

**JOB No.: TCS01267/22**

**CEDD SERVICE CONTRACT NO. WD/07/2022**

**YUEN LONG SOUTH FIRST PHASE DEVELOPMENT -  
ENVIRONMENTAL TEAM**

**BASELINE SURVEY FOR AQUATIC FAUNA**

**PREPARED FOR**

**CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

**Date**

**Reference No.**

**Certified By**

18 June 2024

TCS01267/22/600/R0157r1



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<b>Revision</b>	<b>Date</b>	<b>Remarks</b>
0	20 May 2024	First Submission
1	18 June 2024	Amended according to the EPD's comment

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## 1 INTRODUCTION

### 1.1 PROJECT BACKGROUND

- 1.1.1 Ford Business International Limited (hereinafter called “Ford”) was awarded the Civil Engineering and Development Department (CEDD) Agreement Contract No. WD/07/2022 – Yuen Long South First Phase Development - Environmental Team on 26 October 2022. The Contractor period is 78 months, which covers the construction period and the first-year operation period for the Works Contracts 1, 2 and 3 under the Yuen Long South First Phase Development (hereinafter named as “the Project”).
- 1.1.2 The Yuen Long South (YLS) Planning and Engineering Study is a Designated Project under *Item 1 Schedule 3* of the Environmental Impact Assessment Ordinance. In November 2017, Environmental Impact Assessment (EIA) report for YLS Development was approved by Director of Environmental Protection pursuant to EIAO. The approved EIA report (AEIAR-215/2017), the approval letter with conditions and recommendations and the relevant Environmental Permit (EP) issued subsequently. To implement the Project, there are various infrastructure items among some of which are classified as DPs under *Schedule 2 of the EIA Ordinance*.
- 1.1.3 The YLS Development is currently being implemented by three phases: First Phase, Second Phase and Third Phase. The site formation and engineering infrastructure works to support the First Phase Development will be delivered through three works contracts, as listed as below:-
- (a) CEDD Contract No. YL/2021/03 - Site Formation and Infrastructure Works for Yuen Long South First Phase Development - Contract 1
  - (b) CEDD Contract No. YL/2021/04 - Site Formation and Infrastructure Works for Yuen Long South First Phase Development - Contract 2 (the designated works of Contract 2 are governed by EP-549/2018 & EP-553/2018/A)
  - (c) CEDD Contract No. YL/2022/01 - Site Formation and Infrastructure Works for Yuen Long South First Phase Development - Contract 3 (the designated works of Contract 3 are governed by EP-548/2018/A, EP-549/2018, EP-550/2018/A & EP-551/2018/A)
- 1.1.4 The layout plan for Contracts 1, 2 and 3 of YLS First Phase Development is shown in *Appendix A*.

### 1.2 PURPOSE OF SUBMISSION

- 1.2.1 Faunal species of conservation importance were recorded at the watercourses within the project area of the proposed Yuen Long South Development, and a baseline survey has been recommended in the EIA report and included in the EM&A Manual to confirm the presence, relative abundance, and distribution of any aquatic species of conservation importance in all affected watercourses prior to any commencement of works which would lead to watercourse loss.
- 1.2.2 It is recommended in the EIA Report that should any faunal species of conservation importance is recorded, a translocation programme shall be designed and developed with relevant authorities to translocate any affected aquatic fauna species of conservation importance; and the capture and translocation of species to suitable permanent receptor site(s) (e.g. the retained natural watercourses in PDA or the recreated watercourse) or a holding area shall be conducted by a suitably qualified ecologist before the commencement of any construction works.

- 1.2.3 With respect to the distribution of watercourses within the project boundary of the above three Work Contracts and the nature of construction activities planned for those watercourses, sampling points has been identified and indicated in the *Appendix B*. The aquatic fauna survey will be undertaken at least 4 weeks prior to any commencement of works which would lead to watercourse loss.
- 1.2.4 The baseline survey will focus on the faunal species of conservation importance that has been recorded in watercourse habitat during the EIA study, including but not limited to the two endemic crab species *Somanniathelphusa zanklon* and *Cryptopotamon anacoluthon*, larvae of dragonflies Tawny Hooktail, Club-tailed Cruiser, Dancing Shadow-emerald and Emerald Cascader, as well as the freshwater fish Small Snakehead.
- 1.2.5 This report presents the survey findings at the following two sampling points:
- C2-AQ1
  - C2-AQ9
- 1.2.6 The aquatic fauna survey at other sampling points will be undertaken at least 4 weeks prior to any commencement of works which would lead to watercourse loss. Supplementary report will be provided after the survey.

## 2 METHODOLOGY

### 2.1 GENERAL APPROACH

- 2.1.1 The methodology for the baseline aquatic fauna survey has been detailed in a methodology paper submitted to AFCD for comment and agreement; and it will make reference to the EIAO's Guidance Note No.7/2023 as well as those adopted during the EIA study of the proposed development, i.e., subjected to the local site conditions during the time of survey, a single or mix of various qualitative sampling techniques such as direct observation, active searching, sweep sampling and kick sampling (if applicable), will be undertaken at the sections of watercourse where decking to be undertaken.

### 2.2 SITE CONDITION OF THE SAMPLING POINTS

#### C2-AQ1

- 2.2.1 The baseline aquatic fauna survey for the sampling point C2-AQ1 was undertaken on 24<sup>th</sup> November 2023. The weather was fine on the day of survey, and water flow was only observed within the low flow channel of the nullah and found to be fast during the time of the survey; and the water was very mucky and heavily loaded with suspended refuse. On the other hand, bankside vegetation growth along the low flow channel is virtually absence and limited to the mosses adhered on the concrete embankment. Nonetheless, strips of herbaceous plants were established at the bottom of the sloped embankment of the nullah.

#### C2-AQ9

- 2.2.2 The baseline aquatic fauna survey for the sampling point C2-AQ9 was undertaken on 10<sup>th</sup> April 2024 and weather was fine on the day of survey. Although this section of watercourse is a natural watercourse where its bank is overgrown with herbaceous vegetation and the stream-bed is heavily deposited with dark and fine sediment, disturbance such as vegetation clearance/modification of its bankside or littering was found to be prominent. The water level and waterflow within the watercourse was shallow and low during the time of the survey; and the water was found to be fairly turbid.

- 2.2.3 The site condition of the sampling point C2-AQ1 and C2-AQ9 during the time of the survey are shown in the *Appendix C*.
- 2.2.4 According to the site condition described above, the following sampling method has been undertaken:
- C2-AQ1: bankside observation and sweep netting at the low flow channel and within the area to be decked; and the strip of herbaceous vegetation grown along the bottom of the sloped embankment has also been actively searched for the presence of any faunal species of conservation importance (such as freshwater crab and amphibian).
  - C2-AQ9: bankside observation was carried out at the bankside and sweep netting of the riparian vegetation has also been undertaken to actively searched for the presence of any faunal species of conservation importance (such as freshwater crab and amphibian).

### 3 RESULT

#### C2-AQ1

- 3.1.1 The baseline aquatic fauna survey undertaken at the sampling point C2-AQ1 was carried out by means of active searching and direct observation along the low flow channel as well as along the strip of vegetation established on the bottom of the embankment; and sweep netting has also been conducted within the low flow channel.
- 3.1.2 However, except several common odonate species which flying around the nullah (such as the Green Skimmer, Wandering Glider and Red-faced Skimmer), aquatic fauna has not been recorded within this section of the nullah during the baseline aquatic fauna survey. Nonetheless, low abundance of the exotic and common freshwater fishes Tilapia sp. and mosquito fish were noted at a confluence of the nullah downstream of the sampling point – where the water was relatively clearer.

#### C2-AQ9

- 3.1.3 The baseline aquatic fauna survey undertaken at the sampling point C2-AQ9 was carried out by active searching and direct observation along the bankside; as well as sweep netting of the riparian vegetation. However, aquatic life recorded along the bankside was found to be sparse and only recorded with the exotic apple snail; and aquatic faunal species of conservation interest has not been recorded.

### 4 CONCLUSIONS

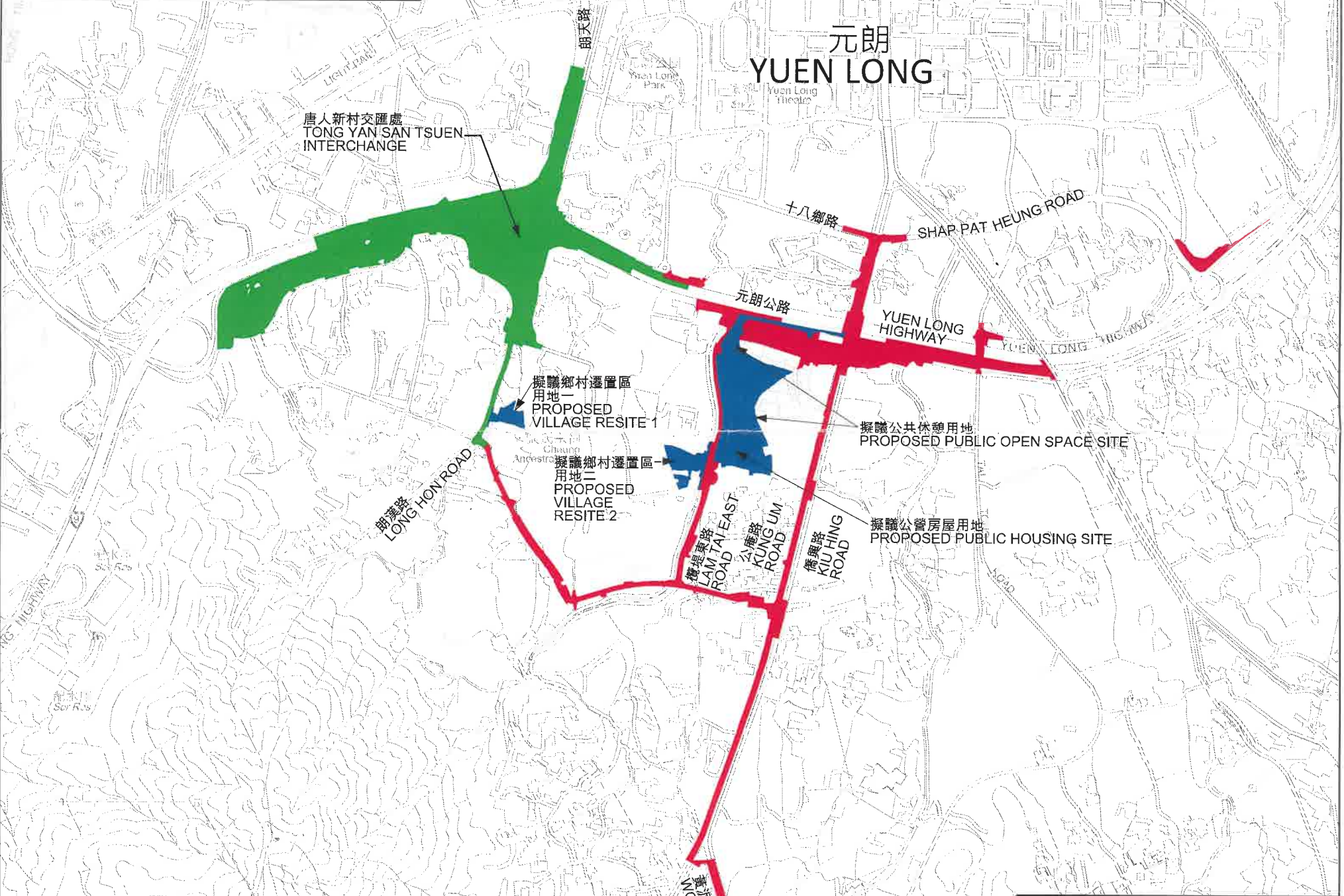
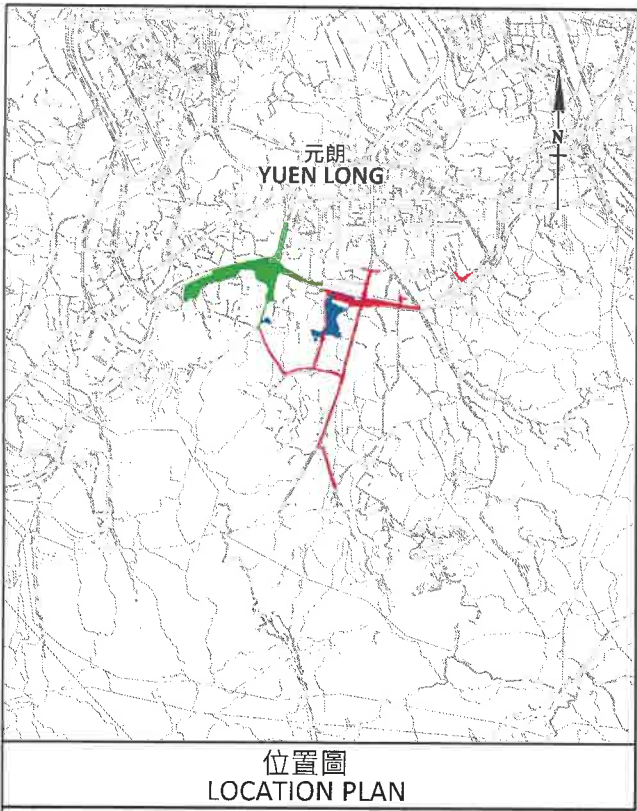
- 4.1.1 Under the Contract 2 of the YLS First Phase Development, baseline aquatic fauna surveys were conducted for the sampling point C2-AQ1 and C2-AQ9 at least 4 weeks prior to any commencement of works which would lead to watercourse loss. The aquatic fauna survey at other sampling points will be undertaken at least 4 weeks prior to any commencement of works which would lead to watercourse loss. Supplementary report will be provided after the survey.
- 4.1.2 Whilst the water flow within the nullah at C2-AQ1 was found to be fast and within to the low flow channel only, flow in C2-AQ9 was shallow and slow during the time of survey. On the other hand, signs of water pollution and bankside disturbance were prominent at both of the sampling points. Several survey techniques including active searching, direct observation and sweep netting were deployed during the baseline survey, but except a low abundance of common odonate (adult) species, aquatic fauna has not been recorded at the

sampling point C2-AQ1 and only the exotic apple snail was recorded in C2-AQ9; and aquatic faunal species of conservation interest has not been recorded.

## **Appendix A**

### **The Layout Plan for YLS First Phase Development**





圖例 LEGEND

-  Contract No. YL/2021/03 (Contract 1)
-  Contract No. YL/2021/04 (Contract 2)
-  Contract No. YL/2022/01 (Contract 3)

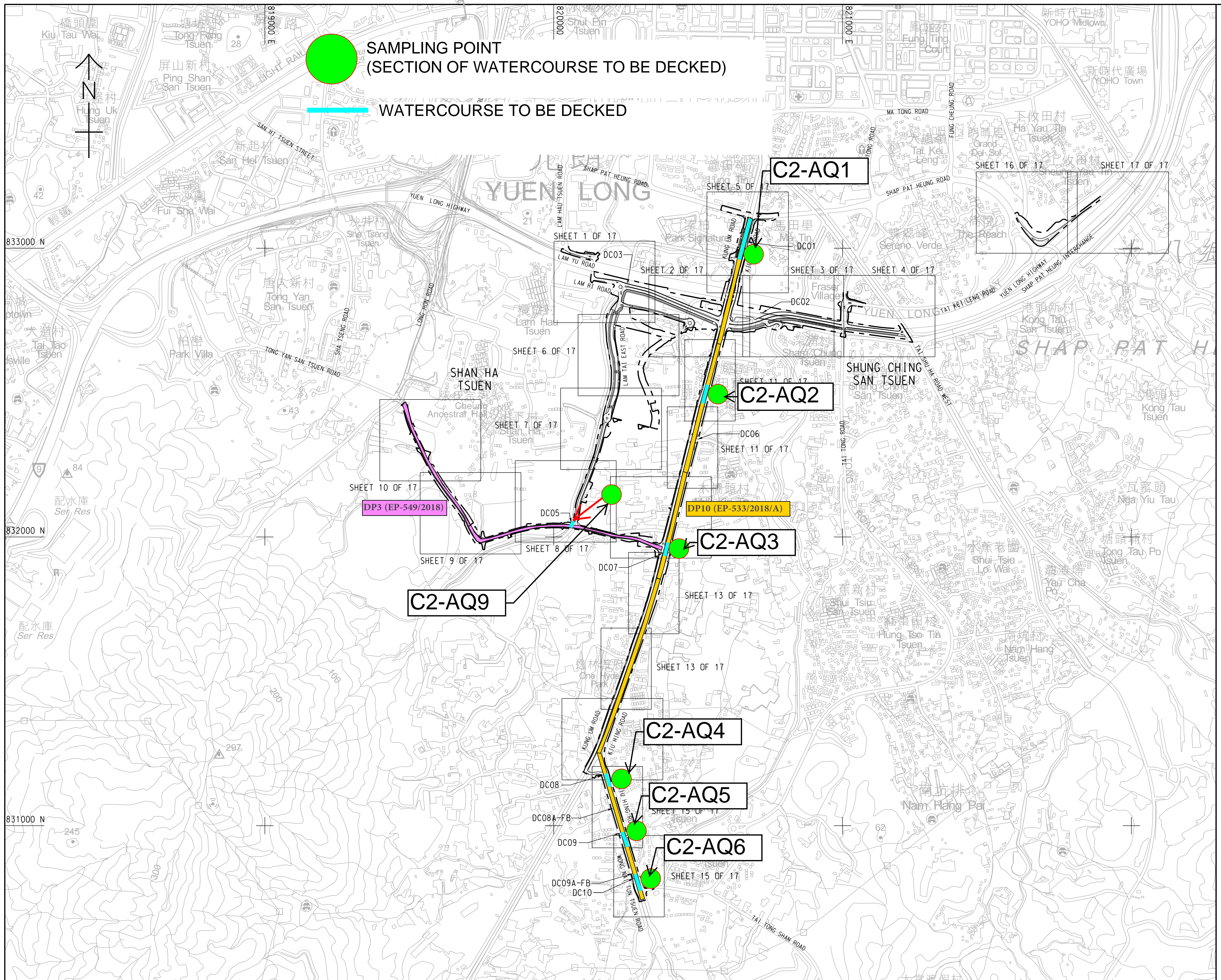
CONSTRUCTION CONTRACTS UNDER YUEN LONG SOUTH FIRST PHASE DEVELOPMENT



## **Appendix B**

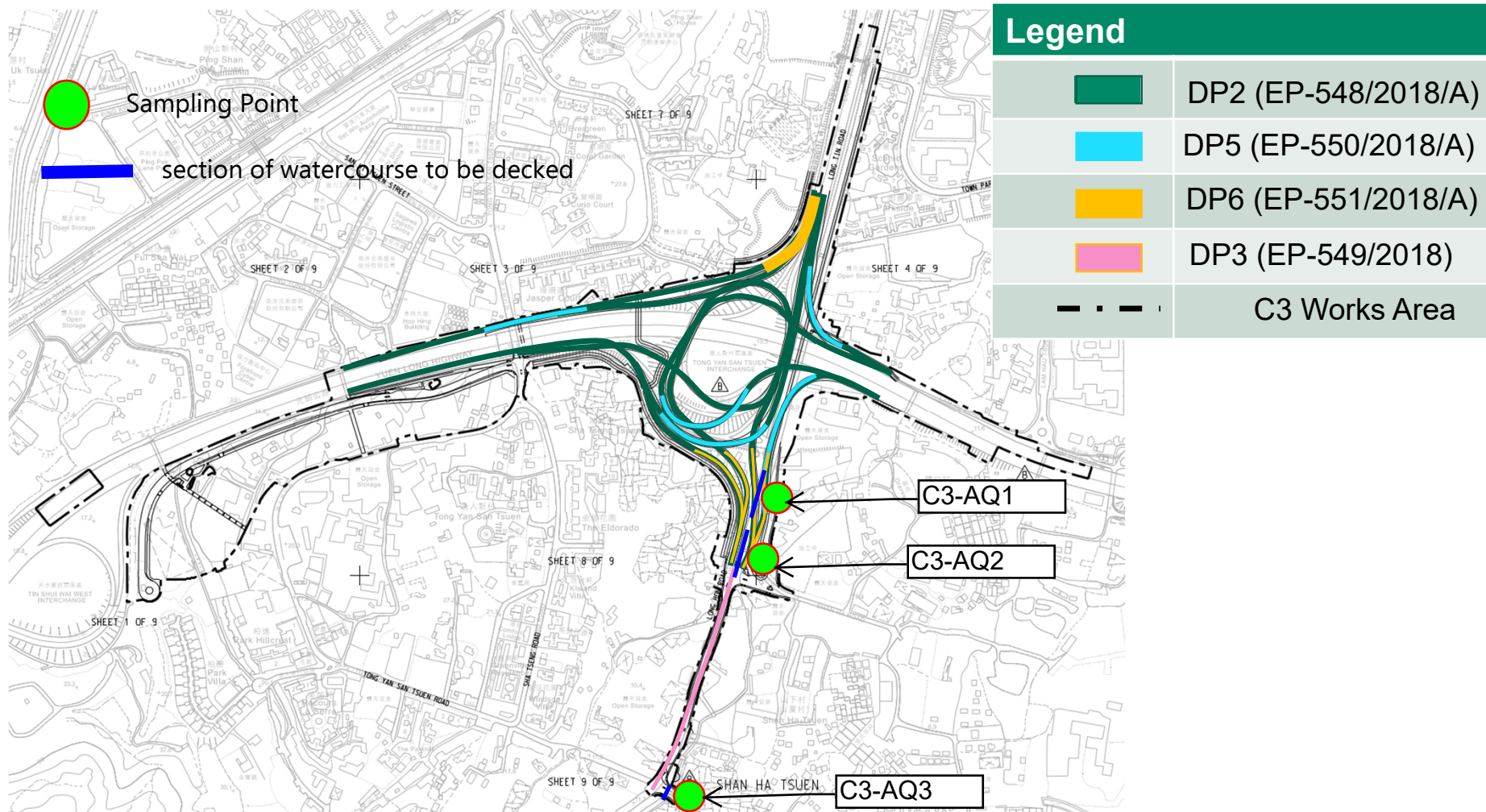
### **Sampling points**







# Site Areas under Contract No. YL/2022/01



Remark: This figure shows the indicated locations only and not in scale.

## **Appendix C**

### **The site condition of the sampling point C2-AQ1 and C2-AQ9**



1. General Overview of the Site Condition at the Sampling Point C2-AQ1



2. Mucky Water



3. Direct Observation and active searching at the low flow channel





4. Sweep netting at low flow channel



5. Direct Observation and active searching at the bottom of the embankment





1. General Overview of the Site Condition at the Sampling Point C2-AQ9



2. General Overview of the Site Condition at the Sampling Point C2-AQ9



3. Sweep netting at the bankside