meeting held on 18 January 2014. In March 2014, DSD and the client office SIG of EPD decided to curtail the proposed sewerage works at Pik Shui Sun Tsuen from the construction contract.

Regarding the sewerage work on University Road, some sewer alignments were revised subject to actual condition. Therefore, DSD submitted the application for variation of environmental permit for the sewerage works at Pik Shui Sun Tsuen to EPD on 16 July 2014 and the amended Environmental Permit (No. EP-435/2011/A) was issued by EPD to DSD on 29 July 2014.

This is the 39th Monthly Environmental Audit Report covering the period from 1 February 2017 and 28 February 2017 (the reporting month).

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1 Environmental Status during the reporting month

1.1 Construction Programme

The construction work programme of the Project is provided in <u>Appendix A</u>. A layout plan of the Project is provided in Figure 1.1.

1.2 Key Issues for the reporting month

• Sewerage construction works (Construction of sewerage manholes) at the verge of the footpath of University Road.

1.3 **Project Organisation**

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in <u>Appendix B</u>.

1.4 Environmental Mitigation Measures – Implementation Status

The environmental site audit was conducted on 22 February 2017 during this reporting month. The checklist of implementation status of the environmental mitigation measures is provided in <u>Appendix C</u>.

2 Environmental Site Inspection

2.1 Site Inspection

The environmental site audit was conducted on 22 February 2017 during this reporting month. All observations have been recorded in the site inspection checklist and passed to the Contractor together with the appropriate recommended mitigation measures where necessary. The key observations from site inspection and associated recommendations are summarized in in **Table 2-1**.

Inspection date	Key Observations and Recommendations (Date)	Close-out (Date)
17 Jan 17	The contractor shall remove the construction material from the tree protection zone.	Closed
		(22 Feb 17)
17 Jan 17	Water inside the drip tray was observed. The contractor was reminded to clean the water by using oil absorbent.	Closed
		(22 Feb 17)
22 Feb 17	Exposed general refuse was observed. The contractor was reminded to remove general refuse to enhance housekeeper performance.	On-going

Table 2-1: Summary of Site Inspections and Recommendations

2.2 Advice on the Solid and Liquid Waste Management Status

The Contractor has been applied for a bill account for disposal. No waste was disposed of in this reporting month.

The waste flow table is present in Appendix D.

2.3 Status of Environmental Licenses and Permits

The environmental permits, licenses, and/or notifications on environmental protection for this Project which were valid during the period is summarised in **Table 2-2**.



Statutory Reference	Description	Permit /Reference No.	Status
EIAO	Environmental Permit	EP- 435/2011	Valid
APCO	Notification of Construction Work under APCO	355015	Valid
WPCO	Discharge License	WT00016437-2013	Valid
	Discharge License	WT00016957-2013	Valid
WDO	Bill Account for disposal	7016760	Valid

Table 2-2: Status of Environmental Submissions, Licenses and Permits

Legend: EIAO – Environmental Impact Assessment Ordinance APCO – Air Pollution Control Ordinance WPCO – Water Pollution Control Ordinance WDO – Waste Disposal Ordinance

3 Report on Complaints, Notifications of Summons and Successful Prosecutions

3.1 Record on Environmental Complaints Received

No environmental complaint was received this month. The cumulative statistics on complaints were provided in Appendix E.

3.2 Record on Notifications of Summons and Successful Prosecution

No notifications of summons or successful prosecution were received this month. The cumulative statistics on notifications of summons and successful prosecutions were provided in <u>Appendix E</u>.

3.3 Review of Reasons for and Implications of Non-compliance, Complaints, Summons and Prosecutions

Not applicable.

3.4 Follow-up Actions Taken

Not applicable.



4 Future Key Issues

4.1 Major Site Works for the Coming Month(s)

The major site works scheduled to be commissioned in the coming month include:

 Sewerage construction works (Construction of sewerage manholes) at the verge of the footpath of University Road.

4.2 Key Issues for the Coming Month

- Generation of dust from construction and demolition works;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Management of stockpiles and slopes, particularly on rainy days;
- Sorting, recycling, storage and disposal of general refuse and construction waste; and
- Management of chemicals and avoidance of oil spillage on-site.

5 Conclusion and Recommendation

5.1 Conclusion

Site audit was conducted on 22 February 2017. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audit.

No complaint, notification of summons and prosecution was received in the reporting month.

5.2 Recommendations

The Contractor was reminded to maintain noise, air quality, water quality and waste management mitigation measures and also continuously implements all environmental mitigation measures in accordance with the PP.

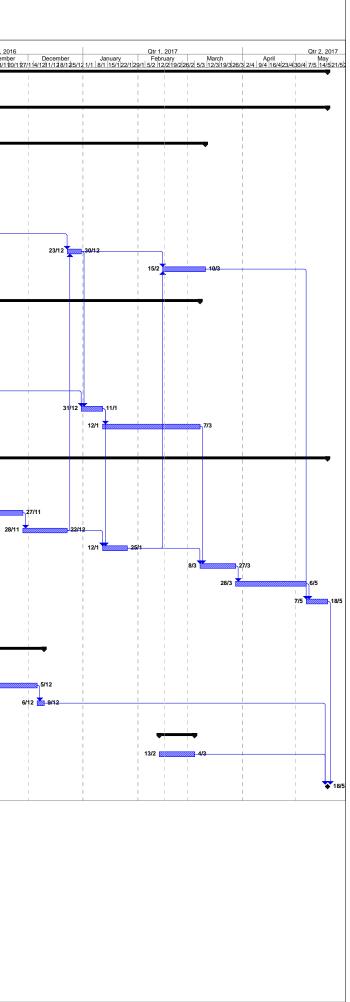
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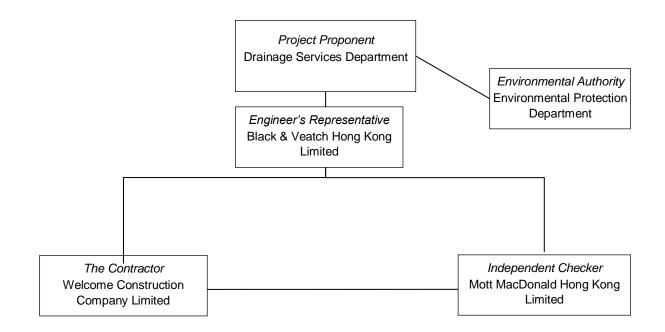
A. Tentative Construction Programme



							Se Detailed Program for	ewerage at Clear Wa Sewage Works at Cle	Welcome Constuction Co L Contract No. DC/2012/06 ter Bay Road, Pik Shui Sun Tsue ear Water Bay Road, University F	n and West of Sai Ku	ng Town & Hiram's H	lighway (Rev. 5)			
ID	Task Name	Duration	Start	Finish		Qtr 4, 2015		Qtr 1, 2016		Qtr 2, 2016			Qtr 3, 2016		Qtr 4, 201
1	Sewerage at Chuk Kok Rd, Hiram's Highway, University Road and	564 days	Mon 2/11/15	Thu 18/5/17	0ctober 20/9/27/9/4/10/11/10/8/10/5/10 7	November	December January 29/116/1213/120/127/123/110/117/12	February 4/131/17/214/221/22	March April 28/2 6/3 13/3 20/3 27/3 3/4 10/4 17/4	May 24/4 1/5 8/5 15/5 22/5 2	June 9/5 5/6 12/6	July 19/6/26/6/3/7/10/7/17/7/24/	August 31/7 7/8 14/8 21/8 28	September October 3/8 4/9 11/9 18/9 25/9 2/10 9/10 6/10 3/10	Novembe 60/1(6/1113/12
	Clear Water Bay Road					I I I	1 1 1		1 1 1		 		1	I I I I I I	
2	Sewerage from MH Nos.149 to S5 at University Road & Clear Water Bay Road	564 days	Mon 2/11/15	Thu 18/5/17	7	 					 		 		
3	Sewerage from MH Nos. PSST155 to S5 at University Road, trenchless (50m long)	495 days	Mon 2/11/15	Fri 10/3/17	7	 			 		 		 		
4	Excavate & construct Thurst Pit at MH No. PSST155	40 days	Mon 2/11/15	Fri 11/12/1	5 2/11		11/12		1 I 1 I 1 I		 		 		
5	Install set-up at Thurst Pit at MH No. PSST155	14 days	Sat 12/12/15	Fri 25/12/18	5	(12/12		I I I I	I.		l I	1	I I I I	I I
6	Install Segmental Sleeve Pipeline	160 days	Sat 26/12/15	Thu 2/6/16	6	l ļ	26/12	1		- I	2/6				
7	Lay Sewer Pipeline	14 days	Fri 3/6/16	Thu 16/6/16	6					3/	6 6	6/6			
8	IInfill Grout inside Sleeve Pipe	8 days	Fri 23/12/16	Fri 30/12/16	6	l L					1				
9	Re-construct Existing Manhole MH No. S5	24 days	Wed 15/2/17	Fri 10/3/17	7	i I			· · · · · · · · · · · · · · · · · · ·				1		i I
10		,				l L	 		 		1	l L		I I I I	l I
11	Sewerage from MH Nos. PSST151 to PSST155 at University Road (Footpath)-85m long	438 days	Sat 26/12/15	Tue 7/3/17	7	 							 		
12	Excavate & construct Thurst Pit at MH No. PSST151	40 days	Sat 26/12/15	Wed 3/2/10	6	i I I	26/12	3/2	, , , , , , , , , , , , , , , , , , ,		1		1		
13	Install set-up at Thurst Pit at MH No. PSST151	14 days	Thu 4/2/16	Wed 17/2/16	6	([4/2 17/2			1		1		
14	Install Segmental Sleeve Pipeline	160 days	Thu 18/2/16	Tue 26/7/16	6	t L		18/2					6/7		
15	Lay Sewer Pipeline	45 days	Wed 27/7/16	Fri 9/9/16	6	i I				i I		27/7		9/9	
16	IInfill Grout inside Sleeve Pipe	12 days		Wed 11/1/17	7	l I	 	I I	I I I I	I.	 	l I		I I I I	I I
17	Construct Manhole No. PSST155 (6.3m deep)	55 days		Tue 7/3/17		(
18						l I									
19	Sewerage from MH No. PSST149 to MH No.PSST151 at Clear Water Bay Road (Footpath)-85m long	336 days	Fri 17/6/16	Thu 18/5/17	7	- 			, , , , , , , , , , , , , , , , , , ,		-		 		
20	Install set-up at Thurst Pit at MH No. PSST151	14 days	Fri 17/6/16	Thu 30/6/16	6	 					17/6	30/6			
21	Install Segmental Sleeve Pipeline	150 days	Fri 1/7/16	Sun 27/11/16	6	l I	 	1	I I I I	I I	1	1/7	1	I I	
22	Lay Sewer Pipeline	25 days	Mon 28/11/16	Thu 22/12/16	6	t L					1				28/
23	IInfill Grout inside Sleeve Pipe	14 days	Thu 12/1/17	Wed 25/1/17	7										
24	Re-construct Existing Manhole MH No.PSST149	20 days	Wed 8/3/17	Mon 27/3/17	7	i L									
25	Construct Manhole No. PSST151 (7 m deep)	40 days	Tue 28/3/17	Sat 6/5/17	7	l I					i I		1		
26	CCTV of Pipeline	12 days	Sun 7/5/17	Thu 18/5/17	7	l (I I		l I		I I	
27					-	1 1									
28					-	1 									
29	Sewerage from MH Nos. PSST135 to PSST134 at Chuk Kok Rd near Cheng Chek Chee Secondary School -36m long	35 days	Sat 5/11/16	Fri 9/12/10	6	' 			· · · · · · · · · · · · · · · · · · ·		- 		 		
30	MH Nos. PSST135 to PSST134	31 days	Sat 5/11/16	Mon 5/12/16	6	l l					1			5	5/11
31	CCTV Survey of Pipeline	4 days	Tue 6/12/16	Fri 9/12/16	6	I I					1				
32		,-			-	1 1 1					1		1		
33	Sewerage from MH No. PSST141 to Hirams Villas	20 days	Mon 13/2/17	Sat 4/3/17	7	 		i I	· · · · · · · · · · · · · · · · · · ·		 		 		
34	Tapping Sewer to MH No. PSST141	20 days	Mon 13/2/17	Sat 4/3/1	7	l I		I I	I I I I	I I		l L	1	I I I I	l I
35		,-			-	l I					1		1		
	Completion of Sewerage Works	0 davs	Thu 18/5/17	Thu 18/5/17	7	t I			i l I l	I I	1		1		I I



B. Project Organization



Company / Department	Position	Name	Telephone / mobile
Drainage Services Department	Project Proponent	Mr Justin Wan	2594 7581
Black & Veatch Hong Kong Limited	Engineer's Representative	Mr Eugene Chan	6075 8606
Mott MacDonald Hong Kong Ltd.	Independent Checker	Mr Gary Chow	2828 5874
Welcome Construction Company Limited	Site Agent	Mr Frankie Lui	60217973
Welcome Construction Company Limited	Environmental Officer	Legend Lam	27998137

C. Environmental Mitigation Measures – **Implementation Status**

Table C1: Construction Noise – Recommended Mitigation Measures

* PP / ^ EP ref:	Recommended measures	Implementation Status
*5.2.6	 Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works. 	\checkmark
	 Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. 	√
	 Plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from nearby NSRs. 	\checkmark
	 Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction works. 	1
	 Mobile plant should be sited as far away from NSRs as possible. 	✓
*5.2.2, 5.2.6	Use of temporary noise barrier, mobile barrier	N/A
*5.2.6	• Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities	1
*5.2.6	 Noisy construction activities such as road breaking, should be scheduled to less sensitive hours during the day 	N/A
*5.2.6	 Liaise with the affected noise sensitive receivers on the anticipated construction activities, possible impacts, expected duration and communication channel with the project office. 	N/A
*5.2.1,*Table 6.1	 Adoption of quiet powered mechanical equipment (QPME) during construction 	1
*5.2.4, ^2.3	 For the sewer works located less than 15 m away from Cheng Chek Chee Secondary School, construction works can only be conducted after school hours or during school breaks. For the sewer works located between 15 m – 30 m away from the School, the contractor should liaise with the school and/or the Examination Authority to ascertain the exact dates and times of all examination periods and to avoid noisy construction activities during these periods. 	N/A

Table C2: Air Quality – Recommended Mitigation Measures

* PP / ^ EP ref:	Recommended measures	Implementation Status
*5.2.8, ^1.2	 Comply with the control measures in the Air Pollution Control (Construction dust) Ordinance. 	\checkmark
*5.2.8	 Excavated dusty materials should be covered by impervious sheeting or sprayed with water to keep the entire surface wet. 	\checkmark
*5.2.8	 Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. 	4

* PP / ^ EP ref:	Recommended measures	Implementation Status
*5.2.10,	 Follow the guidelines in ProPECC PN 1/94 "Construction Site Drainage". 	\checkmark
* Table 6.1	 Silt removal facilities should be provided according to the guidelines stipulated in EPD's ProPECC PN 1/94. 	N/A
	 Cover open stockpiles of construction materials with tarpaulin or similar fabric during rainstorms. 	\checkmark
ProPECC PN 1/94	 Water to be pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities. 	\checkmark
ProPECC PN 1/94	 Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure efficiency of process. 	\checkmark
ProPECC PN 1/94	• Oils and fuels should be stored in designated areas, and the fuel tanks and storage areas should have locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank.	~

Table C3: Water Quality – Recommended Mitigation Measures

Table C4: Waste Management – Recommended Mitigation Measures

* PP / ^ EP ref:	Recommended measures	Implementation Status
*5.2.12,	 Sort all C&D materials and waste into different categories for reuse on site, recycling and disposal at designated public fill reception facilities or landfills. 	Р
*Table 6.1	 C&D material and excavated materials should be reused on-site as fill material as far as possible. 	\checkmark
	 Disposal of C&D materials should be managed through the trip ticket system for disposal of C&D materials. 	\checkmark
*5.2.12	 All Chemical waste should be handled, stored and disposed of in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. 	4

Table C5: Landscape and Visual Impact – Recommended Mitigation Measures

* PP / ^ EP ref:	Recommended measures	Implementation Status
*5.2.14,	 Retain and protect existing trees near works site. 	\checkmark
*Table 6.2	 Erect site hoarding compatible with the surrounding environment for the pumping station works area 	N/A
	• Maintain site cleanliness and tidiness in accordance with the requirements stipulated in DEVB TCW No. 8/2010.	\checkmark
	 Properly manage construction waste in the works area. 	\checkmark
	Minimize the number and size of temporary works area.	✓
	Promptly reinstate each section of the trench upon completion of the sewer works.	N/A
	 Control of night-time security lightning to minimize night-time glare to nearby village. 	N/A

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Table C6: Others

* PP / ^ EP re	ef:	Recommended measures	Implementation Status
^1.5		 A copy of the valid Environmental Permit shall be displayed conspicuously on the Project site(s) at all vehicular site entrances/exits or at a convenient location for public information at all times. The most updated information about the Permit, including any amended Permit, shall be displayed at such locations. If the Permit Holder surrenders a part or whole of the Permit, the notice he send to the Director shall also be displayed at the same locations as the original Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site(s). 	~
n/a		 The required licenses should be obtained by the Contractor (including CNP (if any), WPCO license, etc.) 	\checkmark
Legend:	✓ × P N/A	Implemented Not implemented Partially implemented Not applicable	

N/O Not observed

D. Waste Flow Table



Monthly Summary Waste Flow Table for February 2017

	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Yr 2013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Yr 2014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Yr 2015	0.032	0.000	0.000	0.000	0.032	0.000	0.000	0.000	0.000	0.000	0.000
Yr 2016	0.657	0.000	0.000	0.000	0.657	0.000	0.000	0.000	0.000	0.000	0.012
Jan 17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Feb 17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Mar 17											
Apr 17											
May 17											
Jun 17											
Sub-total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
Jul 17											
Aug 17											
Sep 17											
Oct 17											
Nov17											
Dec 17											
total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002

E. Cumulative Statistics on Complaints, Notifications, of Summons and Successful Prosecutions

Cumulative statistics for complaints, notifications of summons and successful prosecutions for the Project account for period starting from the date of commencement of construction works (i.e. 26 August 2013) to the end of the reporting month and are summarized in the **Table E1** below.

Table E1: Statistics for complaints, notifications of summons and successful prosecutions

Reporting Period	Cumulative Statistics					
-	Complaints	Notifications of Summons	Successful Prosecutions			
This reporting period	0	0	0			
From 26 August 2013 to end of the reporting month	0	0	0			

