Drainage Services Department

Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1

Environmental Monitoring Plan (Ecology)

(Version 1)

Approved By	
	(Environmental Team Leader: Mr. KS Lee)
Approved By	Qualified Ecologist: Ms. Betty Choi)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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Ref.: DSDSWHS1EM00_0_0017L.19

29 November 2019

By E-mail and Fax (3922 9797)

AECOM Asia Company Limited 8/F., Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Sha Tin, Hong Kong

Attention: Mr. CHANG Ping Wah

Dear Mr. CHANG,

Re: Contract No. SPW 08/2019 – Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1

Ecological Monitoring Plan (Version 1)

Reference is made to the Environmental Team's submission of the captioned Ecological Monitoring Plan (Version 1) received by e-mail on 29 November 2019.

Please be informed that we have no adverse comments on your proposed alternative monitoring locations and the baseline monitoring methodology.

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

Yours sincerely, For and on behalf of Ramboll Hong Kong Limited

Ray Yan ⁽⁾ Independent Environmental Checker

c.c. DSD Cinot

)	Attn.:	Ms. Konica Cheung Wing Yan	Fax: 2369 4980
otech	Attn.:	Mr. K.S. Lee	Fax: 3107 1388

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TABLE OF CONTENTS

1	INTRODUCTION	1								
Bac	Background 1									
2	2 MONITORING REQUIREMENTS									
3	ECOLOGICAL MONITORING METHODOLOGY	5								
Monitoring Requirements										
Monitoring Locations										
Mo	Monitoring Time									
Sur	Survey Method									
Act	tion and Limit Levels	6								
4	REFERENCE	7								

LIST OF TABLES

Table 3.1	Monitoring of Measures to Minimise Disturbance to Waterbirds during
	Construction Phase
Table 3.2	Monitoring Locations of the Project
Table 3.3	Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds
	Using Ng Tung, Sheung Yue and Shek Sheung Rivers During Construction Phase

LIST OF FIGURES

Figure 1 Survey Locations of Ecological Monitoring

LIST OF APPENDICES

Appendix A	Template of Record Sheet for Waterbirds Monitoring	5
1 1		~

Appendix B Curriculum Vitae of Qualified Ecologist

1 INTRODUCTION

Background

- 1.1 The Further Expansion of Shek Wu Hui Effluent Polishing Plant (SWHEPP) is a designated Project (DP) under F.1 and F.2 of Part 1, Schedule 2 of Environmental Impact Assessment Ordinance (EIAO). The "North East New Territories New Development Areas" Environmental Impact Assessment (NENT NDAs EIA) Report (Registered No.: AEIAR-175/2013) covered the assessment for the Further Expansion of SWHSTW Phase 1A, 1B and 2, and the associated Environmental Monitoring and Audit (EM&A) Manual was approved on 18 October 2013.
- 1.2 The existing Shek Wu Hui Sewage Treatment Works (SWHSTW) is operated and maintained by the Drainage Services Department (DSD). It provides secondary level treatment to sewage collected from Sheung Shui, Fanling and adjacent areas. SWHSTW was completed in two stages and expanded progressively in the past year. In 2009, the expansion of SWHSTW was completed and its design capacity was 93,000m²/day at average dry weather flow (ADWF). After the Resource Allocation Exercise 2017, the existing SWHSTW is proposed to be upgraded from secondary to tertiary treatment level as the new SWHEPP in 3 stages: Main Works Stage 1, Stage 2 and Stage 3.
- 1.3 A Further Environmental Permit (EP) (Permit No. FEP-02/474/2013) was issued on 15 February 2018 to DSD as the Permit Holder to assume the responsibility for construction and operating the SWHEPP Project up to a capacity of 190,000m³/day.
- 1.4 "Shek Wu Hui Effluent Polishing Plant Main Works Stage 1" (hereinafter called the "Project") covers the Stage 1 works of the DP. The scope of the Project includes the following works:
 - (i) Construction of Sewage Treatment Facilities in Zone B:
 - Demolition of existing Primary Sludge Thickener and construction of the new Inlet Works No.1, including inlet pumping station, screening and degritting facilities;
 - Demolition of the existing Inlet Works;
 - Restoration of existing circular Primary Sedimentation Tanks (PSTs) No. 4 and No. 6;
 - Demolition of existing circular PSTs No. 1 No. 2 and reconstruction of new rectangular PSTs No. 1 No. 4;
 - Demolition of existing circular PSTs No. 3 No. 4;
 - Demolition of the existing Bioreactor (BR) No. 2 for construction of the new BR No. 2a and No. 2b and Pre-treatment screen Chamber to suit the proposed MBR process;
 - Demolition of existing Final Sedimentation Tanks (FST) No. 3 and No. 4 and construction of new Membrane Facilities Building No. 2 and Membrane Tanks No. 7 No. 15;
 - Construction of Filtrate Storage Tank and Sidestream Treatment Facilities;
 - Construction of Chemical Dosing System and DO Systems;
 - and Construction of Sludge Skip Building.
 - (ii) Construction of Sludge Treatment Facilities in Zone C:

- Construction of 4 Sludge Digesters;
- Construction of 2 Biogas Holding Tanks;
- Construction of Sludge Dewatering Building;
- Construction of Thermal Hydrolysis Pre-treatment Facility;
- Construction of Combined Heat and Power Building;
- Construction of New UV System No. 1 and Effluent Pumping Stations No. 1;
- Construction of Underpass;
- Construction of DO System;
- Construction of Workshop No. 2;
- Construction of Street Fire Hydrant Pump Room and Tank; and
- Construction of Master Meter Room.
- (iii) Construction of Ancillary Facilities in Zone A:
 - Construction of CLP 132kV Primary Substation
- 1.5 As stipulated in the EM&A Manual of the NENT NDAs EIA report, if the development of a Project is within 200m of Ng Tung River, Sheung Yue River and Shek Sheung River and Long Valley, respectively, monitoring of waterbirds would be required. Waterbird species of conservation importance includes Little Egret (*Egretta garzetta*), Great Egret (*Ardea modesta*), Chinese Pond Heron (*Ardeola bacchus*), and Grey Heron (*Ardea cinerea*) were recorded at Ng Tung River and Shek Sheung River from the previous EIA study.
- 1.6 Cinotech Consultants Ltd. (Cinotech) was designated as the Environmental Team (ET) to undertake the EM&A works for the Project. An Environmental Monitoring Plan for Ecology was required under the Section 4.3.1 of the EM&A Manual and is prepared by Cinotech to provide the monitoring requirements, methodology, locations and frequency for monitoring for waterbirds for the Project during construction phase.

2 MONITORING REQUIREMENTS

- 2.1 According to Section 4.3 of the updated EM&A Manual prepared for the Project, a monitoring protocol with respect to waterbirds on Ng Tung River, Sheung Yue River and Shek Sheung River shall be followed for the development under NDAs project, which is undertaken within 200m (the maximum distance at which it is predicted there may be some disturbance, and hence a reduction in numbers, of large waterbirds) from these rivers. The monitoring shall be conducted in pre-construction, construction and post-construction phases of the concerned development.
- 2.2 A transect should be designed along sections of the rivers where NDA construction activities are proposed, which is in this case Shek Wu Hui Effluent Polishing Plant. As the sensitive receivers (large waterbirds) are easily visible, the transect route needs only follow one bank of the rivers. The transect route should remain the same during the different phases in order to ensure that data are comparable.
- 2.3 The monitoring shall be conducted by the ET and supervised by a qualified ecologist who will be a member of the ET. As required in the Technical Requirements of this Contract, the qualified ecologist should have a university degree in ecology or relevant disciplines and at minimum, 5 years of relevant post-qualification project experience.

Pre-construction Phase Survey

- 2.4 Weekly baseline waterbird monitoring has been conducted in these three river channels during high and low tide by China Hong Kong Ecology Consultants Ltd. The monitoring lasted nineteen months between December 2017 and June 2019. Three transects and seven point count locations were adopted.
- 2.5 Baseline waterbird species of conservation importance recorded in the plan were Black-winged Stilt (*Himantopus himantopus*), Chinese Pond Heron (*Ardeola bacchus*), Little Egret (*Egretta garzetta*), Pied Kingfisher (*Ceryle rudis*), Collared Crow (*Corvus torquatus*), Common Greenshank (*Tringa nebularia*), Eastern Cattle Egret (*Bubulcus coromandus*), etc.

Construction Phase Survey

- 2.6 For construction phase monitoring, the survey method, location and frequency should remain the same as those during pre-construction phase in order to ensure that all data collected are comparable. The survey will be conducted on a weekly basis at both the highest and lowest possible tide (i.e. during day time when surveys can be conducted). All bird species utilising the river channels should be identified and enumerated. Any sources of actual or potential disturbance to birds due to construction activities should be recorded.
- 2.7 The EM&A Manual for NENT NDAs requires combination of the monitoring data collected from the three rivers and Long Valley Nature Park (LVNP) for analysis. However, as there is currently no programme in LVNP development and no baseline data of LVNP is available, the impact phase data would be compared with the baseline data obtained from the concerned rivers only. Monitoring results with comparison to pre-construction baseline condition should be reported in the monthly EM&A report.

Post-construction Phase Survey

2.8 An environmental monitoring plan for post-construction shall be separately formulated before the commencement of operation phase.

4

3 ECOLOGICAL MONITORING METHODOLOGY

Monitoring Requirements

3.1 According to the EM&A Manual, monitoring will identify and record waterbird species which uses rivers near the Project Site. The monitoring protocol is detailed in **Table 3.1**.

Table 3.1 Monitoring of Measures to Minimise Disturbance to Waterbirds during Construction Phase

Phase	Methodology					
Construction	Weekly transect at both high and low tides to identify and enumerate all bird species utilising the river channels and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period.					

Monitoring Locations

3.2 Transects and point count locations will be identical to monitoring locations stated in "Environmental Monitoring Plan (Ecology) for pre-construction (baseline)" for easy comparison of the distribution and abundance of waterbird species within the 500m boundary of Ng Tung River, Sheung Yue River and Shek Sheung River. These locations (3 transects lines and 7 point count locations) are shown in **Figure 1** and summarized in **Table 3.2**.

Fable 3.2 Monitoring	Locations of	of the Project
-----------------------------	--------------	----------------

Location nos	Locations			
Transect T1				
Transect T2				
Point Count Location P1	Along Ma Truga Diver			
Point Count Location P2	Along Ng Tung River			
Point Count Location P3				
Point Count Location P4				
Point Count Location P5	Along Shek Sheung River (Low-flow Channel)			
Transect T3	Along Shek Sheung River and Sheung Yue River			
Point Count Location P6	At Shek Sheung River			
Point Count Location P7	Intersection between Sheung Yue River and Shek Sheung River			

Monitoring Time

- 3.3 With reference to the predicted tidal levels in the nearest tide station Tsim Bei Tsui, a high tide level is defined as above 1.5m sea level, whilst a low tidal level is below 1.5m sea level. Nevertheless, the tidal information is based on conditions of the monitoring days, so the actual high tide and low tide levels and survey times shall be determined by predicted tides available in Hong Kong Observatory's website.
- 3.4 Survey time will be daytime in order to observe and record bird species and abundance. It will be within the highest and/or lowest tide level since waterbirds usually spend more time feeding during low tide and resting during high tide.

Survey Method

- 3.5 Transect survey will be undertaken along the concerned rivers (Ng Tung River, Sheung Yue River and Shek Sheung River) adjacent to proposed construction activities. As the sensitive receivers (large waterbirds) are easily visible and the surveyor will use auxiliary equipment such as camera(s) and binoculars (magnification 7-10x), the transect route only follows one bank of these rivers. All avifauna along the walk transects will be identified and recorded.
- 3.6 For point count, the surveyor shall identify and record bird species seen and heard in river channels at each survey location. In up to 5 minutes duration, the surveyor will quantitatively record bird species occurred to distance where birds are still hearable and detectable by vision and binoculars. Other noticeable behaviours (breeding, nesting, roosting, feeding and the presence of recently fledged juveniles, etc.) shall be recorded.
- 3.7 Weather condition, tidal information, time period, construction activities and other disturbing activities to birds (ongoing routine drainage channel maintenance works and other human activities, if any) near/in the vicinity of the surveying locations will be recorded. A template of the survey record sheet is attached in **Appendix A.** Ornithological nomenclature shall follow Carey et al. (2001), Viney et al. (2005), and the most recent updated list from other resources (e.g. Hong Kong Bird Watching Society and Agriculture, Fisheries and Conservation Department's Biodiversity Database).
- 3.8 Monitoring should be conducted by the Environmental Team (ET) and supervised by a qualified ecologist who will be a member of the ET. The curriculum vitae of the qualified ecologist is attached in **Appendix B**. Results and findings of the environmental monitoring shall be recorded in a Monthly Environmental Monitoring & Audit Report.

Action and Limit Levels

3.9 Measures in response to decrease in numbers of large waterbirds using the river channels and the action and limit level to trigger the measures will be established in accordance with the separate Baseline Monitoring Report for Ecology. **Table 3.3** presents the Action and Limit Levels and responses to evidence of disturbance to waterbirds using Ng Tung, Sheung Yue and Shek Sheung Rivers during construction phase modified from the approved EM&A Manual of the NENT NDAs EIA.

Table 3.3Action and Limit Levels and Responses to Evidence of Disturbance to
Waterbirds using Ng Tung, Sheung Yue and Shek Sheung Rivers during
Construction Phase

Action Level	Responses	Limit Level	Responses			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to the Project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of all waterbird species relative to numbers during baseline monitoring such that the limit level response is triggered.	Investigate cause and if caused identified related to the Project instigate remedial action. Review and adjust project's management measures to improve conditions for affected species.			
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to the Project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified related to the Project instigate remedial action. Review and adjust project's management measures to improve conditions for affected species.			

- Note: Whether numbers are significant depend on species and season after collection and evaluation of baseline survey data.
- 3.10 In addition, if important behaviours such as breeding, brooding, nesting and presence of recently fledged juveniles of species of conservation importance are observed, the Resident Engineer, Contractor and IEC should be notified and the Contractor should review and minimize disturbance of the construction activities.

4 **REFERENCE**

- Anon. 2018. Monthly Waterbird Monitoring Biannual Report 2 (October 2017 to March 2018), Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme 2017-18. Report by the Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.
- Cary, G.J., Chalmers, N.L., Diskin, D.A., Kennerley, P.R., Leader, P.J., Leven, M.R., Lewthwaite, R.W., Melville, D.S., Turnbill, M. and Young, L. (2001) The Avifauna of Hong Kong Bird Watching Society, Hong Kong.
- Viney, C., Phillipps, K. Lam, C.Y. (2005) The Birds of Hong Kong and South China. 8th Edition. Information Services Department, The Government of the Hong Kong Special Administrative Region.

FIGURES



APPENDIX A TEMPLATE OF RECORD SHEET FOR WATERBIRDS MONITORING

Weekly Avifuana Monitoring Project Code: IA19019											
Date	Suppy / Overes	oot / Drizzlo / Doin / Storm / Hozu	Temperature	Colm / Light / Dunga / Stuang							
Transect No.	Sulliy / Overca	1 / 2 / 3	Surveyor	Califi / Elgitt / Breeze / Strong							
Timo		Low Tide		High Tide							
Tide Level		m		m							
Species	Quantity	Behavior*	Quantity	Behavior*							
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
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21											
22											
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24											
25											
26											
27											
28											
29											
30											
Observation and Remark											
*A - Bathing (洗浴/沙浴), B - Broodir 巢), I - Preening (理毛), J - Resting (停	ng (哺育幼雛), C - Court 『棲), K - Soliciting Food	ing (求偶), D - Drinking Water (飲水), E - Fight (叫嚷索食), L - Soaring (打轉), M - Tweeting	ing (打鬥), F - Flying ((嗚叫), N - Others (其他	段翔), G - Foraging (覓食), H - Nesting (築 立)							
Title	Template for Red	cord Sheet for Waterbird Monitoring	N.T.S.	IA19019							
CINOTECH			Date Sep-19	Appendix A							

	Weekly Avifuana Monitoring														
	Data	1		Tommomotion			Project Co	de: IA190	19	Weather		XX7/ 1			
	Date			Temperatur	2		Surveyor	High Tide							
		Р	PC1	Р	C2	Р	C3	P	C4	P	C5	P	6	P	
	Time	-	01	1	02	1	05	-				.	00		01
	Species	No.	Behavior*	No.	Behavior*	No.	Behavior*	No.	Behavior*	No.	Behavior*	No.	Behavior*	No.	Behavior*
1															
2															
3															
4															
5															
6															
7			-		-		-		-						
8															
9					-		-		+						
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16															
17															
18							_								
19															
20															
21															
23															
24															
25															
	Remarks and Observations														
*A - 索食	Bathing (洗浴/沙浴), B - H ま), L - Soaring (打轉), M -	Brooding (哺育 Tweeting (嗚『	幼雛), C - Courti 山), N - Others (事	ing (求偶), D - 其他)	Drinking Water	(飮水), E - Fig	hting (打鬥), F -	Flying (飛翔),	G - Foraging (覓食), H - Nest	ing (築巢), I - P	reening (理毛),	J - Resting (停村	妻), K - Solicitii	ng Food (叫嚷
	Title	Temj	plate for Re	cord Shee	t for Water	bird Moni	toring	Scale		N.T.S. Pro			IA19019		
				CINC	TECH			Date Sep-19 Appendix			А				

		Weekly Avifuana Monitoring Project Code: IA19019													
	Date			Temperature	e		Surveyor								
		D	01	D	a	D		Low	D	07					
	T :	Р	CI	Р	C2	Р	C3	P	C4	Р	65	P		PC/	
	Spacias	No	Robavior*	No	Rohavior*	No	Rohavior*	No	Rohavior*	No	Robavior*	No	Rohavior*	No	Robavior*
1	Species	INO.	Dellavior	INU.	Dellavior	INU.	Bellavior	110.	Dellavior	INU.	Dellavior	INO.	Denavior	110.	Dellavior
2															
3															
4															
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24															
25															
	Remarks and Observations														
*A - 索食	· Bathing (洗浴/沙浴), B - 1 (), L - Soaring (打轉), M ·	Brooding (哺育: - Tweeting (嗚『	幼雛), C - Court 凵), N - Others (非	ing (求偶), D - 其他)	Drinking Water	(飲水), E - Fig	hting (打鬥鬥), F -	Flying (飛翔),	G - Foraging (覓食), H - Nest	ting (築巢), I - P	Preening (理毛),	J - Resting (停档	妻), K - Solicitii	ng Food (叫嚷
	Title	Temj	plate for Re	ecord Shee	t for Water	bird Moni	itoring	Scale		N.T.S. Proje			IA19019		
				CINO	TECH			Date	Sep-19 Appendix A				А		

APPENDIX B CURRICULUM VITAE OF QUALIFIED ECOLOGIST

CURRICULUM VITAE

COMPANY

POSITION

PROFESSION

ENVIRONMENTAL SCIENTIST

CINOTECH CONSULTANTS LIMITED

PRINCIPAL CONSULTANT

NATIONALITY

CHINESE

PROFESSIONAL QUALIFICATIONS & AFFILIATIONS

• BSc in Environmental Protection, The University of Hong Kong, 2010

KEY EXPERIENCE

Betty Choi has over 9-year experience in ecological studies. Since joining Cinotech, Betty has been responsible for ecological impact assessment for infrastructure development projects, which involve field survey, data collection and drafting of assessment reports. She has also been involved in Tree Surveys, variation of environmental permits and Environmental Monitoring and Audit (EM&A) projects. She is a certified BEAM Pro for new building (BEAM Pro No.: BP2018-0056), and is involved in provision of advice, data collection, review of supporting documents and drafting of assessment reports.

PROFESSIONAL EXPERIENCE AND RECORD

<u>TERRESTRIAL & FRESHWATER ECOLOGICAL IMPACT ASSESSMENT &</u> <u>MONITORING</u>

Conducted habitat identification, vegetation survey, fauna surveys (avifauna, mammal, herpetofauna, odonate, butterfly and freshwater infauna) in terrestrial and/or freshwater habitats. Assessed ecological impacts from development based on findings from literature review and site surveys. Proposed practical mitigation measures.

General

- 1. Port Shelter Sewerage, Stage 3 Sewerage Works at Po Toi O Environmental Impact Assessment Studies Investigation
- 2. New Wang Tong River Bridge, Mui Wo Environmental Impact Assessment and Drainage Impact Assessment Studies
- 3. Multi-Purpose Sports Complex at Kai Tak Area Environmental Impact Assessment & Traffic Impact Assessment Studies Investigation
- 4. The Establishment of an Agricultural Park in Kwu Tung South Investigation, Design and Construction
- 5. Expansion of Mountain Bike Trail Networks in Mui Wo and Chi Ma Wan, South Lantau Design and Construction
- 6. Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works
- 7. Associated Outdoor Facilities for the New Prison, Ká Hó, Coloane, Macau

CURRICULUM VITAE

- 8. Comprehensive Residential and Open Space Development at Various Lots in DD 129, Lau Fau Shan, Yuen Long
- 9. Consultancy for Environmental Assessment for Phase 2 (Galaxy Cotai Macau)
- 10. Consultancy for Environmental Assessment for Laser and Light Shows at Galaxy Cotai Macau Phase 1 & 2 Development
- 11. Consultancy for Environmental Assessment for Lot 3, Galaxy Cotai Macau
- 12. Development of Mong Tung Wan for Columbarium
- 13. Discovery Bay Maintenance Dredging Project Profile
- 14. Ecological Study at the Residence of Ip Ting-sz, Lin Ma Hang, Closed Area
- 15. Foundation for Public Rental Housing Development at Shatin Area 52 Phase 2
- 16. Four Proposed Small Houses on Lots 476 S.A ss.1, 476 S.A RP, 476 S.B. ss.2, 476 S.B ss.3, 476 S.C ss.2 & 476 S.C RP in D.D.289, Tai Po
- 17. Improvement to Fan Kam Road (Feasibility Study)
- 18. Improvement to Fan Kam Road (Investigation)
- 19. Improvement Work for Mui Wo Facelift Design and Construction
- 20. Lam Tsuen Valley Sewerage Investigation, Design and Construction
- 21. Landslip Prevention and Mitigation Programme, 2010, Package F, Landslip Prevention and Mitigation Works Lantau (Ngong Ping, Lower Keung Shan and Sham Shek Tsuen)
- 22. Landslip Prevention and Mitigation Programme, 2011, Package G, Landslip Prevention and Mitigation Works – Investigation, Design and Construction (Wong Chuk Shan New Village, Sai Kung Outdoor Training Camp, Clear Water Bay Road and Luk Wu)
- 23. Landslip Prevention and Mitigation Programme, 2014, Package D, Landslip Prevention and Mitigation Works – Investigation, Design and Construction (*Hing Keng Shek, Bride's Pool Road and Route Twisk*)
- 24. Ling Wan Temple Development and Conservation Feasibility Study for Stage 1A
- 25. MGM Cotai Hotel Development, Cotai, Macau
- 26. Preliminary Environmental Review & Drainage/Sewage Impact Assessment for Swimming Pool Complex and Open Space in Remaining portion of district Open Space in Area 107, Tin Shui Wai
- 27. Proposed Residential House at D.D. CCL 942, Nam Tam, Cheung Chau
- 28. Section 12A Rezoning Application for Proposed "Private Garden of Remembrance" Use in Lot 169 and subsections in DD 219, Kei Pik Shan, Sai Kung
- 29. Section 16 Planning Application for Proposed House Development in "Unspecified Use" Area at Lots No. 484, 489, 491, 492 and 493 in D.D. 311, Keung Shan, Lantau Island
- 30. Section 16 Planning Application for Proposed Religious Institution in "Village Type Development" Zone at Lots No. 8, 9, 10, 11 &14 in DD271, Tan Ka Wan, Tai Po, New Territories
- 31. Site Formation and Foundation Works for New Eastern Terrace for Proposed Residential Development at 1-15 New Eastern Terrace, 5-11 Dragon Road, Tin Hau, North Point, Hong Kong
- 32. Small Housing Development at Uk Tau, Sai Kung
- 33. Hong Kong Cemetery Conservation Management Guidelines

Specific Taxa

- 1. Egretry
 - a. Construction of a Secondary Boundary Fence from Mai Po to Lok Ma Chau Control Point
 - b. Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone
- 2. Bat
 - a. Consultancy Service for Ecological Impact Assessment at Yan Tun Kong Study Hall, Hang Tau Tsuen, Ping Shan, Hong Kong
 - b. Improvement Work for Mui Wo Facelift Design and Construction
 - c. Consultancy for Environmental Monitoring on the Major Restoration of the Residence of Ip Ting-Sz, Lin Ma Hang Tsuen, Sha Tau Kok
- 3. Waterbird
 - a. Maintenance Contract for Seawalls and Navigation Channels (2010-2013) Kam Tin River – Waterbird Monitoring
- 4. White-bellied Sea Eagle
 - a. Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone