FORM
5

Application No.
Reference No. :
(For official use)

FORM 5
ENVIRONMENTAL IMPACT ASSESSMENT ORDINANCE
(CHAPTER 499)
SECTION 13(1)

Application for Variation of an Environmental Permit

PART A PREVIOUS APPLICATIONS

☐ No previous application for variation of an environmental permit.

☑ The environmental permit was previously amended.

Application No. : VEP-648/2025

PART B DETAILS OF APPLICANT

B1. Name : (person or company)

TAI PO GOLF CLUB LIMITED

[Note : In accordance with section 13(1) of the Ordinance, the person holding an environmental permit or a person who assumes responsibility for the designated project may apply for variation of the environmental permit.]

B2. Business Registration No. : (if applicable) [redacted]

B3. Correspondence Address : [redacted]

B4. Name of Contact Person : [redacted]

B5. Position of Contact Person : [redacted]

B6. Telephone No. : [redacted]

B7. Fax No. : [redacted]

B8. E-mail Address : (if any) [redacted]

PART C DETAILS OF CURRENT ENVIRONMENTAL PERMIT

C1. Name of the Current Environmental Permit Holder :

TAI PO GOLF CLUB LIMITED

C2. Application No. of the Current Environmental Permit : VEP-648/2025

C3. The Current Environmental Permit was Issued in : month / year

0 9 / 2 0 2 5

Important Notes : Please submit the application together with

(a) 3 copies of this completed form; and

(b) appropriate fee as stipulated in the Environmental Impact Assessment (Fees) Regulation

to the Environmental Protection Department at the following address :

The EIA Ordinance Register Office,
27th floor, Southorn Centre,130 Hennessy Road,
Wan Chai, Hong Kong.

RECEIVED
14 JAN 2026
EIAO Register Office, E.P.D.

☐ Tick (✓) the appropriate box

PART D PROPOSED VARIATIONS TO THE CONDITIONS IN CURRENT ENVIRONMENTAL PERMIT

D1. Condition(s) in the Current Environmental Permit :	D2. Proposed Variation(s) :	D3. Reason for Variation(s) :	D4. Describe the environmental changes arising from the proposed variation(s) :	D5. Describe how the environment and the community might be affected by the proposed variation(s) :	D6. Describe how and to what extent the environmental performance requirements set out in the EIA report previously approved or project profile previously submitted for this project may be affected :	D7. Describe any additional measures proposed to eliminate, reduce or control any adverse environmental impact arising from the proposed variation(s) and to meet the requirements in the Technical Memorandum on Environmental Impact Assessment Process :
Condition 2.43 The operation hours of the outdoor golf playing area shall be restricted to 07:00 to 18:00 between the months of March and August inclusive.	Condition 2.43 *The locations and operation hours of the outdoor golf playing area are shown in Figure 6 of the Permit. If there is any change to the locations and operation hours of the outdoor golf playing area, the Permit Holder shall, no later than two months before the commencement of operation of the Project, deposit with the Director 4 hard copies and 1 electronic copy of a plan indicating the locations and operation hours of the outdoor golf playing area.*	The variation is proposed to optimise the operation hours to support the operational needs of the Project. Please refer to Section 3 of the ERR for Application of VEP.	An environmental review has been conducted for the proposed variation on various environmental aspects. There is no adverse environmental impact arising from the proposed amendments. Please refer to Section 3 of the ERR for Application of VEP.	An environmental review has been conducted for the proposed variation on various environmental aspects. There is no adverse environmental impact arising from the proposed amendments. Please refer to Section 3 of the ERR for Application of VEP.	The environmental performance requirements set out in the approved EIA Report will be maintained. The proposed variation would not change the extent of environmental impacts predicted in the approved EIA report.	No additional measures is required. Please refer to Section 3 of the ERR for Application of VEP.
Condition 2.44 The operation hours of the outdoor golf playing area shall be restricted to 07:00 to 17:00 between the months of September and February inclusive.	Condition 2.44 *(Not used)*	The variation is proposed to optimise the operation hours to support the operational needs of the Project. Please refer to Section 3 of the ERR for Application of VEP.				

PART D PROPOSED VARIATIONS TO THE CONDITIONS IN CURRENT ENVIRONMENTAL PERMIT

D1. Condition(s) in the Current Environmental Permit :	D2. Proposed Variation(s) :	D3. Reason for Variation(s) :	D4. Describe the environmental changes arising from the proposed variation(s) :	D5. Describe how the environment and the community might be affected by the proposed variation(s) :	D6. Describe how and to what extent the environmental performance requirements set out in the EIA report previously approved or project profile previously submitted for this project may be affected :	D7. Describe any additional measures proposed to eliminate, reduce or control any adverse environmental impact arising from the proposed variation(s) and to meet the requirements in the Technical Memorandum on Environmental Impact Assessment Process :
Condition 2.54 No smoking and no naked flame shall be allowed within the Project Site during operation phase of the Project.	Condition 2.54 No smoking and no naked flame shall be allowed within the Project Site during operation phase of the Project, *except the club house (at least one storey above ground level and are not directly adjacent to any slopes).*	The variation is proposed with design measures considered to support the operational needs of the Project. Please refer to Section 4 of the ERR for Application of VEP.	An environmental review has been conducted for the proposed variation on various environmental aspects. There is no adverse environmental impact arising from the proposed amendments. Please refer to Section 4 of the ERR for Application of VEP.	An environmental review has been conducted for the proposed variation on various environmental aspects. There is no adverse environmental impact arising from the proposed amendments. Please refer to Section 4 of the ERR for Application of VEP.	The environmental performance requirements set out in the approved EIA Report will be maintained. The proposed variation would not change the extent of environmental impacts predicted in the approved EIA report.	No additional measures is required. Please refer to Section 4 of the ERR for Application of VEP.

PART E DECLARATION BY APPLICANT

E1. I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental permit may be suspended, varied or cancelled if any information given above is false, misleading, wrong or incomplete.

[redacted] [redacted] [redacted]

Signature of Applicant | Full Name in Block Letters | Position

on behalf of TAI PO GOLF CLUB LIMITED 大埔高爾夫球會有限公司

Company Name and Chop (as appropriate)

14 JAN 2026

Date

NOTES :

1. A person who constructs or operates a designated project in Part I of Schedule 2 of the Ordinance or decommissions a designated project listed in Part II of Schedule 2 of the Ordinance without an environmental permit or contrary to the permit conditions commits an offence under the Ordinance and is liable to a maximum fine of $5,000,000 and to a maximum imprisonment for 2 years.

2. A person for whom a designated project is constructed, operated or decommissioned and who permits the carrying out of the designated project in contravention of the Ordinance commits an offence and is liable to a maximum fine of $5,000,000 and to a maximum imprisonment for 2 years.

ARUP

Tai Po Golf Club Limited

Proposed Golf Course Development at Tai Po Lot No. 246 Shuen Wan

Environmental Review Report for Application of Variation of Environmental Permit (VEP)

Reference: 289499-REP-042-03

Job number 289499

Ove Arup & Partners Hong Kong Limited
Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong
Kowloon
Hong Kong
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Contents

Appendices

Appendix 4.1
Monitoring Data for Shuen Wan Restored Landfill

1. Introduction

1.1 Background

1.1.1.1 In June 2017, the Chief Executive in Council has agreed in principle to the government proposal to grant a piece of land in Tai Po in exchange for its private land in Sha Lo Tung which has high ecological values. Under the non-in-situ land exchange proposal, the piece of land at the Shuen Wan Restored Landfill (i.e. landfill site comprising areas within the waste boundary and areas outside the waste boundary) in Tai Po will be granted and the Sha Lo Tung site would be considered by government for active conservation management to avoid degradation and damage for long-term public enjoyment. This land exchange proposal is a unique, exceptional and isolated case, adding the idea is technically feasible as the private land ownership is largely unified under one entity and both Sha Lo Tung and the land at the landfill site, which has been planned for golf course development, are located in Tai Po, as shown in Figure 1 of FEP-01/571/2019/B (extracted as **Appendix 1.1**). The non-in-situ land exchange proposal has been completed in July 2022, and the Project Site has been handed over to the Project Proponent (PP).

1.1.1.2 The Project is a Designated Project (DP) under Environmental Impact Assessment Ordinance (EIAO), and an Environmental Impact Assessment (EIA) study was conducted in 2017. The Shuen Wan Golf Course EIA Report was approved by the Director of Environmental Protection (DEP) on 5 July 2019 (AEIAR-221/2019) ("the approved EIA Report") with the Environmental Permit (EP, EP-571/2019) issued on 20 September 2019. An application of Further Environmental Permit (FEP) has been made by Tai Po Golf Club Limited (the PP) and FEP was issued on 29 November 2022 (FEP-01/571/2019). Besides, surrender of EP-571/2019 has been applied and approved on 9 December 2022. In addition, an application for variation of EP has been made on 16 May 2023 to amend FEP-01/571/2019, and the amended EP was issued on 6 June 2023 (FEP-01/571/2019/A). Furthermore, another application for variation of EP has been made on 4 August 2025 to amend FEP-01/571/2019/A, and the amended EP was issued on 2 September 2025 (FEP-01/571/2019/B).

1.1.1.3 However, there has been changes to the detailed design of the Project. As more information is collected throughout the design phase, there are inevitably some changes / optimisations to the design adopted in the approved EIA Report, as summarised in the subsequent sections.

1.2 Need for the Proposed Amendments

1.2.1.1 As mentioned above, the non-in-situ land exchange proposal has been completed in July 2022, and the Project Site has been handed over to the PP. The Project is currently under detailed design stage to optimise the design adopted in the approved EIA Report, and the construction phase of the Project has commenced in October 2024. As the Project is a DP under EIAO, the Project shall be designed, constructed and operated in accordance with the information or mitigation measures in the issued EP (FEP-01/571/2019/B).

1.2.1.2 According to the approved EIA Report, both Collared Crow (CC) and Black Kite (BK) utilised plantation in the Project Site as a night roost. Thus, in the approved EIA Report, the proposed operation hour of the golf holes is restricted to daytime, and the driving range will be closed at 22:00. As stipulated in the FEP-01/571/2019/B, the operation hours of the outdoor golf playing area shall be restricted to 07:00 to 18:00 between the months of March and August inclusive and 07:00 to 17:00 between the months of September and February inclusive respectively under Condition 2.43 and Condition 2.44. The operation hours of other existing golf courses in Hong Kong typically end at dusk or around 20:00. Extending the operation hours of the proposed golf course would better align with the existing schedule, offering greater flexibility for career individuals to enjoy leisure time. Moreover, as of April 2025, golf has been designated a 'Tier A' elite sport at the Hong Kong Sports Institute by the government, ensuring enhanced support for golfers and enabling them to fully concentrate on training and competitions. The extension of operation hours would also create more opportunities for youth golfers to practice after school, supporting personal well-being and youth development in line with government initiatives. Furthermore, global lifestyle trends are evolving, leading to changes in daily routines across different regions. In response, many golf courses now operate into the evening to better align with these evolving lifestyles. Examples can be found in regions such as China, Dubai, United States, Singapore, and Turkey, demonstrating how operation hours into the evening cater to the changing patterns of leisure and activity. In view of the latest design layout of the driving range (i.e. practice range in the layout) and golf holes, there is potential to review and extend the operation hours for certain golf holes of the proposed golf course. Detailed discussions will be provided in **Section 3**.

1.2.1.3 In addition, according to the approved EIA Report, the Project Site was formerly a landfill (i.e. landfill site comprising areas within the waste boundary and areas outside the waste boundary) with its operation commenced in 1973 and ceased operation in 1995. Restoration works were implemented after the closure of the landfill site. To minimise the environmental impacts related to landfill gas (LFG), smoking and naked flame would be banned in the proposed golf course. As stipulated in the FEP-01/571/2019/B, no smoking and no naked flame shall be allowed within the Project Site during operation phase of the Project under Condition 2.54. Under the latest golf course design, a clubhouse would be placed at the southeastern area of the Project Site outside the waste boundary. Incorporating elements such as flame cooking in the kitchen and a cigar shop/ bar with tasting services in the clubhouse can reflect cultural practices and provide lifestyle features that encourage social interaction among visitors. In view of the latest design layout of the clubhouse of the proposed golf course, there is potential to allow the use of naked flame and cigar tasting in the clubhouse, provided that the area where naked flame is used and cigar tasting is located at least one storey above ground level and not directly adjacent to any slopes. Detailed discussions will be provided in **Section 4**.

1.2.1.4 After review, the proposed amendments under this Project comprise the followings, and details refer to the subsequent sections.

- The operation hours for the outdoor golf playing area during operation phase as stipulated in Condition 2.43 and Condition 2.44 of FEP-01/571/2019/B.

- Allow the use of naked flame and cigar tasting within the Project Site during the operation phase as stipulated in Condition 2.54 of FEP-01/571/2019/B.

1.3 Interfacing with Other Projects

1.3.1.1 During the construction and operational phases of the Project, there would be concurrent projects within 500m assessment area. The concurrent projects have been reviewed to include those in the approved EIA Report, and other projects within 500m assessment area based on the best available information. They are listed below:

- Shuen Wan Landfill Restoration Contract;
- Food Waste Pre-treatment Facilities (FWPF) for Food Waste / Sewage Sludge Anaerobic Co-Digestion Pilot Trial in Tai Po Sewage Treatment Works (TPSTW);
- Columbarium Development at Shuen Wan Landfill, Tai Po;
- Upgrading of Tai Po Sewage Treatment Works (TPSTW);
- Proposed Tolo Harbour Effluent Export Scheme (THEES) Upgrading; and
- Proposed Organic Waste Pre-treatment Centre (OWPC).

1.4 Purpose of This Environmental Review Report

1.4.1.1 This environmental review report (ERR) provides information to identify and describe the potential impacts on the environment and the community due to the proposed amendments and evaluate the potential impacts, and to confirm the compliance of relevant environmental standards. The information presented herein forms part of the submission to the Environmental Protection Department (EPD) for an Application of Variation of Environmental Permit (VEP). The purpose of this ERR is to demonstrate that no unacceptable impacts will be resulted from the proposed amendments. In addition, it will also demonstrate no exceedance or violation of environmental performance requirement as set out in the approved EIA Report and hence a VEP can be granted.

1.5 Structure of This Environmental Review Report

1.5.1.1 The structure of the ERR is given below:

Section 1 Introduces the project background, purposes and objectives of this ERR. Describes the need for the proposed amendments.

Section 2 Describes the proposed amendments, as well as the proposed variation to the EP conditions.

Section 3 Describes the reason to amend Condition 2.43 and Condition 2.44 under FEP-01/571/2019/B and reviews environmental changes arising from the proposed amendment.

Section 4 Describes the reason to amend Condition 2.54 under FEP-01/571/2019/B and reviews environmental changes arising from the proposed amendment.

Section 5 Identifies and reviews the changes in the environmental monitoring and auditing scope arising from the proposed amendments.

Section 6 Reviews and justifies whether there are any material changes to the designated project

Section 7 Summarises and concludes the findings.

2. Proposed Amendments

2.1 Proposed Amendments

2.1.1.1 As discussed in **Section 1.2**, there would be amendments on the original design adopted in the approved EIA Report and conditions stipulated in FEP-01/571/2019/B respectively. The proposed amendments are presented in **Table 2.1**.

Table 2.1 Proposed amendment item

EP Condition	Original Conditions in FEP-01/571/2019/B	Proposed Amendments	Reason for Variations
Operation Hours for the Outdoor Golf Playing Area during Operation Phase			
2.43	The operation hours of the outdoor golf playing area shall be restricted to 07:00 to 18:00 between the months of March and August inclusive.	*The locations and operation hours of the outdoor golf playing area are shown in Figure 6 of the Permit. If there is any change to the locations and operation hours of the outdoor golf playing area, the Permit Holder shall, no later than two months before the commencement of operation of the Project, deposit with the Director 4 hard copies and 1 electronic copy of a plan indicating the locations and operation hours of the outdoor golf playing area.*	Refer to **Appendix 2.1** (i.e. as Figure 6 for the VEP) and **Section 3**.
2.44	The operation hours of the outdoor golf playing area shall be restricted to 07:00 to 17:00 between the months of September and February inclusive.	*(Not used)*	Refer to **Section 3**.
Use of Naked Flame in the Clubhouse (i.e. At least One Storey above Ground Level and Not Directly adjacent to Any Slopes) during Operation Phase			
2.54	No smoking and no naked flame shall be allowed within the Project Site during operation phase of the Project.	No smoking and no naked flame shall be allowed within the Project Site during operation phase of the Project*, except the club house (at least one storey above ground level*	Refer to **Section 4**.

EP Condition	Original Conditions in FEP-01/571/2019/B	Proposed Amendments	Reason for Variations
		and are not directly adjacent to any slopes).	

3. Proposed Amendment on Operation Hours for the Outdoor Golf Playing Area during Operation Phase under Condition 2.43 and Condition 2.44

3.1 General

3.1.1.1 According to the approved EIA Report, ecological surveys have been conducted which cover terrestrial, aquatic, intertidal and marine habitats, including bird roosting usage. The ecological survey findings revealed the pre-roosting and roosting behaviour of CC and BK. CC usually congregated at pre-roosts about 15 to 30 minutes before sunset, and plantation at the southwest corner and the turfgrass area of the previous driving range were occasionally used as pre-roosts. There is no pre-roost behaviour observed for BK, and most of the BK were circling in the sky prior to landing on the final roosts.

3.1.1.2 Besides, the ecological survey findings revealed that both CC and BK utilised plantation in the Project Site as a night roost. CC usually took off from pre-roosts and flew to final roosts around sunset. They were observed roosting in different locations of the plantation, from the southern end of the Project Site, the southeast corner, to the eastern edge of the Project Site, as shown in Figure 10.7c of the approved EIA Report (extracted as **Appendix 3.1**). The plantation at the southern end of the Project Site was most often used by CC as night roost, about double the frequency in most other locations, and thus could be considered as the major roosting tree groups used by CC as night roost. Compared to CC, the night roosts of BK were scattered among the existing plantation strip along the eastern to southern boundary of the Project Site, as shown in Figure 10.7c of the approved EIA Report (extracted as **Appendix 3.1**). As such, the approved EIA report recommended to preserve several existing tree groups with a total area size of about 6.1 ha to minimise the impact of loss of roosting sites for the two concerned bird species (i.e. CC and BK). These areas include the 1.2 ha core roosting area at the southern side of the Project Site, as shown in Figure 1 of FEP-01/571/2019/B) (extracted as **Appendix 1.1**), which is the major tree groups at the southern side as the night roost site.

3.1.1.3 As stipulated in Condition 2.14 of the FEP-01/571/2019/B, no less than 6.1 ha of existing tree groups within the Project Site shall be preserved, including the 1.2 ha core roosting area as shown in Figure 1 of the FEP-01/571/2019/B (extracted as **Appendix 1.1**). Besides, compensatory planting of no less than 10 ha of new trees within the Project Site shall be implemented. These measures aim to mitigate the potential impact of the Project on the night roosting of CC and BK.

3.1.1.4 In addition to the preservation of tree groups and compensatory planting, according to the approved EIA Report, the proposed operation hour is restricted to daytime, and the driving range will be closed at 22:00 to minimise the operational impacts on roosting CC and BK. As stipulated in the FEP-01/571/2019/B, the operation hours of the outdoor golf playing area shall be restricted to 07:00 to 18:00 between the months of March and August inclusive and 07:00 to 17:00 between the months of September and February inclusive respectively under Condition 2.43 and Condition 2.44. In view of the latest design layout of the driving range and golf holes, the proposed operation hours of several golf holes in the outdoor golf playing area have been reviewed and optimised to support the operational needs of the Project. The following sections will present the factors

considered in the review, along with review of any potential environmental impacts arising from the proposed amendment.

3.2 Review of Operation Hours in Existing Golf Courses

3.2.1.1 The operation hours of existing golf courses in Hong Kong typically end at dusk or around 20:00. Extending the operation hours of the proposed golf course would better align with the existing schedule, offering greater flexibility for career individuals to enjoy leisure time. Moreover, as of April 2025, golf has been designated a 'Tier A' elite sport at the Hong Kong Sports Institute by the government, ensuring enhanced support for golfers and enabling them to fully concentrate on training and competitions. The extension of operation hours would also create more opportunities for youth golfers to practice after school, supporting personal well-being and youth development in line with government initiatives.

3.2.1.2 Furthermore, global lifestyle trends are evolving, leading to changes in daily routines across different regions. In response, many golf courses now operate into the evening to better accommodate these evolving lifestyles. As illustrated in **Table 3.1**, examples from countries such as China, Dubai, the United States, Singapore, and Turkey demonstrate that operation hours into the evening are common in the industry. This practice reflects how golf courses are adapting to meet the changing patterns of leisure and recreational activity.

Table 3.1 Examples of Golf Courses Operating until Evening Worldwide

Location	Name	Operation Hours
Shenzhen, China	Noble Merchant Golf Club	07:00 – 21:00 daily [1]
Wenzhou, China	Orient Golf Country Club	07:30– 23:00 daily [1]
Dubai, United Arab Emirates	Trump Golf	06:00– 00:00 daily [1]
Dubai, United Arab Emirates	Emirates Golf Club	06:00– 22:00 daily [2]
Florida, USA	The Links of Naples	May to October: - Monday to Sunday: 07:00– 15:00 November to April: - Sunday to Tuesday: 07:00 – 15:00 - Wednesday to Saturday: 07:00– 23:00 [3] [4]
Singapore	Orchid Country Club	Monday, Tuesday & Thursday: 06:30 - 18:30 Wednesday & Friday: 06:30 – 22:00 [1] [5]
Turkey	The Montgomerie Maxx Royal Golf Club	06:30 – 22:00 daily [1]

Note:

[1] With reference to information from online sources
[2] With reference to official website: https://www.dubaigolf.com/egc/leisure/
[3] With reference to official website: https://www.linksofnaples.com/rates/
[4] With reference to official website: https://www.linksofnaples.com/night_golf/
[5] With reference to official website: https://www.orchidclub.com/golf/general-information

3.3 Comparison among Previous Driving Range, EIA Design and Latest Design under this ERR

3.3.1 Previous Golf Driving Range

3.3.1.1 As mentioned in **Section 1**, the Project Site was formerly a landfill with its operation commenced in 1973 and ceased in 1995. Restoration works were implemented after the closure of the landfill site.

3.3.1.2 The Project Site later became a golf driving range in Shuen Wan, featuring 145 driving bays and operating daily from 07:30 - 22:30 since its opening in 1999. The previous golf driving range remained in operation until its closure in 2022.

3.3.1.3 The previous golf driving range was located adjacent to the northern side of the core roosting area, as shown in Figure 1 of **Appendix 3.2**. To support evening operations, several artificial lights were installed along both sides of the driving range, with lighting directed towards the driving range to facilitate evening golfing activities.

3.3.2 Design in the Approved EIA Report

3.3.2.1 Under the approved EIA Report, an 18-hole golf course with a driving range and ancillary facilities has been proposed. The operation hour of the proposed 18-hole golf course is restricted to daytime to minimise potential impact on roosting CC and BK. According to the conditions set out in the FEP-01/571/2019/B, the operation hours of the outdoor golf playing area shall be restricted to 07:00 to 18:00 between the months of March and August inclusive, and 07:00 to 17:00 between the months of September and February inclusive, as stipulated under Condition 2.43 and Condition 2.44 respectively.

3.3.2.2 The driving range, which was planned to close at 22:00, is situated adjacent to the western side of the core roosting area, as shown in Figure 2 of **Appendix 3.2**. To mitigate potential ecological impacts, buffer planting has been proposed between the driving range and the core roosting area.

3.3.2.3 According to the approved EIA Report, the intensity and duration of the proposed artificial lighting within the Project Site would be similar to those of the previous driving range. To further minimise potential disturbance, the layout of the proposed driving range has been strategically designed to direct lighting towards the north. All the lightings will be pointed towards the turfgrass and away from the core roosting area.

3.3.2.4 As a result, the light intensity experienced at the core roosting area during the operational phase is expected to be similar, or even lower than, the previous conditions. In accordance with the approved EIA Report, the potential impact from artificial lighting to night roosting CC and BK is therefore considered as insignificant.

3.3.3 Latest Design under this ERR

3.3.3.1 Under the latest design, as shown in Figure 3 of **Appendix 3.2**, the proposed driving range will be located at the western side of the Project Site, adjacent to the eastern boundary of the Tai Po Industrial Estate. To accommodate the busy schedules of working professionals and youth, the driving range and several golf holes within the outdoor playing area are proposed to operate during evening hours, up to 22:00. The remaining golf holes will adhere to the operating hours stipulated under Condition 2.43 and 2.44 of the FEP-01/571/2019/B.

3.3.3.2 As shown in Figure 3 of **Appendix 3.2**, the proposed driving range and the nearest golf hole with extended operating hours up to 22:00 are located approximately 130m and 25m respectively from the core roosting area. The separation distance is larger than that of both the previous golf driving range and the proposed driving range in the approved EIA Report, which were situated directly adjacent to the core roosting area. In addition, buffer planting will be provided between the proposed golf holes and the core roosting area to further minimise the potential ecological impacts.

3.3.3.3 In addition, as shown in Figure 3 of **Appendix 3.2**, the proposed golf hole (i.e. tentatively indicated as Hole 18) at the eastern edge of the Project Site will not operate with extended operation hours until 22:00, in order to minimise potential ecological impacts on the night roosting site for CC and BK, which were observed during the ecological survey in the approved EIA Report. According to the Tree Preservation, Transplantation and Compensation Plan (TPTCP) under Condition 2.14 of the FEP-01/571/2019/B, preservation of tree groups and compensatory planting are recommended for implementation along the eastern edge of the Project Site.

3.3.3.4 Under the latest design, a specialised lighting system, which enables lighting control across large areas while ensuring optimal visibility around key features such as bunkers, berms and bends, will be adopted to focus illumination specifically on the proposed golf holes operating until 22:00. This type of lighting design has been widely implemented in existing golf courses internationally. Similar to the approved EIA Report, the light intensity at the core roosting area during the operational phase is expected to be comparable to, or even lower than, previous conditions. Besides, the specialised lighting will be controlled and directed towards the turfgrass of the golf holes to be operated in the evening and away from the night roosting sites of CC and BK. Therefore, the potential impact of artificial lighting on night roosting CC and BK is considered insignificant.

3.4 Review of Potential Environmental Impacts

3.4.1.1 As discussed in **Section 3.1**, no less than 6.1 ha of existing tree groups with the 1.2 ha core roosting area would be preserved, and compensatory planting of no less than 10 ha of new trees within the Project Site will be implemented to mitigate the potential impact of the Project on the night roosting of CC and BK.

3.4.1.2 Under the latest design as shown in Figure 3 of **Appendix 3.2**, the driving range and several golf holes within the outdoor playing area are proposed to operate during evening hours, up to 22:00. For the driving range, the operation hour is the same as in the approved EIA Report, i.e. up to 22:00, and earlier than that in the previous golf driving range, i.e. 22:30. A comparison among the previous driving range, the design proposed

in the approved EIA Report, and the latest design has been conducted. Under the latest design, the proposed driving range and the nearest golf hole with extended operating hours until 22:00 are located approximately 130m and 25m respectively from the core roosting area, which represents the greatest separation distance among the three designs. In contrast, both the previous driving range and the one proposed in the approved EIA Report were situated directly adjacent to the core roosting area. Therefore, the potential ecological impact on the core roosting area is further minimised under the latest design compared to the approved EIA Report.

3.4.1.3 As mentioned in **Section 3.3.3**, buffer planting will be provided between the proposed golf holes and the core roosting area, which is similar to the recommendation in the approved EIA Report, to further minimise the potential ecological impacts.

3.4.1.4 As discussed in **Section 3.1**, according to the ecological survey findings of the approved EIA Report, both CC and BK were observed roosting in different locations of the plantation, from the southern end of the Project Site, the southeast corner, to the eastern edge of the Project Site, as shown in Figure 10.7c of the approved EIA Report (extracted as **Appendix 3.1**). The southern end of the Project Site was considered as the major roosting tree groups used by CC as night roost, and recommended to be preserved as core roosting area, which has been discussed in above section. As mentioned in **Section 3.3.3**, the proposed golf hole (i.e. tentatively indicated as Hole 18) at the eastern edge of the Project Site will not operate with extended operation hours until 22:00, in order to minimise potential ecological impacts on the night roosting site for CC and BK, which were observed during the ecological survey in the approved EIA Report. According to the Tree Preservation, Transplantation and Compensation Plan (TPTCP) under Condition 2.14 of the FEP-01/571/2019/B, preservation of tree groups and compensatory planting are recommended for implementation along the eastern edge of the Project Site. Therefore, the potential ecological impact on night roosting CC and BK at the eastern edge of the Project Site is considered insignificant due to the proposed amendment.

3.4.1.5 In addition, a specialised lighting system, which enables lighting control across large areas while ensuring optimal visibility around key features such as bunkers, berms and bends, will be adopted under the latest design with the light intensity at the core roosting area during the operational phase is expected to be comparable to, or even lower than, previous conditions. Besides, the specialised lighting will be controlled and directed towards the turfgrass of the golf holes to be operated in the evening and away from the night roosting sites of CC and BK. Therefore, the potential impact of artificial lighting on night roosting CC and BK is considered insignificant.

3.4.1.6 The comparison review findings across various stages have been summarised in **Table 3.2**. Under the latest design, the increased separation distance between the proposed driving range and golf holes operating until 22:00 and the core roosting area, together with the provision of buffer planting, as well as the proposed locations of the golf holes with operating hour until 22:00 to be further away from the eastern edge of the Project Site, and the adoption of a specialised artificial lighting design, minimises potential ecological impacts on night roosting CC and BK. With the abovementioned design considerations implemented, potential ecological impact from the proposed amendments is not anticipated.

Table 3.2 Comparison of Golf Course Design under Different Stages

Stage	Separation Distance between Area Operating into Evening and Core Roosting Area	Evening Closing Time	Buffer Planting	Artificial Lighting
Previous Golf Driving Range (Figure 1 of **Appendix 3.2**)	Adjacent to	22:30	×	✓
Design in the Approved EIA Report (Figure 2 of **Appendix 3.2**)	Adjacent to (i.e. driving range)	22:00	✓ (between the driving range and core roosting area)	✓
Latest Design under this ERR (Figure 3 of **Appendix 3.2**)	Driving range: About 130 m Nearest golf hole with extended operating hours until 22:00: About 25 m	22:00	✓ (between the nearest golf hole with extended operation hour and core roosting area)	✓

3.4.1.7 In addition to ecological impact, all environmental aspects considered in the approved EIA report have been revisited to identify any environmental changes arising from the proposed amendment on the extension of operation hours for several golf holes within the outdoor golf playing area during operational phase.

3.4.1.8 For visual impact, similar to the approved EIA Report, the latest design remains compatible with the character of the previous golf driving range. The proposed golf course and associated clubhouse will reinstate and enhance the greenery coverage, and also create a unique recreational landscape character for the Project Site. The visual change is regarded as a good change on quality with introduction of new greenery and landscape features without too much altering the existing topography. With the implementation of key mitigation measures, such as the introduction of recreational and landscape features, tree preservation, transplanting, tree planting proposal, and a specialised lighting system, the development mass and edges will be softened, thereby enhancing overall visual amenity. As such, the visual changes introduced by the Project will not be apparent in majority views of the surrounding Visual Sensitive Receivers (VSRs), and will be visually integrated with the urban and waterfront context.

3.4.1.9 With the proper implementation of the recommended mitigation measures in the approved EIA Report and ERR for amended EP, there would be no adverse impacts on air quality, hazard to life, noise, water quality, waste management implications, land contamination, landfill gas hazards, fisheries, and landscape and visual.

4. Proposed Amendment on the Use of Naked Flame and Cigar Tasting in Clubhouse during Operation Phase under Condition 2.54

4.1 General

4.1.1.1 Under the latest design, the clubhouse will be placed outside the waste boundary where the landfill capping layer has been installed. Besides, the protective and precautionary measures recommended in the approved EIA Report for indoor areas of the Project, such as the clubhouse, will be implemented to protect the identified targets within the Project Site. By the provision of protective and precautionary measures, the risk of the targets has been reduced to acceptable levels.

4.1.1.2 In accordance with the approved EIA Report, significant engineering measures, comprising active gas control system, barriers and detection systems, would be required to protect the targets. As recommended in the approved EIA Report, protective and precautionary measures to be implemented for the indoor areas of the Project wherever practicable, include the following examples:

- The use of mechanical ventilation system to accelerate the dispersion of any accumulated LFG;
- Gas-proof membranes or dense well-compacted concrete to prevent any gas ingression into the building facilities;
- Always-on gas detection system to monitor the methane, carbon dioxide and oxygen gas concentrations, and equip with an alarm set at the trigger levels in order to give warning to the public and evacuate sensitive targets from buildings, etc.

4.1.1.3 In addition, an Updated Operation Phase Landfill Gas Hazard Assessment including a review of the qualitative landfill gas hazard assessment in the approved EIA Report, a detailed and updated qualitative landfill gas hazard assessment and the establishment of maintenance and monitoring programmes to ensure the continued performance of the proposed control measures for operation phase of the Project shall be submitted at least one month before the commencement of operation of the Project based on the latest design, as required under Condition 2.25 of the FEP-01/571/2019/B.

4.1.1.4 Besides, smoking and naked flame would be banned in the proposed golf course to minimise the environmental impacts related to LFG. As stipulated in the FEP-01/571/2019/B, no smoking and no naked flame shall be allowed within the Project Site during operation phase of the Project under Condition 2.54.

4.1.1.5 Under the latest golf course design, a clubhouse would be placed at the southeastern area of the Project Site outside the waste boundary where the landfill capping layer has been installed. Incorporating elements such as flame cooking in the kitchen and a cigar shop/ bar with tasting services in the clubhouse can reflect cultural practices and provide lifestyle features that encourage social interaction among visitors. In view of the latest design layout of the clubhouse of the proposed golf course, the use of naked flame and allowance of cigar tasting in the clubhouse has been reviewed and proposed with design measures considered to support the operational needs of the Project. The following

sections will present the factors considered in the review, along with review of any potential environmental impacts arising from the proposed amendment.

4.2 Review of LFG Hazard Assessment in the Approved EIA Report and Historical LFG Monitoring Data

4.2.1.1 According to the approved EIA Report, the Project Site was formerly a landfill (i.e. landfill site comprising areas within the waste boundary and areas outside the waste boundary) with its operation commenced in 1973 and ceased operation in 1995. Restoration works were implemented after the closure of the landfill site. Qualitative assessments have been conducted to consider the potential risk of LFG from the Shuen Wan Restored Landfill to the proposed golf course during construction phase and operational phase, respectively. Under the source-pathway-target analysis for the operational phase in Table 9.9 of the approved EIA Report (extracted as **Table 4.1** below), the overall risk level is High for the indoor areas of the Project Site where public have free access. For the restricted areas, such as plant rooms, stored rooms and water storage tanks, where only the authorised personnel can access, the overall risk level is Medium.

Table 4.1 Qualitative Risk Assessment of LFG hazards in the Operational Phase extracted from the Approved EIA Report Table 9.9

Source	Pathway	Target	Risk
Shuen Wan Restored Landfill as LFG source: Medium Source	Natural: Very Short/Direct Man-made: Very Short/Direct Combined natural and man-made pathway: Very Short/Direct	Indoor areas where the public have unrestricted access include car park, lift and staircases, offices, lavatories, overnight accommodation: Highly Sensitive	High
		Plant rooms, water storage tanks, workshop areas, staff quarters and confined spaces: Medium Sensitive	Medium
		Outdoor golf course: Low Sensitive	Low

4.2.1.2 According to the approved EIA Report, as part of the Shuen Wan Landfill Restoration Contract, a comprehensive monitoring programme commenced in December 1996 and is still being implemented on a monthly basis until 2027 when the restoration contract ends. In accordance with the Annual Environmental Audit Report (i.e. from 2012 to 2023), a LFG monitoring system, including 22 multiple-level and 28 single-level Gas Monitoring Probes (GMPs), has been installed for monitoring the levels of methane (CH_4) and carbon dioxide (CO_2) within and along the boundary of Shuen Wan Restored Landfill. Monitoring data during the course of January 2012 and December 2023 obtained from EPD have been reviewed. Monitoring locations and data are tabulated in **Appendix 4.1** and summarised in **Table 4.2**.

4.2.1.3 **Table 4.2** and **Appendix 4.1** show that no methane gas was detected from 2012 to 2020 and 2022 to 2023, and low level of methane gas, i.e. 0.0 to 0.6%v/v, was detected in 2021. The carbon dioxide levels ranged from 0 to 12.9% v/v from 2012 to 2023 with a 12-year average of 0.29% v/v. The annual average carbon dioxide level dropped from 0.45% v/v in 2012 to 0.27% v/v in 2023, with a general decreasing trend observed.

Table 4.2 Summary of LFG Monitoring Data for Shuen Wan Restored Landfill (2012-2023)

Monitoring Year	CH_4 (% v/v)		CO_2 (%v/v)	
	Range	Average	Range	Average
2012	0.0 – 0.0[3]	0.00	0.0 – 7.4	0.45
2013	0.0 – 0.0[3]	0.00	0.0 – 3.4	0.44
2014	0.0 – 0.0[3]	0.00	0.0 – 3.0	0.42
2015	0.0 – 0.0[3]	0.00	0.0 – 2.8	0.39
2016	0.0 – 0.0[3]	0.00	0.0 – 6.9	0.23
2017	0.0 – 0.0[3]	0.00	0.0 – 6.3	0.20
2018	0.0 – 0.0[3]	0.00	0.0 – 10.4	0.24
2019	0.0 – 0.0[3]	0.00	0.0 – 2.9	0.14
2020	0.0 – 0.0[3]	0.00	0.0 – 5.1	0.19
2021	0.0 – 0.6[4]	0.00	0.0 – 12.9	0.29
2022	0.0 – 0.0[3]	0.00	0.0 – 5.5	0.21
2023	0.0 – 0.0[3]	0.00	0.0 – 5.0	0.27
Standard Compliance Level [1]	1.0% v/v (i.e. 1.0% v/v above natural background [2])		8.6% v/v (i.e. 1.5% v/v above natural background [2])	
Level indicating significant migration [1]	5.0% v/v (i.e. 5.0% v/v above natural background [2])		12.1% v/v (5.0% v/v above natural background [2])	

Note:

[1] Standard Compliance Level of methane is taken to be 1% v/v and that of carbon dioxide is 1.5% v/v above natural background level. As stated in EPD's LFG Hazard Assessment Guidance Note, concentration of greater than 1% v/v methane or 1.5% v/v carbon dioxide (above the natural background levels in each case) indicates less than adequate control of the gas at source. In addition, any concentration of methane or carbon dioxide greater than 5% v/v above the natural background levels in any monitoring well outside the landfill's boundary indicates significant migration.

[2] According to Annual Environmental Audit Reports for Shuen Wan Restored Landfill, the natural background levels for methane and carbon dioxide are 0.0% v/v and 7.1% v/v respectively.

[3] No methane was detected.

[4] The measured level of methane in 2021 was well below 1.0% v/v (i.e. 1.0% v/v above the natural background of 0.0% v/v).

4.2.1.4 No methane was detected at any multiple-level or single-level monitoring well from 2012 to 2020 and 2022 to 2023. Low level of methane was detected at single-level monitoring wells in 2021, which was below 1.0% v/v (i.e. 1.0% v/v above the natural background of 0.0% v/v). The measured levels of carbon dioxide were below 8.6% v/v (i.e. 1.5% v/v above the natural background of 7.1% v/v) in these twelve years, except 2018 and 2021. According to the Annual Environmental Audit Reports in the respective reporting years, the occasionally high levels of carbon dioxide measured were unlikely caused by migration of LFG from the Shuen Wan Restored Landfill. Instead, it is more likely generated by other means such as plant roots or calcium oxide beneath the ground.

4.2.1.5 Surface methane has also been monitored quarterly for the entire Shuen Wan Restored Landfill. According to the Annual Environmental Audit Reports, the methane concentrations fluctuated within the range of 1.0 to 9.8ppm, which are much lower than the target limit of 10,000ppm (1% v/v) from 2012 to 2023, with a decreasing trend observed in recent years. The methane monitoring results are summarised in **Table 4.3**.

Table 4.3 Surface Gas Emission Results of Shuen Wan Restored Landfill (2012-2023)

Year	CH_4 conc., ppm
2012	1.0 – 9.8
2013	5.6 – 8.6
2014	6.0 – 8.7
2015	7.0 – 8.4
2016	6.4 – 9.8
2017	7.1 – 9.4
2018	7.0 – 8.6
2019	7.0 – 8.5
2020	7.0 – 9.3
2021	3.9 – 9.6
2022	1.9 – 5.7
2023	1.4 – 3.6

4.2.1.6 In summary, no methane was detected at any GMP of Shuen Wan Restored Landfill from 2012 to 2020 and 2022 to 2023, and low level of methane was detected at single-level GMPs in 2021 which complied with the Standard Compliance Level. The measured carbon dioxide levels at all LFG monitoring locations were in compliance with the Standard Compliance Level in the past 12 years, and a general decreasing trend was observed. Meanwhile, multiple LFG control measures, such as landfill capping layer, passive vent trenches/pipes and active LFG extraction system, have been installed in Shuen Wan Restored Landfill.

4.2.1.7 As recommended in the approved EIA Report, the monitoring criterion for carbon dioxide is 1.5% v/v in the LFG Hazard Assessment Guidance Note, at which the historical monitoring data would occasionally exceed (i.e. likely generated by other means such as plant roots or calcium oxide beneath the ground as discussed above). As a conservative assessment, the Shuen Wan Restored Landfill is classified as Medium. As discussed in previous sections, the historical LFG monitoring data in past 12 years shows similar trend as in the approved EIA Report. As such, the risk level of Shuen Wan Restored Landfill as LFG source in **Table 4.1** remains as Medium.

4.2.1.8 As the potential pathways and users associated with the operation of the Project considered in the approved EIA Report remain valid, the risk levels of pathways and targets remain unchanged. Consequently, the risk levels presented in **Table 4.1** are still valid. Based on the review, the overall risk level for indoor areas within the Project Site where public have free access remains classified as High.

4.3 Consideration of Design Measures in Latest Design to Achieve Acceptable Risk Level with Enhancement

4.3.1.1 Under the latest design, the clubhouse will be placed outside the waste boundary where the landfill capping layer has been installed. Besides, the protective and precautionary measures recommended in the approved EIA Report for indoor areas of the Project, such as the clubhouse, will be implemented to protect the identified high-risk targets within the Project Site. These significant engineering measures for protecting the high-risk targets include the installation of mechanical ventilation systems, application of gas-proof membranes or dense well-compacted concrete, and deployment of an always-on gas detection system. By the provision of protective and precautionary measures, the risk of the targets has been reduced to acceptable levels.

4.3.1.2 In accordance with the latest clubhouse design for the proposed golf course, kitchens, i.e. areas involving the use of naked flame, and the cigar shop/bar offering cigar tasting services, will be situated at least one storey above ground level and will not be directly adjacent to any slopes. This design arrangement is anticipated to further reduce the risk of LFG migration to the high-risk targets identified at indoor areas, thereby enhancing safety in areas where ignition sources may be present.

4.3.1.3 Furthermore, kitchens, i.e. areas involving the use of naked flame, and the cigar shop/ bar offering cigar tasting services, will be enclosed with fire barriers having a Fire Resistance Rating (FRR) of not less than 60 minutes. This provision is intended to mitigate the risk of fire originating from these areas in the event of LFG migration and the presence of associated ignition sources, thereby enhancing fire safety for adjacent indoor spaces. In addition, the clubhouse will be under good management, with staff on duty 24 hours a day to monitor the premises and take prompt and appropriate action in case of any incident.

4.4 Review of Potential Environmental Impacts

4.4.1.1 As discussed in **Section 4.1**, significant engineering measures, comprising active gas control system, barriers and detection systems, would be required to protect the high-risk targets.

4.4.1.2 Under the latest golf course design, a clubhouse would be placed at the southeastern area of the Project Site outside the waste boundary where the landfill capping layer has been installed. Incorporating elements such as flame cooking in the kitchen and a cigar shop/ bar with cigar tasting services in the clubhouse can reflect cultural practices and provide lifestyle features that encourage social interaction among visitors.

4.4.1.3 Historical LFG monitoring data in the past 12 years (i.e. 2012-2023) has been reviewed in **Section 4.2**, and found to be similar to the findings in the approved EIA Reports. As such, the risk level of Shuen Wan Restored Landfill as LFG source remains the same as Medium. Besides, as the potential pathways and users associated with the operation of the Project considered in the approved EIA Report remain valid, the risk levels of pathways and targets remain unchanged, and the overall risk level for indoor areas within the Project Site where public have free access remains classified as High as in the approved EIA Report.

4.4.1.4 As discussed in **Section 4.3**, with the provision of significant engineering measures for protecting the high-risk targets, such as the installation of mechanical ventilation systems, application of gas-proof membranes or dense well-compacted concrete, and deployment of an always-on gas detection system, the risk of the targets has been reduced to acceptable levels. Besides, the latest design will arrange areas involving the use of naked flame and cigar tasting to be situated at least one storey above ground level and will not be directly adjacent to any slopes, which further reduces the risk of LFG migration to the high-risk targets identified at indoor areas, thereby enhancing safety in areas where ignition sources may be present. In addition, areas involving the use of naked flame will be enclosed with fire barriers having an FRR of not less than 60 minutes to meet statutory requirements, while areas designated for cigar tasting will also be enclosed with the same provision, which is above statutory requirements. These measures aim to mitigate the risk of fire originating from these areas in the event of LFG migration and the presence of associated ignition sources, thereby enhancing fire safety for adjacent indoor spaces. Besides, the clubhouse will be under good management, with staff on duty 24 hours a day to monitor the premises and take prompt and appropriate action in case of any incident.

4.4.1.5 In view of the reviewed LFG monitoring data, source-pathway-target analysis findings, provision of significant engineering measures for protecting the high-risk targets, design arrangement for the areas involving the use of naked flame and cigar tasting, as well as their FRR and good management of the clubhouse, the risk of LFG migration to the high-risk targets identified at indoor areas is further reduced from acceptable levels. The Project is currently under detailed design stage, the design arrangement of the clubhouse will be subject to change before reaching the finalised design. The finalised design of areas involving the use of naked flame and cigar tasting will be included in the Updated Operation Phase Landfill Gas Hazard Assessment required under Condition 2.25 of the FEP-01/571/2019/B for approval.

4.4.1.6 In addition to LFG hazard, all environmental aspects considered in the EIA report are revisited to identify any environmental changes arising from the proposed amendment on the use of naked flame and allowance of cigar tasting, provided that the area where naked flame and cigar tasting is used is located at least one storey above ground level and not directly adjacent to any slopes. With the proper implementation of the recommended mitigation measures in the approved EIA Report and ERR for amended EP, potential impacts on air quality, hazard to life, noise, water quality, waste management implications, land contamination, ecological impact assessment, fisheries and landscape and visual are not anticipated.

5. Change of Environmental Monitoring & Audit (EM&A) Scope

5.1 General

5.1.1.1 Based on the potential environmental issues identified in **Section 3** and subsequent review for ecological impact and LFG hazard, the proposed amendments would not result in significant environmental impacts as compared with those recommended in the approved EIA report. Hence, the EM&A requirements recommended in terms of monitoring stations and monitoring requirements would remain unchanged.

6. Justification on Material Change

6.1 General

6.1.1.1 Details of the proposed amendments under the VEP application have been listed out in **Table 2.1**. The proposed amendments would not involve any circumstances stated under Section 6 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM) which are regarded as material changes to a designated project, as listed below:

- A change to physical alignment layout or design of the project causing an environmental impact likely to affect existing or planned community, ecologically important areas or sites of cultural heritage;
- A physical change resulting in an increase in the extent of reclamation or dredging affecting water flow or quality likely to adversely affect ecologically important areas, or disrupting sites of cultural heritage;
- An increase in pollution emissions or discharges or waste generation likely to violate guidelines or criteria in this technical memorandum;
- An increase in throughput or scale of the project leading to physical additions or alterations that are likely to violate the guidelines or criteria in this technical memorandum; or
- A change resulting in physical works that are likely to affect a rare, endangered or protected species, or an important ecological habitat, or a site of cultural heritage.

6.1.1.2 Hence, the proposed amendments do not constitute material changes to the DP.

7. Conclusion

7.1.1.1 This document has discussed there will be no environmental changes result from the proposed amendment items:

- The operation hours for the outdoor golf playing area during operation phase as stipulated in Condition 2.43 and Condition 2.44 of FEP-01/571/2019/B.

- Allow the use of naked flame and cigar tasting in the clubhouse during the operation phase, as stipulated in Condition 2.54 of FEP-01/571/2019/B.

7.1.1.2 An environmental review has been conducted for the proposed variation on various environmental aspects, including ecology, LFG hazard, air quality, hazard to life, noise, water quality, waste management implications, land contamination, fisheries and landscape and visual. There is no adverse environmental impact arising from the proposed amendments.

7.1.1.3 There will be no material change to the environmental impact even with the proposed amendments. The project will remain in compliance with the EIAO-TM requirements, and no deterioration of the surrounding environmental is anticipated.

Appendix 1.1

Figure 1 of FEP-01/571/2019/B

Legend 圖例

Project Location
工程項目位置

1.2 ha Core Roosting Area
1.2 公頃核心夜間棲息地

Aquilaria sinensis
土沉香

Project Title **工程項目名稱**	**Shuen Wan Golf Course** **船灣高爾夫球場**
Figure 1 **圖一**	**Project Location and Conceptual Layout Plan** **工程項目位置及概念佈局圖** [This figure was prepared based on Figure 2.1 of EIA Report (Register No.: AEIAR-221/2019)] [本圖是根據環境影響評估報告 (登記冊編號: AEIAR-221/2019) 圖 2.1 編制]

Environmental Permit No.:
環境許可證編號：
FEP-01/571/2019/B

Appendix 2.1

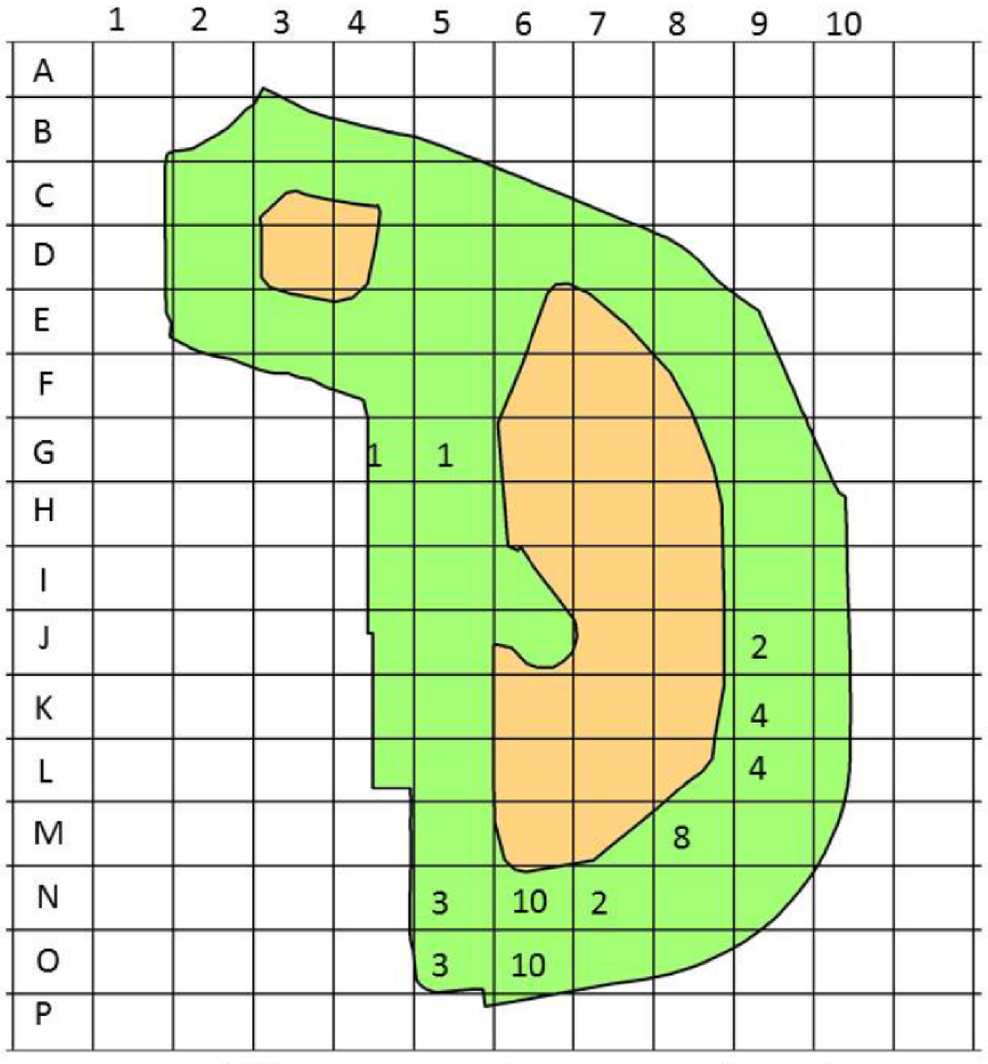
Figure 6 for the VEP

Locations and Operation Hours of the Outdoor Golf Playing Area

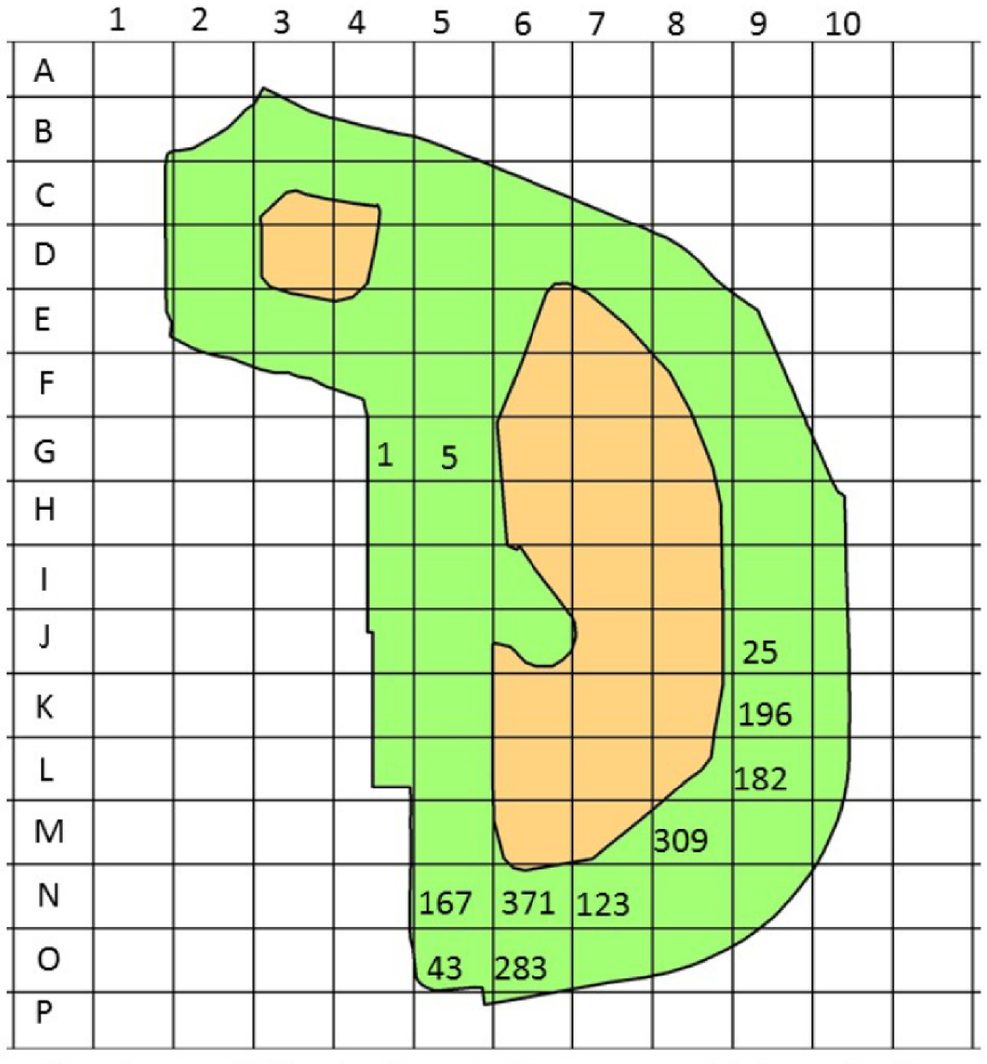
- Outdoor Golf Playing Area with opening hours daily from 07:00-18:00 between the months of March and August inclusive; and from 07:00 to 17:00 between the months of September and February inclusive
- Outdoor Golf Playing Area with opening hours daily from 07:00-22:00

Appendix 3.1

Figure 10.7c of the approved EIA Report (AEIAR-221/2019)



Cumulative frequency of Collared Crow night roosting between Aug 2017 to July 2018



Cumulative abundance of Collared Crow night roosting between Aug 2017 to July 2018

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/19

Consultant
ARUP

Contract No. and Title
SHUEN WAN GOLF COURSE

Drawing title
ANALYSIS OF ROOST HABITAT USE - COLLARED CROW

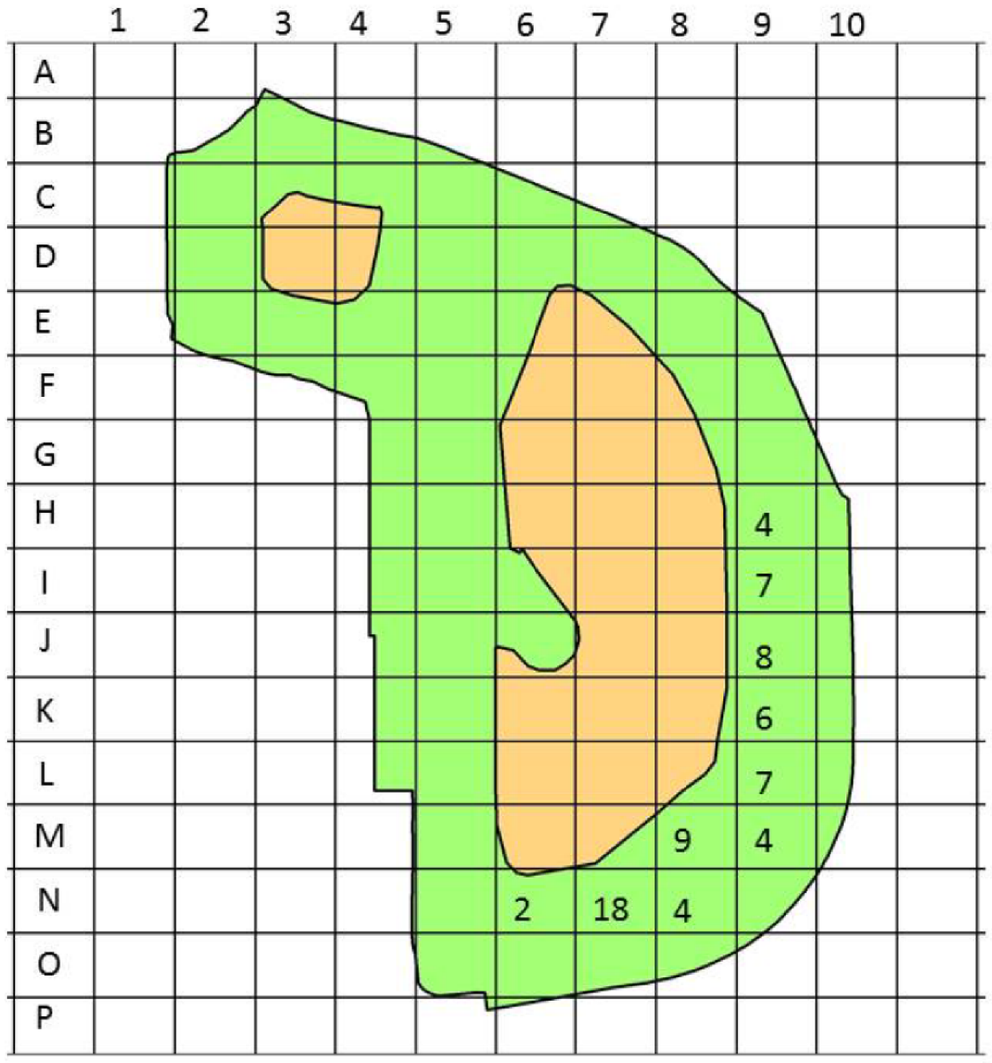
Drawing no.	Rev.
FIGURE 10.7a	A

Drawn	Date	Checked	Approved
GL	01/19	EL	FC

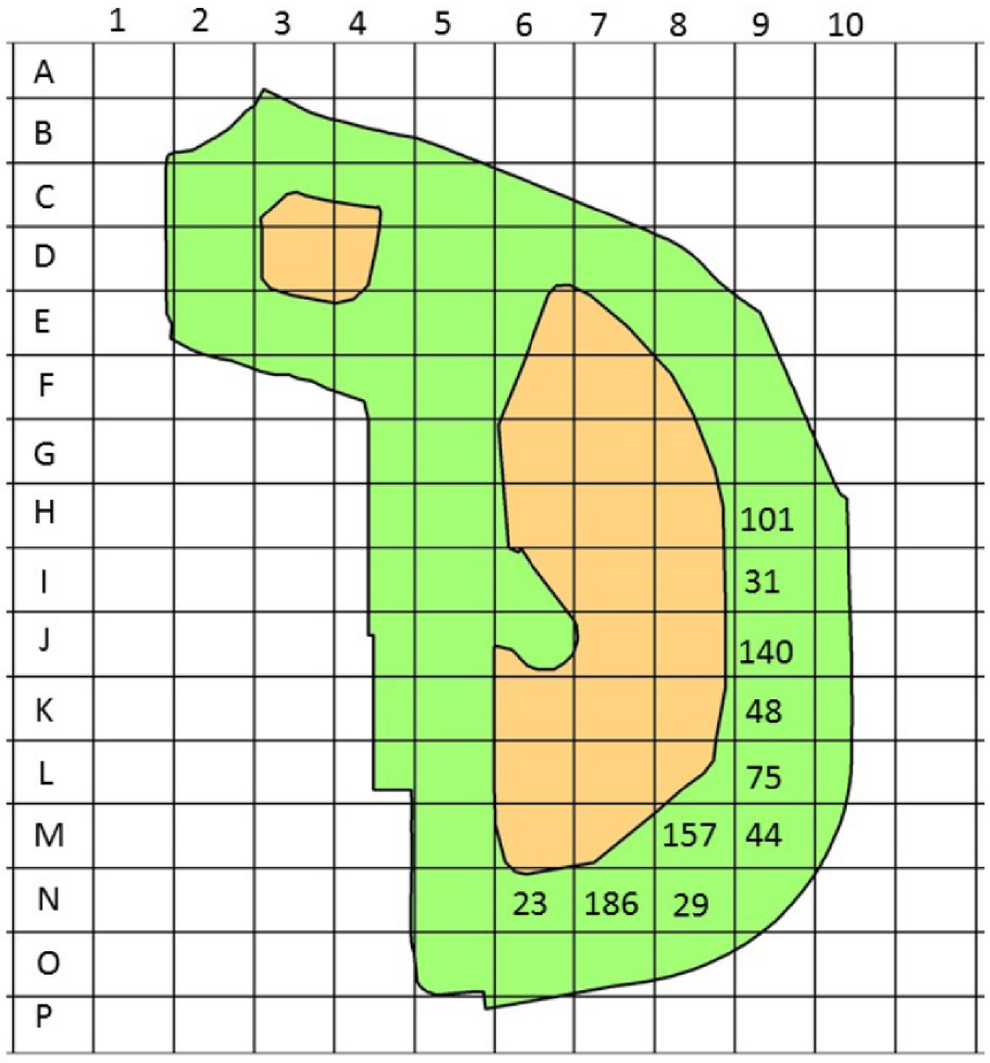
Scale: N/A
Status: PRELIMINARY

SHA LO TUNG DEVELOPMENT COMPANY LIMITED

Printed by : 1/11/2019
Filename : \\HKGNTS22\Env\env\project\256383\13 Drawing Deliverables\report\002 EIA\Figure 10.7a - Analysis of Roost Habitat Use - Collared Crow.dgn



Cumulative frequency of Black Kite night roosting between Aug 2017 to July 2018



Cumulative abundance of Black Kite night roosting between Aug 2017 to July 2018

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/19

Consultant
ARUP

Contract No. and Title
SHUEN WAN GOLF COURSE

Drawing title
ANALYSIS OF ROOST HABITAT USE - BLACK KITE

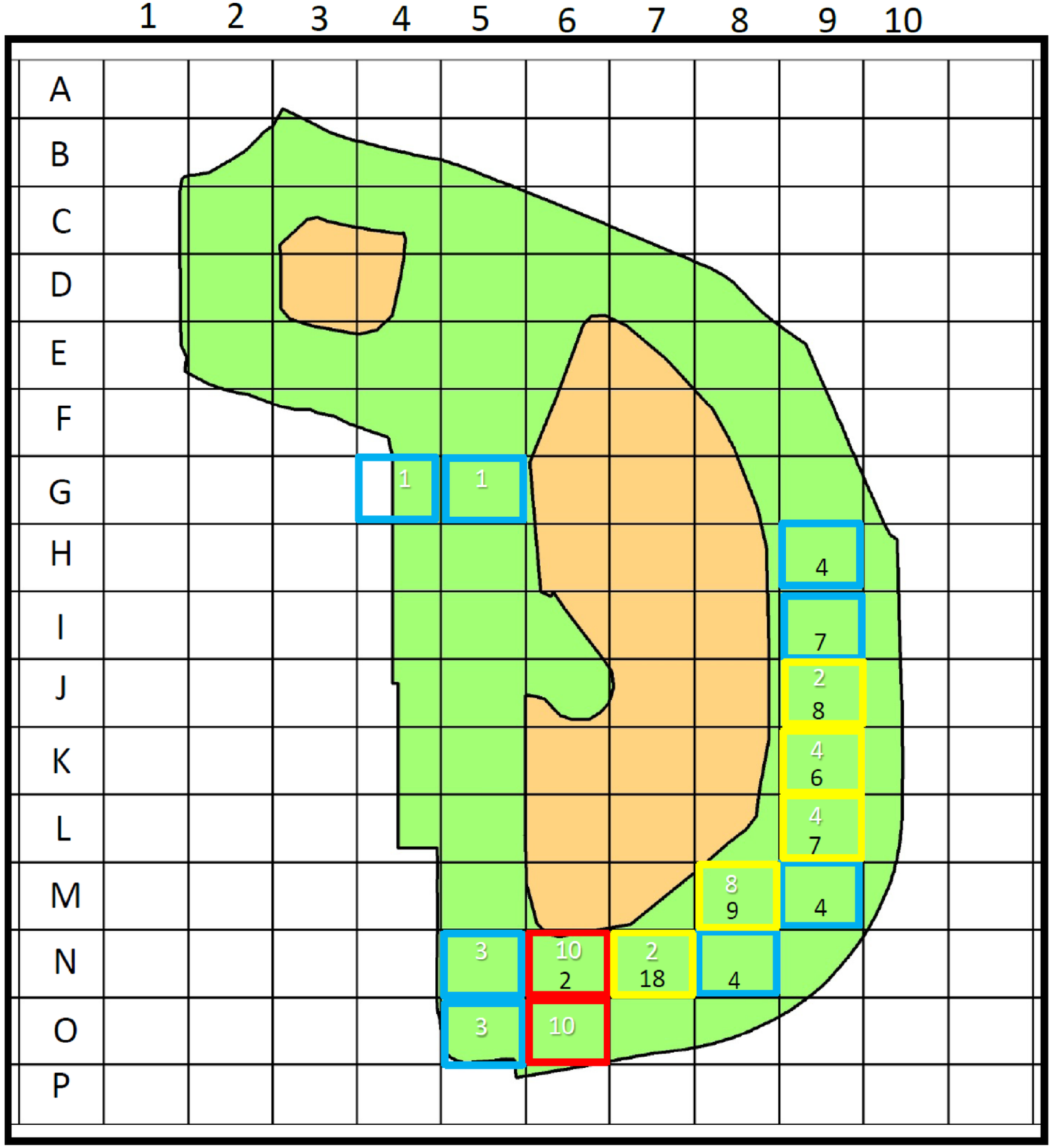
Drawing no.	Rev.
FIGURE 10.7b	A

Drawn	Date	Checked	Approved
GL	01/19	EL	FC

Scale: N/A
Status: PRELIMINARY

SHA LO TUNG DEVELOPMENT COMPANY LIMITED

Printed by : 1/11/2019
Filename : \\HKGNTS22\Env\env\project\256383\13 Drawing Deliverables\report\002 EIA\Figure 10.7b - Analysis of Roost Habitat Use - Black Kite.dgn



Cumulative frequency of CC and BK night roosting between Aug 2017 to July 2018

Grid Cell with highest CC usage

Grid Cell used by both CC and BK

Grid Cell used by either CC or BK

*Number in grid cells:

White colour - Cumulative frequency of Collared Crow night roosting

Black colour - Cumulative frequency of Black Kite night roosting

Rev	Description	By	Date
B	SECOND ISSUE	GL	02/19
A	FIRST ISSUE	GL	01/19

Consultant
ARUP

Contract No. and Title
SHUEN WAN GOLF COURSE

Drawing title
ANALYSIS OF ROOST HABITAT USE
- HIGH USE AREAS

Drawing no. FIGURE 10.7c | Rev. B

Drawn	Date	Checked	Approved
GL	02/19	EL	FC

Scale N/A | Status PRELIMINARY

SHA LO TUNG DEVELOPMENT COMPANY LIMITED

Printed by : 2/25/2019
Filename : \\HKGNTS22\EnV\env\project\256383\13 Drawing Deliverables\report\002 EIA\Figure 10.7c - Analysis of Roost Habitat Use - High Use Areas.dgn

Appendix 3.2

Comparison of Operation Hours under Different Stages

Comparison of Operation Hours under Different Stages

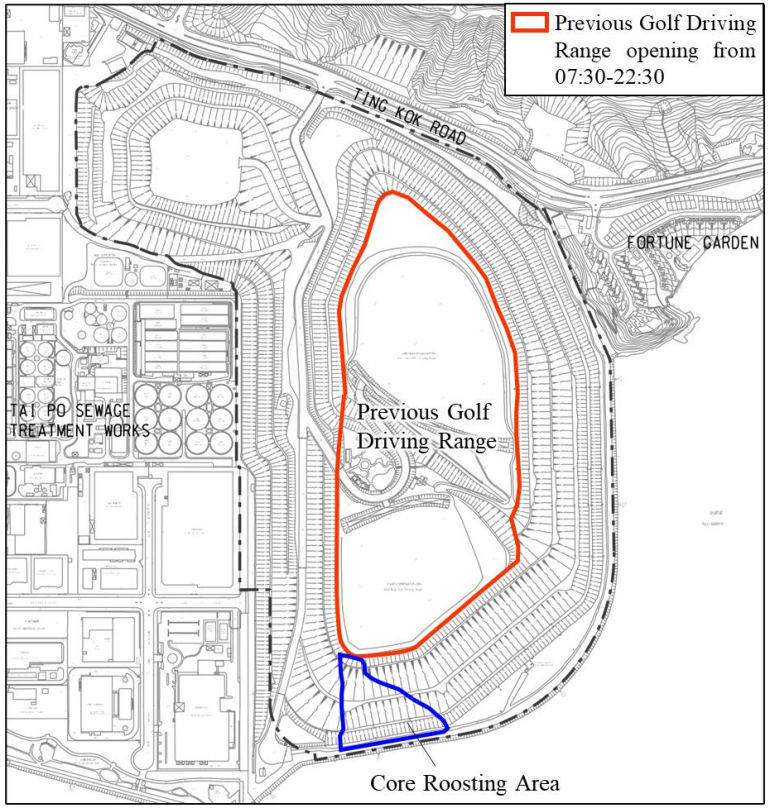


Figure 1 - Previous Golf Driving Range

Figure 2 - EIA Stage

Figure 3 - Latest Design under this ERR

Appendix 4.1

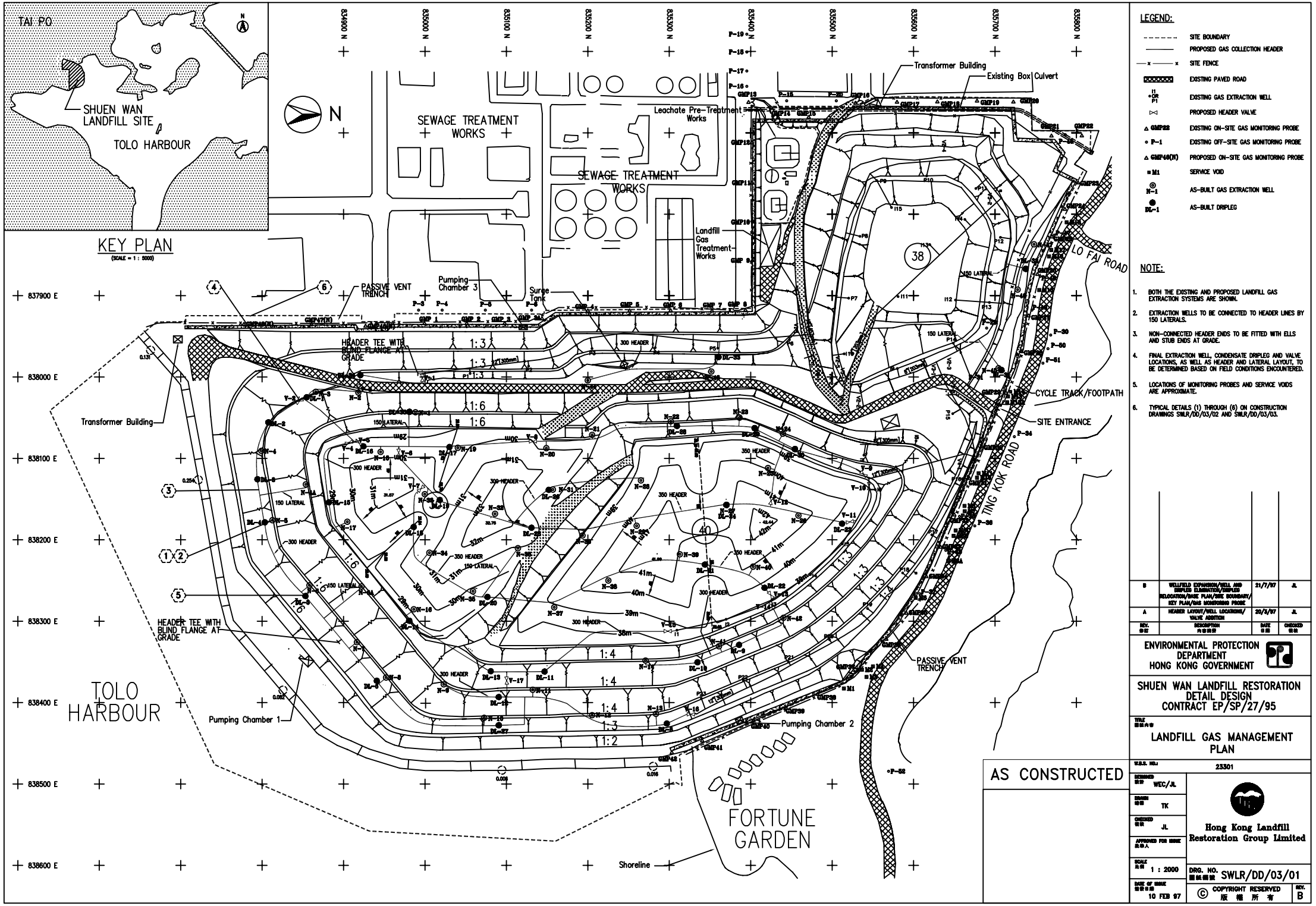
Monitoring Data for Shuen Wan Restored Landfill

Project No.: 289499
Project Name: Proposed Golf Course Development at Tai Po Lot No. 246 Shuen Wan
Appendix 4.1 - LFG Monitoring Data

Location	Methane Concentration (% v/v)																							
	2012		2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023	
	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average
GMP1M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP1S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP4M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP4S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP6M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP6S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP8M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP8S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP10M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP10S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP12M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP12S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP13D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP13M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP13S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP14D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP14M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP14S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP17D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP17M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP17S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP20M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP20S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP21M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP21S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP22M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP22S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP35D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP35M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP35S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP36D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP36M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP36S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP37D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP37M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP37S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP38M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP38S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP39M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP39S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP40M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP40S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP41M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP41S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP42D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP42M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP42S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP47D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP47M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP47S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP48D	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP48M	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
GMP48S	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P2	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.5	0.04	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P3	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.5	0.04	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P4	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.5	0.04	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P5	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.5	0.04	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P6	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.5	0.04	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P15	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P16a	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P17a	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P18a	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P19	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P20	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P30aD	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P30aM	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P30aS	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P33	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P34bD	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P34bM	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.6	0.05	0.0 - 0.0	0.00	0.0 - 0.0	0.00
P34bS	0.0 - 0.0	0.00	0.0 -

Project No.: 289499
Project Name: Proposed Golf Course Development at Tai Po Lot No. 246 Shuen Wan
Appendix 4.1 - LFG Monitoring Data

Location	Carbon Dioxide Concentration (% v/v)																							
	2012		2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023	
	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average
GMP1M	0.0 - 2.3	0.65	0.0 - 0.7	0.24	0.3 - 1.0	0.44	0.2 - 1.0	0.62	0.0 - 0.7	0.26	0.0 - 0.3	0.12	0.1 - 1.0	0.32	0.0 - 0.4	0.13	0.0 - 0.6	0.23	0.0 - 0.7	0.23	0.0 - 0.7	0.20	0.0 - 3.3	0.42
GMP1S	0.0 - 1.4	0.29	0.0 - 1.0	0.17	0.0 - 1.1	0.38	0.1 - 0.6	0.42	0.0 - 1.2	0.31	0.0 - 0.4	0.08	0.0 - 1.7	0.24	0.0 - 0.2	0.07	0.0 - 0.4	0.15	0.0 - 0.7	0.21	0.0 - 0.3	0.07	0.0 - 0.7	0.16
GMP4M	0.0 - 1.0	0.32	0.0 - 0.7	0.33	0.0 - 0.8	0.29	0.0 - 1.2	0.43	0.0 - 1.0	0.33	0.0 - 1.6	0.26	0.0 - 0.3	0.10	0.0 - 0.8	0.28	0.0 - 0.7	0.28	0.0 - 0.7	0.20	0.0 - 1.7	0.32	0.0 - 0.7	0.17
GMP4S	0.0 - 1.0	0.37	0.0 - 1.0	0.27	0.0 - 0.7	0.33	0.0 - 0.8	0.25	0.0 - 0.4	0.07	0.0 - 0.5	0.04	0.0 - 0.6	0.18	0.0 - 0.2	0.07	0.0 - 0.4	0.14	0.0 -2.7	0.34	0.0 - 0.3	0.11	0.0 - 0.6	0.13
GMP6M	0.0 - 1.2	0.32	0.0 - 0.9	0.40	0.0 - 0.7	0.22	0.0 - 1.1	0.41	0.0 - 1.1	0.38	0.0 - 0.8	0.10	0.0 - 0.8	0.19	0.0 - 0.4	0.16	0.0 - 0.4	0.16	0.0 - 0.7	0.23	0.0 - 0.7	0.12	0.0 - 0.4	0.15
GMP6S	0.0 - 0.6	0.13	0.0 - 0.7	0.22	0.0 - 0.8	0.26	0.0 - 1.0	0.32	0.0 - 0.6	0.17	0.0 - 0.8	0.11	0.0 - 0.7	0.26	0.0 - 0.7	0.18	0.0 - 0.3	0.13	0.0 - 0.4	0.12	0.0 - 0.4	0.14	0.0 - 0.4	0.13
GMP8M	0.0 - 1.0	0.39	0.0 - 1.1	0.64	0.0 - 0.8	0.20	0.0 - 1.3	0.36	0.0 - 0.6	0.13	0.0 - 0.8	0.19	0.0 - 0.5	0.22	0.0 - 0.7	0.15	0.0 - 0.6	0.23	0.0 - 0.4	0.08	0.0 - 0.4	0.09	0.0 - 0.4	0.14
GMP8S	0.0 - 1.2	0.34	0.0 - 0.2	0.09	0.0 - 1.4	0.36	0.0 - 0.5	0.21	0.0 - 0.4	0.14	0.0 - 1.0	0.19	0.0 - 0.6	0.20	0.0 - 0.2	0.05	0.0 - 0.4	0.09	0.0 - 0.4	0.12	0.0 - 0.2	0.06	0.0 - 0.6	0.08
GMP10M	0.0 - 2.1	0.94	0.0 - 1.2	0.67	0.0 - 1.2	0.66	0.4 - 1.5	0.88	0.0 - 0.8	0.43	0.0 - 0.4	0.05	0.0 - 1.0	0.25	0.0 - 0.3	0.17	0.0 - 0.4	0.11	0.0 - 0.4	0.19	0.0 - 0.7	0.22	0.0 - 2.0	0.36
GMP10S	0.0 - 1.2	0.33	0.0 - 1.3	0.47	0.0 - 0.9	0.43	0.0 - 1.0	0.35	0.0 - 1.0	0.22	0.0 - 0.5	0.14	0.0 - 1.2	0.28	0.0 - 0.4	0.10	0.0 - 0.7	0.13	0.0 - 0.3	0.10	0.0 - 0.4	0.21	0.0 - 1.0	0.15
GMP12M	0.0 - 2.0	0.44	0.0 - 1.0	0.46	0.0 - 1.0	0.44	0.0 - 0.7	0.33	0.0 - 0.9	0.43	0.0 - 3.7	0.43	0.0 - 1.0	0.18	0.0 - 0.4	0.14	0.0 - 0.3	0.16	0.0 - 0.7	0.25	0.0 - 0.7	0.28	0.0 - 0.7	0.25
GMP12S	0.0 - 1.2	0.29	0.0 - 0.6	0.19	0.0 - 1.4	0.50	0.0 - 0.9	0.26	0.0 - 1.1	0.20	0.0 - 0.4	0.15	0.0 - 0.5	0.19	0.0 - 1.0	0.20	0.0 - 0.7	0.09	0.0 - 0.3	0.07	0.0 - 0.2	0.04	0.0 - 0.4	0.22
GMP13D	0.0 - 1.2	0.35	0.0 - 1.1	0.40	0.0 - 0.9	0.52	0.3 - 1.0	0.74	0.0 - 1.1	0.52	0.0 - 0.3	0.10	0.0 - 1.2	0.18	0.0 - 0.7	0.25	0.0 - 0.4	0.13	0.0 - 0.7	0.18	0.0 - 0.7	0.15	0.0 - 0.7	0.23
GMP13M	0.0 - 0.7	0.13	0.0 - 1.0	0.24	0.0 - 0.4	0.14	0.0 - 1.0	0.34	0.0 - 1.4	0.38	0.0 - 0.4	0.08	0.0 - 0.6	0.23	0.0 - 0.7	0.17	0.0 - 0.6	0.16	0.0 - 0.4	0.08	0.0 - 0.4	0.08	0.0 - 0.7	0.17
GMP13S	0.0 - 1.4	0.25	0.0 - 1.3	0.26	0.0 - 0.7	0.40	0.2 - 0.8	0.46	0.0 - 0.7	0.13	0.0 - 0.7	0.16	0.0 - 1.0	0.23	0.0 - 0.3	0.10	0.0 - 0.6	0.17	0.0 - 0.3	0.04	0.0 - 0.8	0.22	0.0 - 0.4	0.08
GMP14D	0.0 - 1.7	0.39	0.0 - 1.0	0.46	0.0 - 1.1	0.55	0.0 - 0.8	0.19	0.0 - 1.4	0.39	0.0 - 1.0	0.11	0.0 - 1.2	0.13	0.0 - 0.7	0.11	0.0 - 1.0	0.22	0.0 - 0.3	0.11	0.0 - 0.4	0.09	0.0 - 0.6	0.17
GMP14M	0.0 - 1.0	0.33	0.0 - 1.2	0.38	0.0 - 1.5	0.27	0.0 - 0.0	0.00	0.0 - 0.7	0.19	0.0 - 0.3	0.08	0.0 - 2.3	0.40	0.0 - 0.4	0.12	0.0 - 0.7	0.16	0.0 - 0.4	0.12	0.0 - 0.4	0.05	0.0 - 1.4	0.36
GMP14S	0.0 - 1.4	0.32	0.0 - 0.3	0.03	0.0 - 0.7	0.09	0.0 - 0.6	0.13	0.0 - 3.1	0.42	0.0 - 3.2	0.60	0.0 - 2.2	0.26	0.0 - 0.2	0.08	0.0 - 1.6	0.21	0.0 - 0.5	0.08	0.0 - 0.2	0.08	0.0 - 0.6	0.09
GMP17D	0.0 - 1.3	0.47	0.0 - 1.3	0.54	0.3 - 1.2	0.59	0.4 - 1.3	0.83	0.0 - 0.7	0.38	0.0 - 0.7	0.12	0.0 - 0.7	0.16	0.0 - 0.4	0.10	0.0 - 0.7	0.17	0.0 - 0.7	0.18	0.0 - 0.8	0.21	0.0 - 0.4	0.17
GMP17M	0.0 - 1.3	0.52	0.1 - 1.2	0.58	0.0 - 1.2	0.26	0.0 - 0.8	0.38	0.0 - 0.8	0.29	0.0 - 0.4	0.09	0.0 - 0.7	0.19	0.0 - 0.3	0.12	0.0 - 0.2	0.08	0.0 - 1.3	0.36	0.0 - 1.0	0.21	0.0 - 3.4	0.53
GMP17S	0.0 - 0.4	0.07	0.0 - 1.2	0.23	0.1 - 0.8	0.39	0.0 - 1.2	0.47	0.0 - 0.1	0.02	0.0 - 0.2	0.07	0.0 - 0.7	0.13	0.0 - 0.3	0.07	0.0 - 0.4	0.10	0.0 - 0.4	0.08	0.0 - 0.4	0.10	0.0 - 0.6	0.14
GMP20M	0.0 - 1.3	0.33	0.0 - 1.4	0.75	0.0 - 1.6	0.37	0.0 - 1.2	0.45	0.0 - 1.2	0.44	0.0 - 2.1	0.28	0.0 - 1.0	0.33	0.0 - 2.6	0.48	0.0 - 1.0	0.17	0.0 - 2.9	0.51	0.0 - 0.4	0.08	0.0 - 0.6	0.28
GMP20S	0.0 - 1.2	0.31	0.0 - 1.9	0.70	0.0 - 1.2	0.29	0.0 - 1.4	0.49	0.0 - 1.0	0.27	0.0 - 0.9	0.19	0.0 - 0.7	0.14	0.0 - 1.3	0.17	0.0 - 0.9	0.23	0.0 - 0.4	0.15	0.0 - 0.8	0.29	0.0 - 0.4	0.16
GMP21M	0.0 - 1.0	0.42	0.0 - 2.1	0.45	0.0 - 0.7	0.37	0.0 - 0.6	0.15	0.0 - 0.7	0.14	0.0 - 0.3	0.07	0.0 - 1.3	0.22	0.0 - 0.3	0.12	0.0 - 1.3	0.38	0.0 - 0.8	0.19	0.0 - 0.2	0.02	--	--
GMP21S	0.0 - 1.2	0.46	0.0 - 1.8	0.42	0.0 - 1.3	0.45	0.0 - 0.6	0.22	0.0 - 1.1	0.33	0.0 - 3.3	0.47	0.0 - 0.4	0.13	0.0 - 0.7	0.11	0.0 - 1.7	0.35	0.0 - 0.8	0.09	0.0 - 0.1	0.01	--	--
GMP22M	0.0 - 1.4	0.40	0.0 - 1.7	0.27	0.0 - 1.1	0.34	0.0 - 0.7	0.15	0.0 - 0.8	0.19	0.0 - 0.6	0.09	0.0 - 1.0	0.19	0.0 - 0.5	0.12	0.0 - 1.1	0.27	0.0 - 0.9	0.25	0.0 - 0.6	0.21	0.0 - 1.2	0.32
GMP22S	0.0 - 1.3	0.33	0.0 - 1.6	0.18	0.0 - 0.8	0.18	0.0 - 0.6	0.13	0.0 - 0.3	0.08	0.0 - 0.4	0.08	0.0 - 0.7	0.11	0.0 - 0.6	0.09	0.0 - 1.5	0.30	0.0 - 0.7	0.21	0.0 - 0.4	0.11	0.0 - 0.6	0.17
GMP35D	0.0 - 7.4	1.17	0.0 - 2.4	0.57	0.0 - 0.6	0.15	0.0 - 0.8	0.22	0.0 - 1.3	0.28	0.0 - 1.0	0.38	0.0 - 1.1	0.32	0.0 - 0.5	0.16	0.0 - 0.3	0.16	0.0 - 0.8	0.24	0.0 - 0.4	0.20	0.0 - 0.8	0.27
GMP35M	0.0 - 2.5	0.68	0.0 - 1.2	0.62	0.0 - 1.4	0.62	0.1 - 1.2	0.58	0.0 - 0.7	0.14	0.0 - 0.5	0.23	0.0 - 0.7	0.22	0.0 - 0.3	0.13	0.0 - 0.8	0.17	0.0 - 0.9	0.22	0.0 - 0.8	0.25	0.0 - 1.0	0.38
GMP35S	0.0 - 1.1	0.33	0.0 - 1.3	0.33	0.0 - 1.3	0.34	0.0 - 1.4	0.23	0.0 - 1.0	0.28	0.0 - 0.4	0.16	0.0 - 1.0	0.13	0.0 - 0.3	0.03	0.0 - 0.3	0.12	0.0 - 0.8	0.28	0.0 - 0.5	0.13	0.0 - 0.5	0.18
GMP36D	0.0 - 2.8	0.81	0.0 - 0.7	0.42	0.3 - 1.2	0.72	0.2 - 1.7	0.85	0.0 - 0.7	0.24	0.0 - 0.6	0.11	0.0 - 1.5	0.33	0.0 - 0.8	0.29	0.0 - 0.6	0.23	0.0 - 3.0	0.38	0.1 - 0.4	0.29	0.0 - 1.4	0.36
GMP36M	0.0 - 2.2	0.86	0.0 - 1.1	0.59	0.0 - 1.3	0.59	0.0 - 1.2	0.38	0.0 - 0.7	0.20	0.0 - 0.4	0.09	0.0 - 2.2	0.30	0.0 - 0.3	0.08	0.0 - 0.3	0.07	0.0 - 1.9	0.44	0.0 - 0.3	0.14	0.0 - 1.2	0.27
GMP36S	0.0 - 1.2	0.40	0.0 - 1.3	0.33	0.0 - 1.6	0.38	0.0 - 1.3	0.31	0.0 - 0.2	0.04	0.0 - 0.8	0.08	0.0 - 0.4	0.15	0.0 - 0.7	0.14	0.0 - 0.4	0.16	0.0 - 1.9	0.28	0.0 - 0.6	0.17	0.0 - 0.4	0.15
GMP37D	0.0 - 1.2	0.40	0.0 - 1.0	0.32	0.0 - 1.2	0.50	0.0 - 1.0	0.43	0.0 - 0.7	0.22	0.0 - 0.3	0.08	0.0 - 0.7	0.28	0.0 - 0.6	0.13	0.0 - 0.7	0.22	0.0 - 0.3	0.07	0.0 - 0.6	0.12	0.0 - 0.4	0.17
GMP37M	0.0 - 0.8	0.22	0.3 - 1.1	0.78	0.1 - 1.3	0.49	0.1 - 1.4	0.75	0.0 - 1.1	0.33	0.0 - 0.3	0.08	0.0 - 0.8	0.26	0.0 - 0.3	0.08	0.0 - 0.8	0.16	0.0 - 1.0	0.18	0.0 - 0.8	0.27	0.0 - 0.4	0.15
GMP37S	0.0 - 1.0	0.25	0.0 - 1.3	0.24	0.0 - 1.3	0.60	0.0 - 1.3	0.36	0.0 - 0.7	0.12	0.0 - 0.1	0.01	0.0 - 1.0	0.27	0.0 - 0.6	0.08	0.0 - 1.0	0.28	0.0 - 0.8	0.23	0.0 - 0.6	0.23	0.0 - 0.6	0.15
GMP38M	0.0 - 2.1	0.63	0.0 - 2.1	0.54	0.2 - 1.3	0.73	0.1 - 1.4	0.91	0.0 - 1.0	0.22	0.0 - 0.0	0.00	0.0 - 1.1	0.20	0.0 - 0.3	0.10	0.0 - 1.0	0.30	0.0 - 3.3	0.38	0.0 - 1.0	0.24	0.0 - 0.6	0.21
GMP38S	0.0 - 1.9	0.48	0.0 - 1.7	0.66	0.0 - 1.3	0.43	0.0 - 1.1	0.46	0.0 - 1.0	0.22	0.0 - 0.2	0.03	0.0 - 1.0	0.23	0.0 - 0.7	0.15	0.0 - 0.4	0.18	0.0 - 0.8	0.26	0.0 - 0.8	0.17	0.0 - 0.7	0.21
GMP39M	0.0 - 2.8	0.59	0.0 - 1.6	0.58	0.0 - 0.7	0.24	0.0 - 0.8	0.30	0.0 - 0.5	0.14	0.0 - 0.3	0.05	0.0 - 1.2	0.33	0.0 - 0.3	0.13	0.0 - 0.6	0.12	0.0 - 1.0	0.18	0.0 - 0.4	0.17	0.0 - 0.8	0.21
GMP39S	0.0 - 2.6	0.50	0.0 - 1.5	0.46	0.0 - 1.3	0.37	0.0 - 1.2	0.20	0.0 - 0.7	0.27	0.0 - 0.2	0.05	0.0 - 0.6	0.18	0.0 - 0.7	0.13	0.0 - 0.7	0.24	0.0 - 0.6	0.25	0.0 - 0.7	0.26	0.0 - 0.8	0.25
GMP40M	0.0 - 1.4	0.42	0.0 - 1.4	0.59	0.0 - 0.9	0.18	0.0 - 1.3	0.44	0.0 - 0.7	0.20	0.0 - 0.3	0.06	0.0 - 0.6	0.21	0.0 - 0.7	0.17	0.0 - 0.2	0.08	0.0 - 1.0	0.27	0.0 - 0.3	0.12	0.0 - 0.7	0.31
GMP40S	0.0 - 3.7	0.81	0.0 - 1.3	0.35	0.0 - 0.9	0.26	0.0 - 1.4	0.73	0.0 - 0.8	0.21	0.0 - 0.4	0.17	0.0 - 1.0	0.28	0.0 - 0.7	0.26	0.0 - 0.4	0.10	0.0 - 1.0	0.23	0.0 - 0.3	0.08	0.0 - 0.7	0.18
GMP41M	0.0 - 2.8	0.68	0.0 - 1.1	0.29	0.0 - 1.1	0.41	0.0 - 1.5	0.41	0.0 - 0.7	0.22	0.0 - 0.1	0.01	0.0 - 1.8	0.33	0.0 - 1.1	0.18	0.0 - 1.4	0.27	0.0 - 2.1	0.41	0.0 - 1.0	0.18	0.0 - 0.4	0.14
GMP41S	0.0 - 1.3	0.36	0.0 - 0.4	0.04	0.0 - 1.2	0.43	0.0 - 0.9	0.38	0.0 - 0.3	0.10	0.0 - 0.3	0.10	0.0 - 1.0	0.17	0.0 - 0.2	0.10	0.0 - 0.3	0.08	0.0 - 0.8	0.18	0.0 - 0.6	0.23	0.0 - 0.3	0.13
GMP42D	0.0 - 2.9	0.73	0.0 - 0.7	0.31	0.0- 1.7	0.61	0.0 - 2.0	0.87	0.0 - 1.0	0.30	0.0 - 0.2	0.02	0.0 - 0.7	0.14	0.0 - 0.3	0.08	0.0 - 0.4	0.15	0.0 - 1.2	0.20	0.0 - 0.4	0.11	0.0 - 0.6	0.12
GMP42M	0.0 - 1.9	0.55	0.0 -1.0	0.33	0.0 - 1.5	0.77	0.0 - 1.7	0.50	0.0 - 0.4	0.17	0.0 - 0.3	0.13	0.0 - 0.6	0.13	0.0 - 0.4	0.18	0.0 - 0.3	0.04	0.0 - 0.4	0.15	0.0 - 0.6	0.18	0.0 - 0.4	0.14
GMP42S	0.0 - 1.3	0.28	0.0 - 0.6	0.12	0.0 - 1.0	0.40	0.0 - 1.1	0.42	0.0 - 0.2	0.04	0.0 - 0.4	0.11	0.0 - 0.4	0.08	0.0 - 0.2	0.07	0.0 - 0.1	0.02	0.0 - 0.6	0.10	0.0 - 0.2	0.03	0.0 - 0.2	0.03
GMP47D	0.0 - 1.1	0.30	0.0 - 0.7	0.25	0.0 - 1.2	0.38	0.2 - 1.0	0.58	0.0 - 0.7	0.18	0.0 - 0.2	0.06	0.0 - 0.7	0.18	0.0 - 0.7	0.24	0.0 - 0.4	0.18	0.0 - 0.7	0.18	0.0 - 0.4	0.17	0.0 - 0.7	0.19
GMP47M	0.0 - 0.7	0.23	0.0 - 1.0	0.33	0.0 - 0.9	0.23	0.0 - 1.3	0.53	0.0 - 0.7	0.25	0.0 - 0.6	0.16	0.0 - 0.7	0.18	0.0 - 0.7	0.15	0.0 - 0.7	0.20	0.0 - 0.4	0.13	0.0 - 0.3	0.08	0.0 - 0.6	0.19
GMP47S	0.0 - 1.1	0.26	0.0 - 0.7	0.14	0.0 - 1.4	0.45	0.1 - 0.9	0.36	0.0 - 1.6	0.37	0.0 - 0.4	0.11	0.0 - 0.6	0.16	0.0 - 0.4	0.11	0.0 - 0.4	0.08	0.0 - 0.5	0.09	0.0 - 0.4	0.12	0.0 - 0.3	0.11
GMP48D	0.0 - 1.8	0.45	0.0 - 1.0	0.31	0.0 - 1.4	0.58	0.2 - 1.3	0.74	0.0 - 0.4	0.12	0.0 - 0.3	0.10	0.0 - 0.7	0.20	0.0 - 0.3	0.10	0.0 - 0.4	0.11	0.0 - 0.3	0.12	0.0 - 0.4	0.07	0.0 - 0.5	0.15
GMP48M	0.0 - 0.7	0.24	0.0 - 1.1	0.22	0.0 - 0.6	0.24	0.0 - 0.6	0.14	0.0 - 0.9	0.19	0.0 - 0.4	0.09	0.0 - 0.4	0.18	0.0 - 0.4	0.13	0.0 - 0.3	0.07	0.0 - 0.2	0.06	0.0 - 0.2	0.06	0.0 - 0.4	0.09
GMP48S	0.0 - 0.7	0.09	0.0 - 0.7	0.14	0.0 - 0.9	0.28	0.0 - 0.8	0.17	0.0 - 0.2	0.10	0.0 - 0.3	0.06	0.0 - 0.4	0.09	0.0 - 0.3	0.05	0.0 - 0.03	0.13	0.0 - 1.0	0.22	0.0 - 0.3	0.05	0.0 - 0.5	0.13
P2	0.0 - 0.7	0.18	0.0 - 0.4	0.13	0.0 - 0.2	0.02	0.0 - 0.6	0.16	0.0 - 0.1	0.02	0.0 - 0.2	0.05	0.0 - 0.4	0.07	0.0 - 0.2	0.05	0.0 - 0.2	0.03	0.0 - 0.1	0.01	0.0 - 0.0	0.01	0.0 - 0.1	0.03
P3	0.0 - 0.7	0.17	0.0 - 0.4	0.07	0.0 - 0.4	0.15	0.0 - 1.0	0.16	0.0 - 0.4	0.13	0.0 - 0.2	0.11	0.0 - 0.2	0.07	0.0 - 0.2	0.03	0.0 - 0.2	0.04	0.0 - 0.2	0.06	0.0 - 0.4	0.04	0.0 - 0.2	0.05
P4	0.0 - 1.2	0.51	0.2 - 0.8	0.57	0.1 - 0.7	0.38	0.0 - 0.4	0.24	0.0 - 1.2	0.14	0.0 - 0.4	0.07	0.0 - 0.3	0.10	0.0 - 0.2	0.08	0.0 - 0.2	0.06	0.0 - 0.2	0.02	0.0 - 0.1	0.03	0.0 - 0.2	0.02
P5	0.0 - 1.2	0.56	0.0 - 1.0	0.67	0.0 - 1.2	0.43	0.0 - 0.8	0.25	0.0 - 0.7	0.13	0.0 - 0.4	0.16	0.0 - 0.4	0.08	0.0 - 0.5	0.13	0.0 - 0.3	0.08	0.0 - 0.0	0.00	0.0 - 0.2	0.05	0.0 - 0.3	0.04
P6	0.0 - 0.8	0.47	0.0 - 1.2	0.69	0.0 - 1.0	0.30	0.0 - 0.3	0.008	0.0 - 1.1	0.24	0.0 - 0.4	0.12	0.0 - 0.3	0.13	0.0 - 0.3	0.07	0.0 - 0.3	0.07	0.0 - 0.2	0.04	0.0 - 0.4	0.03	0.0 - 0.3	0.03
P15	0.0 - 1.4	0.21	0.0 - 1.0	0.17	0.0 - 0.6	0.07	0.0 - 0.7	0.17	0.0 - 0.4	0.05	0.0 - 0.3	0.06	0.0 - 0.4	0.06	0.0 - 0.1	0.02	0.0 - 0.4	0.06	0.0 - 0.2	0.02	0.0 - 0.1	0.01	0.0 - 0.3	0.03
P16a	0.0 - 1.1	0.57	0.4 - 1.3	0.93	0.7 - 1.2	0.86	0.0 - 1.3	0.60	0.0 - 1.0	0.34	0.0 - 0.4	0.11	0.0 - 0.4	0.13	0.0 - 0.2	0.05	0.0 - 0.2	0.04	0.0 - 0.3	0.04	0.0 - 0.1	0.02	0.0 - 0.2	0.02
P17a	0.4 - 1.2	0.93	0.4 - 1.3	0.95	0.4 - 1.2	0.96	0.0 - 1.4	0.86	0.0 - 1.2	0.40	0.0 - 0.4	0.18	0.0 - 0.4	0.13	0.0 - 0.2	0.07	0.0 - 0.2	0.04	0.0 - 0.1	0.01	0.0 - 0.1	0.02	0.0 - 0.2	0.03
P18a	0.2 - 1.4	0.82	0.2 - 1.8	0.96	0.4 - 1.2	0.78	0.0 - 1.2	0.73	0.0 - 1.2	0.30	0.0 - 0.4	0.13	0.0 - 0.3	0.09	0.0 - 0.1	0.03	0.0 - 0.1	0.01	0.0 - 0.1	0.03	0.0 - 0.1	0.01	0.0 - 0.2	0.03
P19	0.0 - 1.4	0.48	0.0 - 1.3	0.40	0.0 - 1.2	0.60	0.0 - 0.8	0.30	0.0 - 1.0	0.26	0.0 - 0.4	0.10	0.0 - 0.1	0.02	0.0 - 0.2	0.05	0.0 - 0.3	0.08	0.0 - 0.1	0.01	0.0 - 0.1	0.02	0.0 - 0.2	0.03
P20	0.0 - 0.0	0.00	0.0 - 0.4	0.03	0.0 - 0.0	0.00	0.0 - 0.0	0.00	0.0 - 0.3	0.04	0.0 - 0.2	0.06	0.0 - 0.3	0.03	0.0 - 0.2	0.02	0.0 - 0.1	0.01	0.0 - 0.2	0.03	0.0 - 0.1	0.02	0.0 - 0.1	0.01
P30aD	0.0 - 1.1	0.46	0.2 - 1.8	0.91	0.2 - 1.3	0.87	0.0 - 1.8	1.03	0.0 - 1.2	0.43	0.0 - 2.4	0.40	0.0 - 2.9	0.75	0.0 - 2.9	0.57	0.0 - 2.5	0.57	0.0 - 2.7	0.43	0.0 - 2.0	0.58	0.0 - 1.0	0.35
P30aM	0.2 - 1.8	1.08	0.7 - 3.0	1.41	0.7 - 2.1	1.24	0.0 - 1.3	0.92	0.0 - 1.3	0.59	0.0 - 2.1	0.49	0.1 - 2.1	0.72	0.0 - 1.0	0.31	0.0 - 3.0	0.55	0.1 - 1.0	1.02	0.0 - 1.0	0.40	0.0 - 1.0	0.47
P30aS	0.0 - 3.2	1.25	0.8 - 3.4	2.23	0.0 - 3.0	1.08	0.0 - 1.0	0.21	0.0 - 0.3	0.06	0.0 - 1.3	0.35	0.0 - 2.1	0.60	0.0 - 2.1	0.34	0.0 - 2.2	0.39	0.0 - 1.4	1.02	0.0 - 1.9	0.47	0.0 - 0.9	0.20
P33	0.0 - 0.7	0.18	0.0 - 0.4	0.13	0.2 - 0.7	0.38	0.0 - 0.6	0.40	0.0 - 0.5	0.21	0.0 - 0.2	0.08	0.0 - 1.0	0.28	0.0 - 0.6	0.17	0.0 - 0.6	0.23	0.0 - 0.7	0.24	0.0 - 0.4	0.20	0.0 - 0.7	0.23
P34bD	0.0 - 2.0	0.85	0.0 - 1.1	0.73	0.0 - 1.2	0.74	0.0 - 1.4	0.76	0.0 - 1.0	0.28	0.0 - 1.0	0.24	0.0 - 1.3	0.34	0.0 - 1.0	0.15	0.0 - 1.0	0.42	0.0 - 1.4	0.29	0.0 - 1.6	0.34	0.0 - 1.3	0.53
P34bM	0.0 - 1.8	1.12	0.2 - 1.2	0.86	0.2 - 1.2	0.78	0.0 - 1.3	0.59	0.0 - 1.3	0.51	0.0 - 1.0	0.43	0.0 - 0.8	0.21	0.0 - 0.6	0.24	0.0 - 0.5	0.19	0.0 - 1.4	0.30	0.2 - 1.6	0.56	0.0 - 1.4	0.57
P34bS	0.0 - 1.3	0.58	0.0 - 1.3	0.69	0.0 - 0.8



LEGEND:

- SITE BOUNDARY
- PROPOSED GAS COLLECTION HEADER
- SITE FENCE
- EXISTING PAVED ROAD
- EXISTING GAS EXTRACTION WELL
- PROPOSED HEADER VALVE
- EXISTING ON-SITE GAS MONITORING PROBE
- EXISTING OFF-SITE GAS MONITORING PROBE
- PROPOSED ON-SITE GAS MONITORING PROBE
- SERVICE VOID
- AS-BUILT GAS EXTRACTION WELL
- AS-BUILT DRIPLEG

NOTE:

1. BOTH THE EXISTING AND PROPOSED LANDFILL GAS EXTRACTION SYSTEMS ARE SHOWN.
2. EXTRACTION WELLS TO BE CONNECTED TO HEADER LINES BY 150 LATERALS.
3. NON-CONNECTED HEADER ENDS TO BE FITTED WITH ELLS AND STUB ENDS AT GRADE.
4. FINAL EXTRACTION WELL, CONDENSATE DRIPLEG AND VALVE LOCATIONS, AS WELL AS HEADER AND LATERAL LAYOUT, TO BE DETERMINED BASED ON FIELD CONDITIONS ENCOUNTERED.
5. LOCATIONS OF MONITORING PROBES AND SERVICE VOIDS ARE APPROXIMATE.
6. TYPICAL DETAILS (1) THROUGH (6) ON CONSTRUCTION DRAWINGS SWLR/DD/03/02 AND SWLR/DD/03/03.

REV. 修訂	DESCRIPTION 內容修訂	DATE 日期	CHECKED 核准
B	WELLFIELD EXPANSION/WELL AND DRIPLEG ELIMINATION/DRIPLEG RELOCATION/BASE PLAN/SWRL BOUNDARY/ KEY PLAN/GAS MONITORING PROBE	21/7/97	JL
A	HEADER LAYOUT/WELL LOCATIONS/ VALVE ADDITION	20/5/97	JL

ENVIRONMENTAL PROTECTION DEPARTMENT
HONG KONG GOVERNMENT

SHUEN WAN LANDFILL RESTORATION
DETAIL DESIGN
CONTRACT EP/SP/27/95

TITLE 題目內容
LANDFILL GAS MANAGEMENT PLAN

AS CONSTRUCTED

W.B.S. NO.:	23301
DESIGNED 設計	WEC/JL
DRAWN 繪圖	TK
CHECKED 核准	JL
APPROVED FOR ISSUE 批准人	
SCALE 比例	1 : 2000
DATE OF ISSUE 發出日期	10 FEB 97

Hong Kong Landfill Restoration Group Limited

DRG. NO. 圖紙編號 SWLR/DD/03/01

REV. B