Peng Chau Cable System

Pre-Installation Coral Survey Report

Oct 2022

Our Ref: TCS01273/22/300/L0005

Hong Kong Telecommunications HKT) Limtied
8/F, Lai Chi Kok Engineering Centre II
4 Yuet Lun Street
Lai Chi Kok
Kowloon

Attn: Mr. Cliff Ko

14 October 2022
By email only

Dear Sir,

Re: Peng Chau Cable System
Environmental Permit No. EP-610/2022
Certification of Pre-Installation Coral Survey Report

We herewith certify captioned report, pursuant to Condition 1.9 of Environmental Permit No. EP-610/2022.

Should you have any queries, please feel free to contact the undersigned at Tel: 2959-6059 or Fax: 2959-6079 or Email: twtam@fordbusiness.com.

Yours sincerely,
For and on Behalf of
Action-United Environmental Services & Consulting (AUES)

Tam Tak Wing
Environmental Team Leader

cc SMEC (IEC) Ms. Cindy CHUNG by e-mail

Member of the Surbana Jurong Group

local people
global experience

Our Ref: 7076911/L29127/AB/TSC/PL/rw

14 October 2022

Hong Kong Telecommunications (HKT) Limited
8/F, Lai Chi Kok Engineering Centre II
4 Yuet Lun Street
Lai Chi Kok
Kowloon
Hong Kong

By Email Only
(cliff.mk.ko@pccw.com)

Attention: Mr. Cliff KO

Dear Sir

Peng Chau Cable System
Verification of Pre-Installation Coral Survey Report

Reference is made to the *Pre-Installation Coral Survey Report* dated 14 October 2022, submitted by the Environmental Team via e-mail on 14 October 2022.

We hereby verify the said Pre-Installation Coral Survey Report has complied with the requirement as set out under Condition 3.3 of the Environmental Permit.

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

Yours faithfully

Cindy CHUNG
Independent Environmental Checker

cc: AUES Ms. Nicola HON (By Email: nicolahon@fordbusiness.com)

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Summary

- The Pre-installation Spot Dive Survey was carried out at the shore of Nim Shue Wan and Tai Lei on 10th October 2022.
- A total of five hard coral colonies were recorded in Nim Shue Wan and one gorgonian coral was recorded in Tai Lei during the spot dive survey and no coral colonies were found along the cable alignment.
- Except the uncommon coral *Platygyra ryukyuensis*, all other corals recorded in the survey area are common species in Hong Kong water.

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1. Introduction

1.1 In support of the Government's policy initiative, the Office of the Communications Authority ("OFCA") has implemented the "Subsidy Scheme to Extension Fibre-based Networks to Villages in Remote Areas" ("the Scheme"). The Scheme comprises six projects and Hong Kong Telecommunications (HKT) Limited ("HKT") has been awarded "Project 6", which includes the Peng Chau Cable System ("the Project"). The Project will provide a submarine fibre-optic telecommunications cable from Nim Shue Wan ("NSW)" at the eastern side of Lantau Island to Tai Lei ("TL") at northwestern Peng Chau.

1.2 The Project includes the offshore and shore-end sections of a cable, approx. 1.5km in length with a diameter of 60mm buried below the seabed that lands at NSW on Lantau Island and at TL on Peng Chau. Installation is scheduled to be completed in the fourth quarter of 2022 and the Cable System is planned to be in service by the fourth quarter of 2022.

1.3 Direct impact on coral communities caused by cable laying works during the construction and operation is not likely. However, coral colonies were recorded in the near shore area of NSW and TL, as a precautionary measure a Pre-installation Coral Survey and a Post-project Coral Survey shall be carried out.

1.4 The Pre-installation Coral Survey aims to identify the locations of any corals in the near shore area of NSW and TL that are in proximity to the proposed cable alignment and to identify a cable alignment that avoid direct impact to the coral colonies as far as possible. This report presents the findings of the Pre-installation Coral Survey conducted in the near shore area of NSW and TL.

2. Methodology

2.1 One subtidal spot dive survey will be carried out in the near shore area of NSW and TL in proximity to the proposed cable alignment (Figure 1 and Figure 2) prior to the installation of the proposed cable. For each coral colony found, the following data should be recorded:

- GPS location
- Species identification to genus or species level, as far as practicable
- sizes (e.g. maximum diameter) and health of identified corals (e.g. degree of sedimentation, partial mortality, sign of bleaching)
- Photographic record
- Survey date and time
- Underwater visibility
- Atmospheric, sea and tidal conditions

3. Result

3.1 The Pre-installation Coral Survey was carried out on 10th October 2022 and the weather conditions were summarized in **Table 1**.

Table 1 Weather Condition for the spot dive survey on 10th October 2022

Date	Condition	Average Underwater Visibility
10th October 2022	- North force 5 to 6 - Sunny period - Tidal level 2.24m	Less than 10 cm

Nim Shue Wan

3.2 Spot dive survey were carried out from 08:00 to 11:30 on 10th October 2022 in NSW (Figure 1). The average depth during the dive survey was about 2 m.

3.3 The survey area is mainly composed of sandy bottom with scattered boulders and rocks along the shore area of NSW. Some abandoned nets were found in the survey area. Because of the strong winter monsoon, the sea condition was so rough and the average visibility along the survey area was less than 10 cm during the dive survey.

3.4 No soft coral or gorgonian coral was recorded in NSW during the spot check survey. Five hard coral colonies with four species were recorded (at least 20m away from the cable alignment) during the spot dive survey including two colonies of *Platygyra ryukyuensis*, one colony of *Coelastrea aspera*, one colony of *Favites pentagona* and one colony of *Goniopora columna*. Their GPS coordinates, size and health condition were recorded in **Table 2**. Photos of each coral colony were shown in **Photo Plate A**. Besides the uncommon coral *Platygyra ryukyuensis*, all other corals recorded in the survey area are common species in Hong Kong water.

Table 2 GPS Coordinates, Size and Health Condition of Recorded Coral Colonies in NSW during Spot Dive Survey

No.	Coral species	Size (cm)	% Bleaching	Partial Mortality	% Sediment	GPS Coordinates	
1	*Platygyra ryukyuensis*	46	0	0	0	22°17'32.39N	114°01'11.54E
2	*Platygyra ryukyuensis*	57	0	0	0	22°17'32.37N	114°01'11.63E
3	*Coelastrea aspera*	27	0	0	0	22°17'32.29N	114°01'12.24E
4	*Favites pentagona*	42	0	0	0	22°17'32.27N	114°01'12.82E
5	*Goniopora columna*	21	0	0	0	22°17'32.37N	114°01'13.05E

Tai Lei

3.5 Spot dive survey were carried out from 14:00 to 16:30 on 10th October 2022 in TL (Figure 2). The average depth during the dive survey was about 8 m.

3.6 The survey area is mainly composed of muddy bottom with scattered boulders and rocks along the survey area of TL. Because of the strong winter monsoon, the sea condition was so rough and the average visibility along the survey area was less than 10 cm during the dive survey.

3.7 No hard coral was recorded in TL and only one gorgonian coral *Menella* sp. was recorded (at least 20 m away from the cable alignment) near the cable alignment. Its GPS coordinates, size and health condition were recorded in **Table 3**. Photo of

each coral colony were shown in **Photo Plate B**. The recorded coral colony in the survey area is common gorgonian species in Hong Kong water.

Table 3 GPS Coordinates, Size and Health Condition of Recorded Coral Colonies in TL during Spot Dive Survey

No.	Coral species	Size (cm)	% Bleaching	Partial Mortality	% Sediment	GPS Coordinates	
1	*Menella* sp.	32	0	0	0	22°17'20.71N	114°01'52.38E

4. Discussion

4.1 The hard substrates in NSW were mainly composed of sandy bottom with scattered boulders and rocks; the bottom substrates in TL were mainly composed of sandy and mud. A total of five hard coral colonies were recorded in NSW and one gorgonian coral was recorded in TL during the spot dive survey. All coral recorded during the survey are in good health condition and at least 20 m away from the cable alignment. No rare animals were recorded. Except the uncommon coral *Platygyra ryukyuensis*, all other corals recorded in the survey area are common species and found in very low abundance and diversity.

4.2 No coral colonies were recorded along the cable alignment. A post-installation survey will be conducted to verify the health condition of the recorded nearby hard coral colonies after the cable laying work.

5. References

Brian Morton and John Morton. 1983. *The Sea Shore Ecology of Hong Kong*. Hong Kong University Press.

Binnie Consultants Limited. 1995. Marine Ecology of Hong Kong: Report on Underwater Dive Surveys. Volume I. Civil Engineering Department Geotechnical Engineering Office

Chan A.L.K., Choi, C.L.S., McCorry D., Chan K.K., Lee, M.W., and Put, A. Jr. 2005. *Field Guide to Hard Corals of Hong Kong*. AFCD.

END

Figure 1 Pre-installation Coral Survey Location at NSW

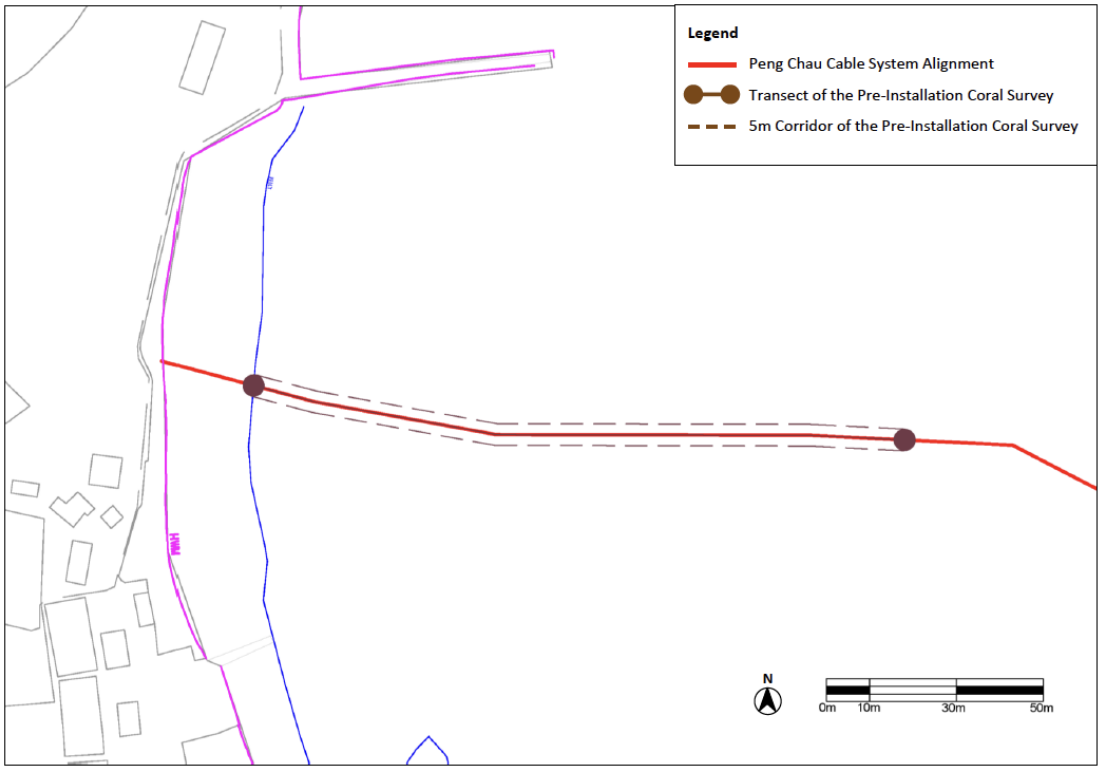


Figure 2 Pre-installation Coral Survey Location at TL

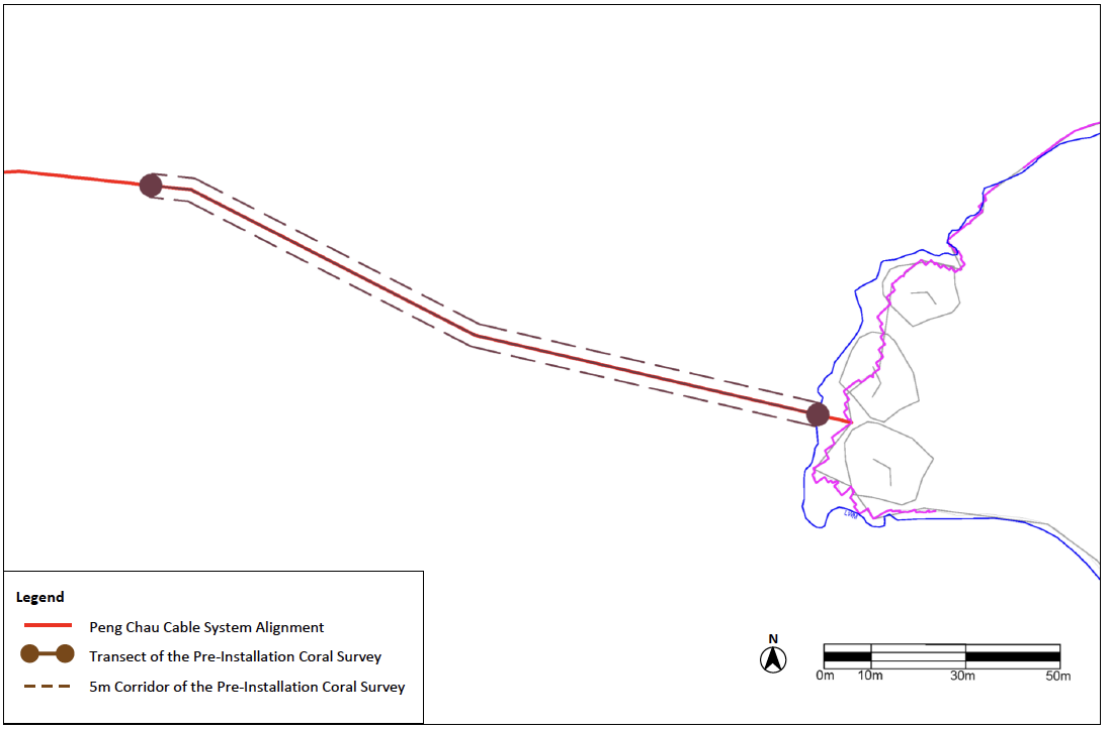


PHOTO PLATE A

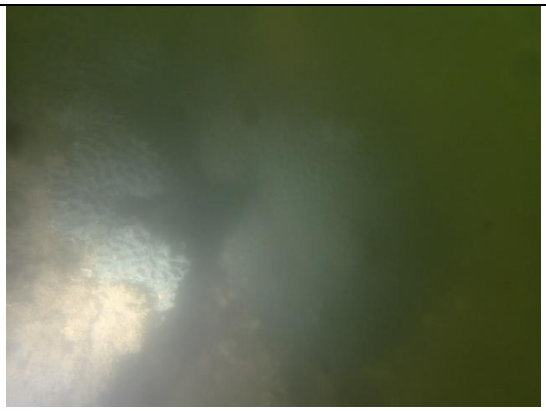
<table>
<tr><td colspan="2">Hard Coral Record in NSW</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Coral #1 Platygyra ryukyuensis</td><td>Coral #2 Platygyra ryukyuensis</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Coral #3 Coelastrea aspera</td><td>Coral #4 Favites pentagona</td></tr>
<tr><td>  </td><td></td></tr>
<tr><td>Coral #5 Goniopora columna</td><td></td></tr>
</table>

PHOTO PLATE B

Gorgonian Record in TL	
	
Coral #1 *Menella* sp.	