Drainage Services Department Special Task Division 渠務署特別工作部

Relocation of Sham Tseng Sewage Treatment Works to Caverns – Feasibility Study

搬遷深井污水處理廠往岩洞 – 可行性研究

Public Engagement Report (Stage 2)

公眾諮詢報告（第二階段）

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1 Introduction 簡介

1.1 Background 背景

1.1.1.1 Drainage Services Department/Consultants Management Division (DSD/CM) commissioned Ove Arup & Partners Hong Kong Ltd. (ARUP) on 29 December 2014 to undertake Agreement No. CE 56/2014 (DS) Relocation of Sham Tseng Sewage Treatment Works to Caverns – Feasibility Study (the Study). The "Relocation of Sham Tseng Sewage Treatment Works (SmTSTW) to Caverns – Feasibility Study" is an extension of the following two previous studies that had explored the feasibility of relocating existing facilities into rock caverns. The objective of this study is to examine the feasibility of relocating Sham Tseng Sewage Treatment Works into caverns and the potential developments of the released land.

渠務署顧問工程管理部（渠務署）於2014年12月29日委託香港奧雅納工程顧問（奧雅納）展開 CE 56/2014（DS）搬遷深井污水處理廠往岩洞－可行性研究（本研究）。「搬遷深井污水處理廠往岩洞－可行性研究」是以下兩項研究的延伸，這兩項研究探討了將現有設施搬遷往岩洞的可行性；而本研究的目的是探討把深井污水處理廠搬遷往岩洞的可行性，以及釋放土地的潛在發展。

1.1.1.2 As land is scarce in Hong Kong, there is a pressing need to optimise the supply of land through various innovative and sustainable approaches to support the social and economic development. Through the number of studies undertaken in Hong Kong to assess the practicality of varying options for land reclamation and land use, rock cavern development (RCD) was one of the practical solutions found in these assessments to land supply. According to the findings of Agreement No. CE 9/2011 (CE) "Increasing Land Supply by Reclamation and Rock Cavern Development cum Public Engagement – Feasibility Study" and Agreement No. CE66/2009 (GE) "Enhanced Use of Underground Space in Hong Kong – Feasibility study" completed by the Civil Engineering and Development Department (CEDD) in 2011 (Underground Space Study), about two-third of the total land area in Hong Kong was suitable for RCD from topographical and geological perspective. Also, there are many benefits of RCD which include releasing surface sites through systematic relocation of suitable existing government facilities to caverns, allowing future expansion of the

facilities underground and placing NIMBY ("not-in-my-backyard") facilities in caverns thereby removing incompatible land uses.

由於香港土地短缺，迫切需要通過各種創新和可持續的方法以增加土地供應，並促進社會及經濟發展。在香港進行的土地開墾和土地利用研究結果顯示，岩洞發展是土地供應的其中一個可行方案。土木工程拓展署於早年進行的兩項研究分別為 (1) CE 66/2009（GE）「善用香港地下空間－可行性研究」和 (2) CE 9/2011（CE）「通過填海和岩洞發展暨公眾參與增加土地供應－可行性研究」。研究總結全港約三分之二的土地均適合用作岩洞發展。而岩洞發展有許多好處，包括將合適的政府設施（包括鄰近設施）搬遷往岩洞，擴建地下設施以釋放土地及從社區搬離不兼容的土地用途。

1.1.1.3 There have been successful accommodation of government facilities in rock caverns in Hong Kong, for examples Stanley Sewage Treatment Works completed in 1995, the Island West refuse transfer stations and Kau Shat Wan explosive depot both completed in 1997. A recent example is the re-provisioning of the Western Salt-water Service Reservoirs in rock cavern at the University of Hong Kong in 2009 of which the released land was developed into the university's Centennial Campus. These examples showed that rock caverns are valuable resources which provide environmental, safety and security benefits for many developments.

香港有岩洞發展的成功例子，例如 1995 年完成的赤柱污水處理廠、1997 年完成的西區垃圾轉運站及狗虱灣政府爆炸品倉庫。近期成功例子為香港大學的西區海水配水庫於 2009 年重置於岩洞，並釋放土地發展成為大學的百周年校園。由此可見，岩洞是寶貴的資源，同時為各項發展提供額外的環境及安全優點。

1.1.1.4 Under the Land Supply Study, CEDD conducted a two-stage public engagement exercise on "Enhancing Land Supply Strategy – Reclamation outside Victoria Harbour and Rock Cavern Development" from November 2011 to March 2012 for Stage 1 Public Engagement and Stage 2 Public Engagement from March 2013 to June 2013 to gauge public views and foster the public's understanding and acceptance in increase land supply by new and innovative ways including RCD among others. Based on the site selection criteria confirmed from the Stage 1 of the Public Engagement, CEDD selected SmTSTW as one of the three pilot scheme sites for RCD. Public feedback regarding the initiative of relocating suitable government facilities to caverns so as to release land for alternative use was generally positive. The results of

Stage 2 Public Engagement revealed that residential development, public parks, and recreational or leisure facilities were the three possible land uses that received most support. Major concerns about the pilot scheme were mainly related to transportation, impact on local community, engineering feasibility and ecological conservation issues.

土木工程拓展署於 2011 年展開了「優化土地供應策略 – 維港以外填海及發展岩洞」的研究，該研究的兩個階段公眾參與活動已於 2012 年 3 月及 2013 年 6 月完成。是項公眾參與活動目的是透過創新方法（包括岩洞發展）了解公眾對增加土地供應的認識和意見。根據當時所確立的選址準則，深井污水處理廠被選為三個岩洞發展的先導計劃之一。上述第一階段的公眾意見普遍支持岩洞發展以增加土地供應；第二階段公眾參與的結果顯示，住宅發展、公園、康樂及休閒設施是獲得最多支持的土地用途。公眾亦對先導計劃的交通、本地社區的影響、工程可行性及生態保護問題表示關注。

1.1.1.5 Located at Sham Tsz Street of Sham Tseng, the existing SmTSTW occupies a footprint of about 1.1 hectares. It is a chemical enhanced primary sewage treatment works with a design sewage treatment capacity of 16,848m^3 per day, providing services to a population of about 39,000 in the areas from Approach Bay to Tsing Lung Tau along Castle Peak Road. Commenced its operation in 2004, the existing SmTSTW includes four primary sedimentation tanks, chemical dosing facilities, ultra-violet disinfection system and sludge treatment facilities. The treated effluent is discharged to Ma Wa Channel via an existing 190m long, 650mm diameter submarine outfall for effective dilution and dispersion.

位於深慈街的深井污水處理廠佔地約 1.1 公頃，是一個以化學強化一級處理污水的設施，設計容量達每日 16,848 立方米，為青山公路沿線、近水灣至青龍頭一帶約 39,000 居民提供污水處理服務。深井污水處理廠自 2004 年開始投入運作，污水處理設施包括四個初級沉澱池、化學劑投配設施、紫外光消毒系統和污泥處理設施。經處理的污水通過現有長度為 190 米、直徑 650 毫米的海底排放管排放到馬灣海峽，以達致有效的稀釋和分散。

1.1.1.6 The Stage 1 Public Engagement of the Study (PE1) was conducted between December 2015 and February 2016 to collect public views on the development feasibility and constraints, the key issues relating to the relocation project and the possible development on the released site. To facilitate public discussion, the PE1 Digest and other publicity

materials including leaflets and posters covering the Study's background, benefits, opportunities and key constraints were disseminated to the public for general reference. At the same time, the Study website (https://www.smtstwincaverns.hk) was released to facilitate easy public access to relevant publicity and consultation materials, details of the PE1 activities, as well as the latest progress of the Study.

本研究的第一階段公眾參與已於 2015 年 12 月至 2016 年 2 月進行，主要目的是收集區內持分者及公眾對於搬遷深井污水處理廠及釋出土地的初步規劃的意見。為方便公眾討論，第一階段公眾參與的文摘及其他宣傳資料，包括載有研究報告背景、好處、機遇及主要限制的宣傳單張及海報，均已派發予市民參考。同時，相關資料亦已上載到本研究的網頁（https://www.smtstwincaverns.hk），方便市民查閱有關的宣傳及諮詢資料、公眾參與活動的詳情，以及研究的最新進展 。

1.1.1.7 The Stage 2 Public Engagement of the Study (PE2) was conducted from March to April 2017 to report the findings of the PE1, introduce the preliminary land use proposals of the released site(s) and collect further views and/or comments from the public. To facilitate the public discussion, the PE2 Digest and other publicity materials including leaflets and posters covering the Study's background, overview, summary of PE1, relocation arrangement and preliminary planning schemes of the released site were disseminated to the public for general reference. At the same time, the Study website (https://www.smtstwincaverns.hk) was updated and released to facilitate easy public access to relevant publicity and consultation materials, details of the PE2 activities, as well as the latest progress of the Study.

本研究的第二階段公眾參與已於 2017 年 3 月至 4 月進行，以匯報第一階段公眾參與的結果、介紹釋出土地的初步規劃方案及收集區內持分者及公眾對本研究的進一步意見。為方便公眾討論，第二階段公眾參與的文摘及其他宣傳資料，包括載有研究報告背景、概況、第一階段公眾參與概要、搬遷安排和初步規劃方案的宣傳單張及海報，均已派發予市民參考。同時，本研究的網頁（https://www.smtstwincaverns.hk）已更新，方便市民查閱有關的宣傳及諮詢資料、公眾參與活動的詳情，以及研究的最新進展 。

1.2 Purpose and Structure of this Report 本報告的目的和結構

1.2.1.1 The purpose of this Report is to summarise the PE2 activities, the public comments and suggestions received during PE2 and to provide responses to these comments and suggestions.

The report mainly covers the following sections:

Chapter 1 – Introduction of the project;

Chapter 2 – Overview of PE2 activities;

Chapter 3 – Summary of key comments & responses;

Chapter 4 – PE2 related issues; and

Chapter 5 – Way forward.

本報告的目的是總結於第二階段公眾參與期間所舉行的活動及收到的公眾意見和建議，並對這些意見和建議作出回應。

報告主要包括以下部分：

第 1 節 – 項目介紹；

第 2 節 – 第二階段公眾參與活動概述；

第 3 節 – 主要意見的總結和回應；

第 4 節 – 與第二階段公眾參與之相關事宜；及

第 5 節 – 下一步工作。

2 Stage 2 Public Engagement 第二階段公眾參與

2.1 Objectives 目標

2.1.1.1 The PE2 was conducted between 20 March 2017 and 30 April 2017 (completion date extended from 20 April 2017) to solicit public views on the relocation of Sham Tseng Sewage Treatment Works (STW) into caverns and the preliminary land use proposals of the released site(s). In order to collect views and suggestions from the public, a series of PE activities including roving exhibition, site visit, focus group meetings and a public forum were conducted. A list of PE2 activities is appended in **Appendix 1**.

第二階段公眾參與已於 2017 年 3 月 20 日至 4 月 30 日進行（完成日期由 2017 年 4 月 20 日延長至 4 月 30 日），以諮詢公眾對搬遷深井污水處理廠往岩洞及釋出土地的初步規劃方案的意見。為了收集公眾的意見和建議，署方舉辦了一系列公眾參與活動，包括巡迴展覽、實地考察、焦點小組會議和公眾論壇。第二階段公眾參與活動的列表請參閱**附錄 1**。

2.2 Site Visit 實地考察

2.2.1.1 During the PE1 Briefing Session to the members of Tsuen Wan District Council (TWDC), the members indicated their interest in visiting Stanley STW, the first cavern STW in Hong Kong, in order to enhance their understanding of relocating a STW into rock caverns.

荃灣區議會議員曾於第一階段公眾參與的簡報會中表示希望到訪香港第一個建於岩洞內的污水處理廠－赤柱污水處理廠，以幫助他們了解搬遷污水處理廠到岩洞的實際情況。

2.2.1.2 After reporting the progress of the Study to the members of the Tsuen Wan District Council (TWDC) during the 8th TWDC Costal Affairs Committee Meeting held on 3rd March 2017, the members were invited to join the site visit to Stanley STW on 6th April 2017, in order to enhance their understanding of the relocation of Sewage Treatment Works into caverns. Four TWDC members (including the Vice-

chairman) and three representatives from the Home Affairs Department (HAD) – Tsuen Wan District participated in this event. (**Figure 1**)

渠務署於 2017 年 3 月 3 日於荃灣沿海事務委員會第八次會議與荃灣區議會議員會面，以匯報有關搬遷深井污水處理廠往岩洞可行性研究的進度後，渠務署隨即邀請區議員於 2017 年 4 月 6 日前往赤柱污水處理廠作實地考察，以加深區議員對搬遷污水處理廠往岩洞的了解。四位區議員（包括副主席）以及三位荃灣民政事務處的代表參加了是次活動。（**圖一**）

Figure 1 – Site Visit to Stanley STW
圖一、赤柱污水處理廠實地考察

2.2.1.3 Stanley STW is the first sewage treatment works built in caverns in Hong Kong, which is a secondary sewage treatment works commissioned in 1995 (**Figure 2**). It was built inside three large caverns, each about 120m long, 15m wide and 17m high. It has a design flow of 11,600 m^3 per day, and it currently produces 8,800m^3 of sewage per day.

赤柱污水處理廠是香港首個建於岩洞的污水處理廠，亦是一所於 1995 年啟用的二級污水處理廠（**圖二**）。赤柱污水處理廠建於三個大岩洞中，每個約 120 米長、15 米寬及 17 米高。赤柱污水處理廠的設計污水處理量為每日 11,600 立方米，現時每日的處理量為 8,800 立方米。

Figure 2 – Stanley STW
圖二、赤柱污水處理廠

2.3 Focus Group Meetings 焦點小組會議

2.3.1.1 Four focus group meetings were conducted during PE2 for focused and detailed discussion on specific topics, such as geotechnical impact and environmental impact of relocating Sham Tseng STW into caverns, environmental impact and traffic impact of the new development of the released site.

於第二階段公眾參期間進行了四次焦點小組會議，重點討論了一些具體議題，如搬遷深井污水處理廠往岩洞的岩土及環境影響、釋出土地發展對該區的環境及交通影響。

2.3.1.2 The focus group meetings with the Sham Tseng residents were carried out on 27th March 2017 and 7th April 2017, which include residents from:

i) Sham Tseng East Village (**Figure 3**);
ii) Golden Villa and Pink Villa (**Figure 4**);
iii) Rhine Terrace (**Figure 5**); and
iv) Ocean Pointe (**Figure 6**).

焦點小組會議於 2017 年 3 月 27 日及 4 月 7 日進行，參與的深井居民分別來自：

i) 深井東村（**圖三**）；
ii) 黃金花園及紅樓（**圖四**）；
iii) 海韻臺（**圖五**）；及
iv) 縉皇居（**圖六**）。

Figure 3 – Focus Group Meeting with Sham Tseng East Village
圖三、深井東村焦點小組會議

2.3.1.3 The resident from Sham Tseng East Village expressed their concern on the following aspects:

- Duration, time and noise impact of blasting;
- Air quality impact;
- Vibration and noise impact of STW;
- Impact of existing structure during blasting;
- Handling of excavated rock;
- Visual Impact of STW; and
- Ground water impact.

深井東村居民對下列議題表示關注：

- 爆破的時間及其產生的噪音影響；
- 空氣質素影響；
- 污水處理廠的震動及噪音對附近居民的影響；
- 爆破對現有樓宇在結構上的影響；
- 工程產生的碎石處理；
- 污水處理廠的景觀對附近居民的影響；及
- 地下水影響。

Figure 4 – Focus Group Meeting with Golden Villa & Pink Villa
圖四、黃金花園及紅樓焦點小組會議

2.3.1.4 The resident from Golden Villa and Pink Villa expressed their concern on the following aspects:

- Impact of existing structure during blasting;
- Duration, time and noise of blasting;
- Delivery method and handling of excavated rock;
- Control of dust during construction;
- Air quality impact; and
- Ground water impact.

黃金花園及紅樓居民對下列議題表示關注：

- 爆破對現有樓宇在結構上的影響；
- 爆破的時間及其產生的噪音影響；
- 工程產生的碎石運送及處理方法；
- 施工期間的粉塵控制；
- 空氣質素影響；及
- 地下水影響。

Figure 5 – Focus Group Meeting with Rhine Terrace
圖五、海韻臺焦點小組會議

2.3.1.5 The resident from Rhine Terrace expressed their concern on the following aspects:

- Traffic impact from development of the released site;
- Air quality and odour impact of STW;
- Slope impact during blasting;
- Safety issue of blasting; and
- Impact of existing structure during blasting.

海韻臺居民對下列議題表示關注：

- 釋出土地發展對交通的影響；
- 空氣質素及氣味影響；
- 爆破對斜坡的影響；
- 爆破的安全問題；及
- 爆破對現有樓宇結構的影響。

Figure 6 – Focus Group Meeting with Ocean Pointe
圖六、縉皇居焦點小組會議

2.3.1.6 The resident from Ocean Pointe expressed their concern on the following aspects:

- Cost effectiveness of relocating Sham Tseng STW;
- Cost effectiveness of relocating Sham Tseng CLP substation;
- Traffic impact and visual of new development; and
- Community facilities of new development.

縉皇居居民對下列議題表示關注：

- 搬遷污水處理廠的經濟效益；
- 搬遷深井中電變電站的經濟效益；
- 釋出土地發展對交通及景觀的影響；及
- 釋出土地發展的社區設施。

2.3.1.7 The responses to the local residents' concerns are summarised in the **Section 3** below.
以上議題的回應請參閱**第 3 節**。

2.4 Public Forum 公眾論壇

2.4.1.1 The public forum was held on 9th April 2017 at Sham Tseng Catholic Primary School. There were about 120 participants, including local residents, local groups, members of District Council and the general public. DSD invited Mr. Michael Ng as the facilitator of the public forum and invited the Planning Department (PlanD) to answer planning-related questions (**Figure 7**).

公眾論壇已於 2017 年 4 月 9 日於深井天主教小學順利舉行，當日約有 120 名參加者，當中包括當地居民、當地團體、區議會議員及公眾人士。渠務署邀請了吳明林先生擔任公眾論壇的主持，亦邀請了規劃署到臨為公眾解答與規劃相關的問題（**圖七**）。

Figure 7 – Public Forum: Representatives of DSD, PlanD and Consultant
圖七、公眾論壇：渠務署、規劃署及顧問公司代表

2.4.1.2 A presentation was given by the Consultant to the participants to introduce the Sham Tseng STW relocation project and the preliminary land use proposals of the released site(s), report the major comments received during PE1 and the correspondent responses (**Figure 8**). The presentation was followed by a question and answer (Q&A) session, in order to receive comments and views from the public and provide immediate responses to the comments.

顧問公司介紹了搬遷深井污水處理廠的項目及釋出土地的初步規劃方案，匯報了第一階段公眾參與所收集到的主要意見及相關回應（**圖八**）。隨後舉行了問答環節，以收集公眾的意見及作出即時回應。

Figure 8 – Public Forum Presentation by Consultant
圖八、顧問公司為公眾論壇作介紹

2.4.1.3 Comment cards were filled-in by the participants and collected in two transparent boxes for the Q&A session. In the interest of fairness, the order of speaking was decided according to lots drawn by the facilitator (**Figure 9**), each speaker could express their views within the time limit (**Figure 10**).

意見卡由參加者填寫，並以透明箱收集於問答環節使用。為公平起見，主持人以抽籤方式決定參加者的發言先後次序（**圖九**），每位被抽中的參加者可以在發言時間內親自或由主持人代表發表意見（**圖十**）。

Figure 9 – Public Forum Q&A Session: Deciding Speaking Order by Drawing Lots
圖九、公眾論壇問答環節：抽籤決定發言先後次序

Figure 10 – Public Forum Q&A Session: Speech by Participant
圖十、公眾論壇問答環節：公眾發言

2.4.1.4 There were total 60 comment cards collected from the participants. All the comment cards were drawn and the views were expressed either by the participants or the facilitator. The questions raised by the participants were answered during the Q&A session. The responses to the major views received from the public forum are included in **Section 3**.

當日一共收到 60 張意見卡，所有意見都已於問答環節內由意見者或主持人讀出，而意見者提出的問題亦已於問答環節內解答。於公眾論壇所收到的主要意見及回應，請參閱**第 3 節**。

2.5 Roving Exhibitions 巡迴展覽

2.5.1.1 Roving exhibitions were held during 20 March 2017 to 30 April 2017. The period and location of roving exhibitions are summarised in **Table 1** and photos taken at the exhibition locations are shown in **Figure 11** and **Figure 12**.

巡迴展覽已於 2017 年 3 月 20 日至 2017 年 4 月 30 日期間進行。巡迴展覽的時間及地點摘要請見**表一**，於展覽地點拍攝的照片請見**圖十一**至**圖十二**。

Table 1 – Period & Location of Roving Exhibitions
表一、巡迴展覽的時間及地點

Period 時間	Location 地點
20/3/2017 – 5/4/2017	Sham Tsz Street Playground, Sham Tseng (next to Sham Tseng STW) 深井深慈街遊樂場（位於深井污水處理廠旁）
6/4/2017 – 30/4/2017	Sham Tseng Temporary Playground, Sham Tseng Tsuen Road, Tsuen Wan 荃灣深井村路深井臨時遊樂場

Figure 11 – Roving Exhibition at Sham Tsz Street Playground
圖十一、深慈街遊樂場巡迴展覽

Figure 12 – Roving Exhibition at ShamTseng temporary Playground
圖十二、深井臨時遊樂場巡迴展覽

2.6 Distribution of Publicity Materials 發布宣傳資料

2.6.1.1 A set of publicity materials was designed, posted in the public area or distributed to the public for information. Types of materials include:

- Panels (**Figure 11** to **Figure 12**);
- Digest (**Figure 13**);
- Posters (**Figure 14**);
- Leaflets (**Figure 15**); and
- Banners (**Figure 16** to **Figure 18**).

署方設計了一系列宣傳資料，張貼在公眾地方或派發給市民參考，宣傳資料包括：

- 展板（**圖十一**至**圖十二**）；
- 摘要（**圖十三**）；
- 海報（**圖十四**）；
- 傳單（**圖十五**）；及
- 橫額（**圖十六**至**圖十八**）。

2.6.1.2 The study website (http://www.smtstwincaverns.hk) was updated on 20 March 2017 to provide the PE1 report and the latest information with convenient access to the public to obtain relevant publicity and consultation materials, the details of the public engagement activities and a platform for comments and suggestions.

本研究的網頁（http://www.smtstwincaverns.hk）亦同時於 2017 年 3 月 20 日更新，以發布第一階段公眾參與活動的報告及方便市民取得有關的宣傳和最新的諮詢資料、公眾參與活動詳情，以及提供發表意見和建議的平台。

Figure 13 – Cover of PE2 Digest
圖十三、第二階段公眾參與摘要封面

Figure 14 – Poster of PE2
圖十四、第二階段公眾參與海報

Figure 15 – Leaflet of PE2
圖十五、第二階段公眾參與傳單

Figure 16 – Banner of PE2
圖十六、第一階段公眾參與宣傳橫額

Figure 17 – Banner of PE2
圖十七、第一階段公眾參與宣傳橫額

Figure 18 – Banner of PE2
圖十八、第一階段公眾參與宣傳橫額

2.7 Written Comments Received 已收集的書面意見

2.7.1.1 During PE2, there were a total of 387 written comments received through email, fax, mail and by hand as of 2 May 2017. Among the 387 comments, 10 were duplicate submissions[1] and three of the submissions were signed jointly by 136, 2 and 6 commenters.

截至 2017 年 5 月 2 日，於第二階段公眾參與期間通過電子郵件、傳真、郵件及親手收到 387 份書面意見。當中有 10 份意見書重複提交[1]，有三份意見書分別由 136 人、兩人及 6 人聯名簽署。

2.7.1.2 Most of the comments were submitted by residents from Sham Tseng including Rhine Terrace, Lido Garden, Golden Villa, Sham Tseng East Village and etc. The results of for and against the relocation of Sham Tseng STW to caverns and released site for residential development are presented in **Figure 19** and **Figure 20**.

大部分意見書由深井居民提交，當中包括海韻臺、麗都花園、黃金花園、深井東村等。**圖十九**及**圖二十**總結了意見者支持與反對搬遷深井污水處理廠往岩洞及釋出土地作住宅發展的結果。

[1] Commenters with same name and either same tel. no., email or address.
意見者同名同姓及聯絡電話、電郵或地址一樣

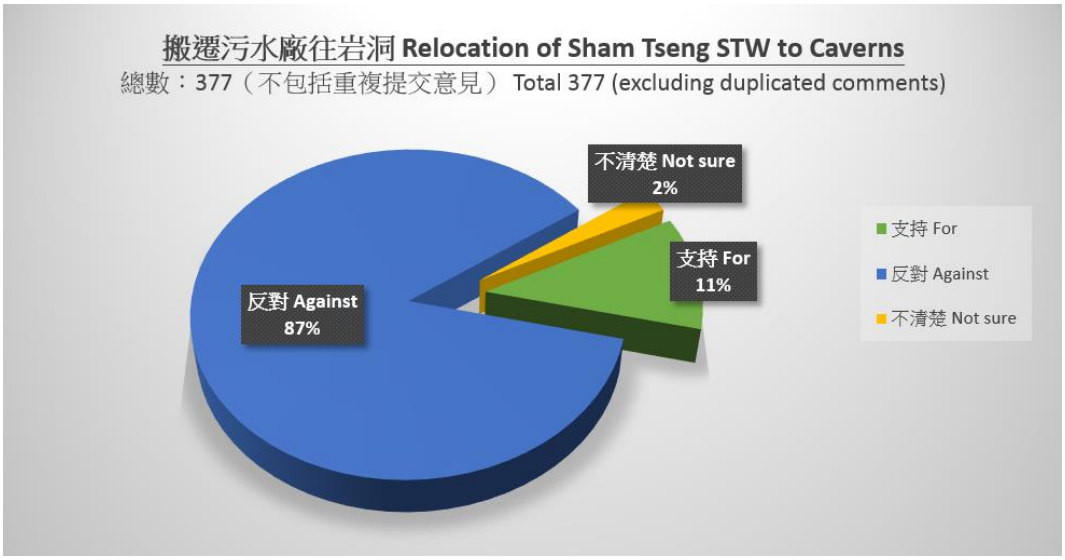

Figure 19 – Result of For and Against Relocation of SmTSTW to Caverns
圖十九、支持與反對搬遷深井污水處理廠往岩洞的結果

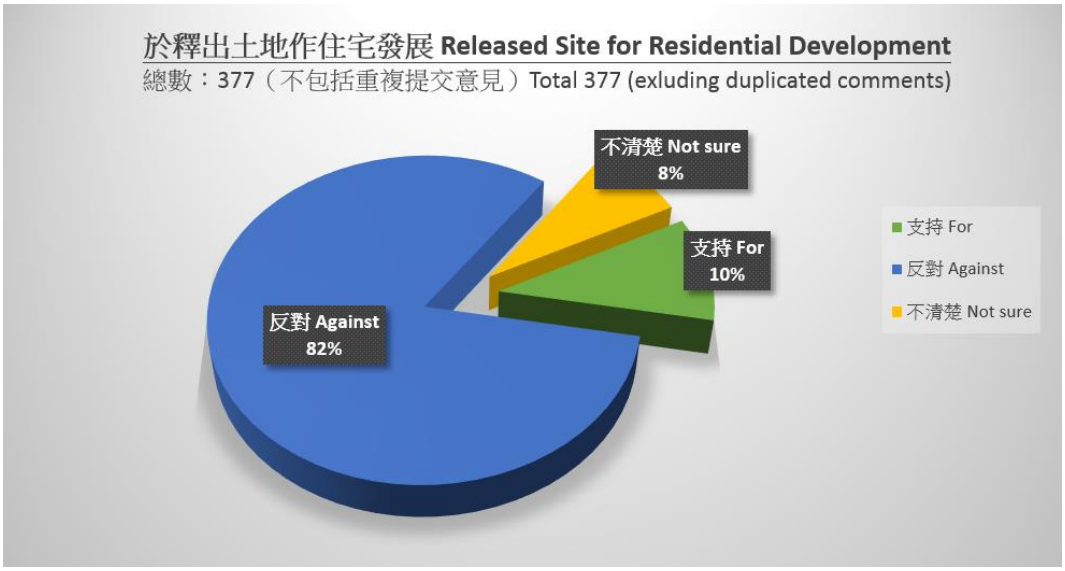

Figure 20 – Result of For and Against Released Site for Residential Development
圖二十、支持與反對釋出土地作住宅發展的結果

2.7.1.3 The commenters who are against the relocation of SmTSTW to caverns and released site for residential development also expressed their concern on the following aspects:

- Traffic impact during construction and after completion of the new development;
- Cost effectiveness of relocating SmTSTW into caverns;
- Air quality and odour impact during construction and operation of the STW;

- Noise impact during construction and operation of the STW;
- Impact of blasting during construction; and
- Visual impact of the new development.

反對搬遷深井污水處理廠往岩洞及釋出土地作住宅發展的意見者亦對下列議題表示關注：

- 施工期間及新發展落成後的交通影響；
- 搬遷深井污水處理廠的成本效益；
- 污水處理廠施工及營運期間的空氣及氣味影響；
- 污水處理廠施工及營運期間的噪音影響；
- 污水處理廠施工期間的爆破影響；及
- 新發展的景觀影響。

2.7.1.4 The commenters who are for the relocation of SmTSTW to caverns also suggested the possibility of constructing the followings within the released site:

- Public housing;
- Community facilities;
- Public car park; and
- Cycling track.

支持搬遷深井污水處理廠往岩洞的意見者亦建議於釋出土地興建以下項目：

- 公共房屋；
- 社區設施；
- 公共停車場；及
- 單車徑。

2.7.1.5 The responses to the major views received during PE2 are included in **Section 3**.

於第二階段公眾參與所收到的主要意見及回應，請參閱**第 3 節**。

3 Summary of Key Comments & Responses 主要意見和回應摘要

3.1 Cost Effectiveness of Relocating SmTSTW 搬遷深井污水處理廠的成本效益

3.1.1.1 There are PE2 participants doubted the cost effectiveness of relocating the STW in caverns as the Sham Tseng STW started its operation since 2004, which is relatively new; and typically the design life of civil structure is about 50 years, PE2 participant believed upgrading the existing STW would be a better option.

有第二階段公眾參與者質疑搬遷深井污水處理廠的成本效益，由於深井污水處理廠自 2004 年開始運作，相對於其他污水處理廠較新；而一般而言污水處理廠的土木內結構設計壽命為 50 年，第二階段公眾參與者認為原址提升深井污水處理廠是一個較理想的做法。

Response 回應：

Sham Tseng STW has been operating for about 14 years since 2004. The typical design life of civil structure is about 50 years and the typical lifespan of electrical and mechanical (E&M) equipment is about 15 to 20 years, depending on the quality of the sewage and the operation and maintenance (O&M) of the facilities. The commencement of demolition of the existing STW is anticipated to be after 2026 to allow time for planning and public consultation of relocation works, design and the construction of the new STW. Upon completion of the relocation works, Sham Tseng STW would be operated for more than 20 years and replacement of E&M equipment would be required. Furthermore, taking the opportunity of relocation, the wastewater treatment level could be upgraded from Level I to Level II and the capacity of the STW could be increased to 24,000m^3 per day to cope with the future development needs in the Sham Tseng area. Other than the cost effectiveness of the relocation project, relocating Sham Tseng STW to caverns is part of the pilot schemes for rock cavern development under the study launched by Civil Engineering and Development Department (CEDD) in 2011 "Enhancing Land Supply Strategy – Reclamation outside Victoria Harbour and Rock Cavern Development". The objective of the study was to release land resources in Hong Kong for other uses in order to sustain the economic development and provide adequate living space to cope with the growth of population. There are

64% land area in Hong Kong that is suitable for large-scale cavern development and around 400 government facilities have potential for relocation to rock caverns. Based on the site selection criteria, Sham Tseng STW was concluded to be one of the three sites to carry out the pilot scheme for rock cavern development. Therefore, the relocation of Sham Tseng STW to cavern project added value to the overall sustainable development of Hong Kong.

深井污水處理廠自2004年運作至今約十四年。一般土木內結構設計壽命為50年，而一般機電設施壽命為15至20年，取決於污水的質量和設施的運作及保養。現有的深井污水處理廠預計會於2026年後才開始拆卸，以預留足夠的時間作規劃、公眾諮詢、設計和興建新的污水處理廠。屆時該污水處理廠已運作了超過20年，機電設施亦需作更換。憑藉此次契機，污水處理廠的污水處理級別可以由一級提升至二級，並可增加處理容量至每日24,000立方米以應付未來發展的需求。除了搬遷項目的成本效益外，將深井污水處理廠搬遷往岩洞是土木工程拓展署於2011年展開的「優化土地供應策略 – 維港以外填海及發展岩洞」研究發展岩洞試驗計劃的其中一部分。研究目的為釋放香港土地資源作其他用途，以維持經濟發展及提供充足的生活空間以應付人口增長。全港有64%土地適合作地下發展，約有400個政府設施有潛力搬遷往岩洞。根據當時所確立的選址準則，深井污水處理廠被選為三個岩洞發展先導計劃之一。因此，搬遷深井污水處理廠往岩洞的項目為香港整體可持續發展增添價值。

3.2 Geotechnical/Blasting Impact 岩土/爆破影響

3.2.1.1 There are PE2 participants expressed their concern of safety during blasting, and whether the existing structures or slopes would be damaged by the vibration induced during blasting.

有第二階段公眾參與者擔心爆破期間的安全問題及現有的建築物或斜坡會否被爆破引致的震動影響因而受到破壞。

Response 回應：

Before the commencement of the construction works, the existing structures and slopes within the potentially affected area would be inspected by competent structural engineers and geotechnical engineers respectively to examine the conditions of the structures and slopes, as part of the works in blasting assessment. Followed by the completion of blasting assessment, a Blasting Permit would then be issued by Mines Division of CEDD, otherwise, the Contractor is not

allowed to use explosives for blasting at a work site. The amount of explosives would be designed and well-controlled according to the conditions of the existing structure and slopes, to ensure no adverse effect would be caused. The blast design would also be refined after each blast to assure the best performance of the blast can be achieved. In addition, the relevant provisions shall include a three-level activation mechanism (i.e. an alert level, an alarm level and an action level – AAA system), and the contractor shall take appropriate contingency measures at each level. If the vibrations exceeding a certain level, CEDD shall be notified and the blast design shall be checked and refined again immediately. Each blasting design would be reviewed and approved by CEDD Geotechnical Engineering Office (GEO) Mines Division. Suspension of works if the vibration exceeds action level. During construction, vibration monitoring instrument would be set up at each sensitive feature. The staff would use the vibration monitoring instrument for real-time monitoring, and the data would be transmitted to the central monitoring system. If the vibration exceeds the limit, warning signal would be generated by the monitoring system to inform the staff for immediate inspection of the concerned building. Blasting would normally take place from 1pm to 6pm on Mondays to Saturdays, each time lasts for less than 30 seconds.

作為爆破評估的其中一部份,於施工前受爆破影響範圍內的現有建築物及斜坡會分別由合資格結構及岩土工程師作出檢查，視察各建築物及斜坡的狀況，並根據各建築物及斜坡的結構狀況以設計爆破所需的炸藥份量，確保對現有建築物及斜坡不會造成不良影響。項目動工時，承建商進場後，要再就工程進行爆破設計並向礦務部申請爆破准許證，方可進行爆破工程。有關規定須包括一個三級啟動機制（即預警級別、警報級別及行動級別 – AAA system），而承建商須就每一級別採取相應的應變措施。如震動超過某一級別的限制，工作人員須盡快通知土木工程拓展署，並作即時檢測及紀錄。而每次爆破設計都會由土木工程拓展署礦務部進行審閱和批核。如震動超過行動級別，工程將會暫停並調查原因。於施工期間亦會視乎當時需要，在容易受震動影響的地點設置震動監測儀器。工作人員會利用震動監測儀器作實時監測，數據會傳送到中央監測系統。如震動超過限制，監測系統會發出警報訊號通知工作人員到受影響樓宇作即時檢測。爆破普遍會於週一至週六大約下午 1 時至 6 時每日進行一次，每次為時少於 30 秒。

3.2.1.2 There are PE2 participants queried how the excavated rock would be removed from the site and the use of excavated rock.

有第二階段公眾參與者詢問挖掘得出的岩石會如何運離工地及其用處。

Response 回應：

The excavated rock would be transported by the construction vehicles, the excavated rock would be sprinkled with water and covered before leaving the site to prevent flying dust. The exact transporting method would be confirmed in the next stage. If the barging point could be established on the shore, the excavated rock could be transported to the shore barge and delivered by sea. Environmental permit would be applied before commencement of the construction and environmental monitoring would be conducted during the construction to ensure nearby residential area would not be affected. The excavated rock are mainly granite and could be used as raw materials for construction materials, such as concrete.

岩石會由工程車輛運離工地，離開工地前會灑水及完全覆蓋岩石，防止粉塵飛揚。而確實的運送岩石方法須於下一階段確認，若駁船點可建立於岸邊，岩石便可輸送至岸邊駁船點，由海路運送。工程前署方會申請環境許可證，工程期間亦會進行環境監測，確保附近民居不受粉塵影響。掘岩洞得出的岩石主要為花崗岩，可用作製造建築材料（如混凝土）的原材料。

3.2.1.3 There are PE2 participants queried whether constructing the caverns would affect the ground water level.

有第二階段公眾參與者詢問挖掘岩洞會否影響地下水水位。

Response 回應：

Monitoring of the groundwater is in progress and permeability tests have been conducted. The available records indicated that the groundwater level is generally located between the soil/rock interface (about few meters above the rock surface) and the permeability of the rock itself is relatively low, thus the risk in significantly lowering the groundwater level is minimal. In addition, it is unlikely that the cavern construction would change the direction of groundwater flow. Besides, settlement marker would be installed at certain locations to monitor the ground subsidence during construction.

地下水的情況仍在監察中而滲透測試已在早前進行。現有資料顯示地下水水位位於泥石之間（大概在岩石面數米以上的位置），而基於岩石本身的滲透性很低，因此地下水水位顯著下降的機會

很低，而石層建造岩洞亦不會改變地下水水流方向。另外，施工監測期間會安裝沉降標示器以緊密監測地面沉降情況。

3.3 Air Quality/Odour Impact 空氣/氣味影響

3.3.1.1 During construction – There are PE2 participants queried whether there would be harmful substances released during blasting and whether there would be dust control during construction.

施工期間 – 有第二階段公眾參與者詢問爆破期間會否釋放有害物質及會否有粉塵控制。

Response 回應：

Blasting would take place inside a sealed blasting door. Before the workers enter the cavern, the engineers would check the air quality inside the cavern to ensure the working environment is safe. During construction, there would be dust control and sprinkling of water in order to keep the site clean and the dust caused by blasting would be controlled within the blasting door.

爆破會於密封的爆破門內進行，工人進入岩洞工作前，工程人員會檢測爆破門內岩洞的空氣質素，確保工人在安全的環境下工作。施工期間會有粉塵控制及灑水，保持工地整潔，爆破所引起的粉塵亦會控制在爆破門之內。

3.3.1.2 During operation – There are PE2 participants concerned whether there would be exhaust/toxic gas released during the STW operation.

營運期間 – 有第二階段公眾參與者詢問污水處理廠營運期間會否排放氣體或毒氣。

Response 回應：

The gas released during the wastewater treatment process is mainly composed of hydrogen sulphide (H_2S) and ammonia (NH_3). The typical deodorisation system used in Hong Kong STWs could achieve a minimum removal efficiency of 99.5%. The treated gas would be discharged at a high level from hillside to ensure the air quality of the adjacent sensitive receiver meets the criteria and to enhance the dispersion and dilution of the gas concentration. In addition, rocks release low level of radon. However, as long as there is sufficient ventilation, the concentration of indoor radon could be controlled below the level sets by the World Health Organisation (WHO), and the health risks of radon could be minimised. Furthermore, an environmental assessment would be conducted to ensure the air quality

is within the acceptable levels sets by the Environmental Protection Department with adequate monitoring and mitigation measures.

污水處理過程中釋放的氣體主要由硫化氫和氨組成，香港污水處理廠所採用的典型除味系統可達到 99.5%的清除效率。經處理後的氣體會於山上較高的位置排放，確保鄰近容易受嗅味影響的地點的空氣質素符合標準。另外，岩石會釋放低濃度的氡，但只要有足夠的通風，將岩洞內氡的濃度控制於合乎世界衞生組織的水平，便能將氡帶來的健康危險減至最低。此外，當局會進行環境評估，透過足夠的監察及緩解措施，以確保空氣質素在環境保護署所訂定的可接受水平內。

3.4 Noise Impact 噪音影響

3.4.1.1 During construction – There are PE2 participants queried whether there is noise impact during blasting.

施工期間 – 有第二階段公眾參與者詢問爆破期間會否有噪音影響。

Response 回應：

Construction of cavern (e.g. blasting) mainly involves internal work, while formation works and slope works at portal areas are external works. The noise generated by external works would be transmitted directly to the nearby sensitive receivers, while blasting would be carried out in the sealed blasting door for less than 30 seconds, and hence the noise impact is low.

Subsequent to PE2, an alternative site has been identified (See Figure 22). Comparing to the conforming scheme, the site is further far away from the sensitive receivers and the noise impact would be further reduced.

建造岩洞主為涉及內部工程（如爆破），而出入口的平整工程及斜坡工程則屬外部工程。外部工程產生的噪音會直接傳送到附近容易受噪音影響的地點。而內部工程，如爆破，會於密封的爆破門內使用炸藥進行，為時少於 30 秒，故此噪音影響較低。

*在第二階段公眾參與後，研究選定了另一個替代選址（**見圖二十二**）。它的位置比合符方案更遠離容易受噪音影響的地點，從而減少噪音影響。*

3.4.1.2 During operation – There are PE2 participants queried whether there is noise impact from the STW during operation.

營運期間 – 有第二階段公眾參與者詢問污水處理廠營運期間會否有噪音影響。

Response 回應：

Mechanical equipment may generate noise during operation, noise enclosure would be installed to minimise the noise impact to nearby resident. Stanley STW is Hong Kong's first STW constructed in caverns and started its operation since 1995, no complaint about noise was received so far. Meanwhile, most of the noisy equipment are enclosed in the cavern and this would reduce the noise impact significantly.

Subsequent to PE2, an alternative site has been identified (See Figure 22). Comparing to the conforming scheme, the site is further far away from the sensitive receivers and the noise impact would be further reduced.

機械設備在運行過程中可能會產生噪音，署方會為機械設備安裝噪聲防護罩，將對附近居民的噪音影響減至最低。赤柱污水處理廠是香港首個在岩洞內建造的污水處理廠，自1995年開始運作，至今並沒有收到關於噪音影響的投訴。而且，大部份產生噪音的裝置皆設置在岩洞內，已經可以大大減少噪音影響。

*在第二階段公眾參與後，研究選定了另一個替代選址（**見圖二十二**）。它的位置比合符方案更遠離容易受噪音影響的地點，從而減少噪音影響。*

3.5 Traffic Impact 交通影響

3.5.1.1 During construction – There are PE2 participants concerned about the traffic impact during construction phase of the relocation of Sham Tseng STW.

施工期間 – 有第二階段公眾參與者關注施工期間深井交通會受到影響。

Response 回應：

According to the preliminary traffic impact assessment, the traffic impact on the Sham Tseng area due to the relocation project is insignificant. Assuming a daily construction period of 8 hours, there would be an additional traffic flow of mostly 14pcu/hour, mainly construction vehicles, and the key junctions are still capable of accommodating the additional traffic flow. It is anticipated that the

peak traffic impact period would be during the cavern excavation stage. Standby construction vehicles would be arranged to park within the construction site boundary in order to minimise the traffic impact to nearby area. Further study and assessment would be carried out before the commencement of construction.

Subsequent to PE2, an alternative site has been identified (See Figure 22). Comparing to the conforming scheme, the portal connecting to Castle Peak Road is moved eastward to Hoi Mei Wan. Traffic impact would be the same as the conforming scheme.

根據初步交通影響評估，將深井污水處理廠搬入岩洞對研究區域內或附近地區的交通影響輕微。假定每日施工時間為 8 小時，於建築高峰期在地盤出入口約有不多於每小時14架次車輛（主要為工程車），初步交通影響評估顯示關鍵路口仍有能力將行車流量消化。交通影響的高峰期為岩洞挖掘階段，如有工程車輛需排隊等候，工程車將會被安排於地盤範圍內的通道進行，大大減低工程車對附近地區的交通影響。進一步的研究將於稍後進行，以確保施工期間對交通的影響減至最小。

*在第二階段公眾參與後，研究選定了另一個替代選址（**見圖二十二**）。位於青山公路的出入口位置比合符方案向東面移至海美灣。交通影響預期與合符方案相同。*

3.5.1.2 New development – There are PE2 participants worried about the population of Sham Tseng would increase if there is new residential development, thus increase the traffic burden of the district.

新發展 – 有第二階段公眾參與者擔心住宅發展會令深井人口增加，從而加重深井區的交通負擔。

Response 回應：

The preliminary traffic assessment report of the Study is based on the traffic flow of the Annual Traffic Census issued by the Transport Department (TD) and the traffic changes over the years, as well as the planning information from the Planning Department (PlanD). The report has been independently approved by TD. According to the preliminary traffic impact assessment, one of the affected junction, is located at the intersection of Castle Peak Road (Sham Tseng) connecting Tuen Mun Road to Tsuen Wan. The reference traffic flow (without development) at this junction is 1,600pcu/hour. If the new development is completed in 2032, it is estimated that the additional traffic flow would be about 100pcu/hour and about 10% (i.e. 10pcu/hour) via the above mentioned junction to Tsuen Wan, and the

remaining 90% via other junctions to either Tuen Mun or Tsuen Wan. The increment of traffic flow at this junction is about 0.6%, its design capacity is 1,900pcu/hour, the volume/capacity ratio would be around 0.85, i.e. this junction is not yet saturated if this value is less than 1.0. The Tuen Mun Highway widening project, the Tuen Mun-Chek Lap Kok Link, which is under construction and is expected to be completed by 2026, and Route 11, which is under planning, are anticipated to divert part of the traffic from Tuen Mun Road. In addition, the traffic impact assessment at Sham Tsz Street roundabout has incorporated the estimated natural growth. If the volume/capacity ratio close to 1, i.e. it is defined as "close to saturation". At present, the volume/capacity ratio of the roundabout is 0.44. By 2032, if there is no new residential development, the volume/capacity ratio would be increased to 0.48 with background traffic growth; while if there is new residential development, the volume/capacity ratio would be increased to 0.50, which is still far below 1.0. It is believed the traffic network still has the capacity to accommodate the new residential development. For the public transport services in Sham Tseng area, detailed traffic impact assessment would be carried out at the design stage (under separate study) of the released site to ensure the traffic impact of future development is minimised.

是次可行性研究項目的初步交通評估報告參考了由運輸署發行的交通統計年報的行車流量及歷年變化及根據規劃署的數據以作評估，並已由運輸署獨立審批。跟據初步的交通影響評估，其中一個受影響的路口位於青山公路（深井段）連接屯門公路往荃灣方向的路口，該路口的日間參考行車流量（沒有新發展）為每小時 1,600 架次。若新發展於 2032 年落成，預計新住宅於日間繁忙時間的新增行車流量約為每小時 100 架次，大約 10% 車流（即每小時 10 架次）會由上述路口往荃灣方向行駛，其餘 90%經由其他路段往屯門或荃灣方向行駛。該路口的新增行車流量大約為 0.6%，其設計交通容量為每小時 1,900 架次，行車量／容車量比例約為 0.85，若此比例少於 1.0，即該路口的交通容量尚未飽和。早前已展開的屯門公路擴闊工程、興建中並預計於 2026 年完成的屯門至赤鱲角連接路及規劃中的十一號幹線可望分流部分屯門公路的交通。另外，深慈街迴旋處的交通影響評估已計算自然增長。若行車量/容車量比例接近 1，即接近飽和。現時深慈街迴旋處的行車量/容車量比例為 0.44。於 2032 年，如沒有新發展，該迴旋處的行車量/容車量比例亦會有背景交通增長至 0.48；若新發展落成，該迴旋處的行車量/容車量比例會增長至 0.50，仍然遠低於 1.0，相信交通網絡仍有空間容納新發展。關於公共交通服務配套以配

合新發展，會於釋出土地的相關詳細設計階段再進行有關研究，以確保未來發展的交通影響減至最低。

3.6 Visual Impact 景觀影響

3.6.1.1 Relocated STW – There are PE2 participants queried whether there would be visual impact after relocating the STW into caverns.

搬遷往岩洞的污水處理廠 – 有第二階段公眾參與者詢問污水處理廠搬遷往岩洞後會否有景觀影響。

Response 回應：

The new STW would be located inside the caverns. The exposed parts, e.g. the ventilation outlet, would be covered by greening in order to optimize the appearance and minimise the visual impact to nearby residents.

Subsequent to PE2, an alternative site has been identified (See Figure 22). Comparing to the conforming scheme, the site is further far away from the sensitive receivers and the visual impact would be further reduced.

新污水處理廠將於岩洞內興建，外露部份（如出風口）會有綠化設計以美化外觀、減低對景觀的影響。

*在第二階段公眾參與後，研究選定了另一個替代選址（**見圖二十二**）。它的位置比合符方案更遠離容易受影響的地點，從而減少對景觀的影響。*

3.6.1.2 New development – There are PE2 participants queried whether there would be visual impact after constructing the new buildings in the released site.

新發展 – 有第二階段公眾參與者詢問如在釋出土地興建樓宇會否有景觀影響。

Response 回應：

The proposed height of the new building is subject to various factors, including the housing demand and the height of existing buildings. The maximum building height of the proposed schemes is 120m above the Principal Datum (mPD)[2]. The buildings in the coastal area would be designed in stepped-height to harmony with the surrounding buildings.

[2] *Building height of Bellagio is +194mPD, building height of Ocean Pointe is +184mPD, building height of Lido Garden is +112mPD and building height of Rhine Terrace is +137mPD.*

新樓宇的擬議高度是考慮各種因素而定，包住屋需求及現有建築物高度。現有方案的最高樓宇高度為主水平基準以上 120 米[3]，而於海濱地區的樓宇將以梯級式設計，以配合周邊建築物。

3.7 Other 其他

3.7.1.1 New development – There are PE2 participants queried whether there would be reclamation involved in the new development.

新發展 – 有第二階段公眾參與者詢問新發展會否涉及填海。

Response 回應：

According to the preliminary study, reclamation was not planned for the new development. Views about reclamation from various parties were received during PE1, and DSD has committed during the District Council meeting that no reclamation would be involved in the project.

根據初步的研究，本項目並沒有計劃填海。於第一階段公眾參與亦曾收到各方面對填海的意見，署方曾於區議會會議承諾不填海，故此本項目不會涉及任何填海工程。

3.7.1.2 New development – There are PE2 participants proposed to construct public housing to mitigate the plight of people who are waiting for public housing.

新發展 – 有第二階段公眾參與者建議興建公共房屋，以減輕正在等待公共房屋人士的困境。

Response 回應：

Residential development is an option for the released site. The preliminary planning schemes published on the PE2 publicity materials are for consultation only. The type and scale of the development are still under planning. The final decision will be confirmed in another stage under separate study.

住宅發展是釋出土地的用途之一，於第二階段公眾參與宣傳資料上公佈的初步規劃方案僅供諮詢之用，發展的類型和規模仍處於計劃階段，最終決定將於另一階段確認。

[3] 碧堤半島高度為主水平基準以上 194 米；縉皇居高度為主水平基準以上 184 米；麗都花園高度為主水平基準以上 112 米；海韻臺高度為主水平基準以上 137 米

3.7.1.3 New development – There are PE2 participants proposed to include community facilities, public car park and cycling track in the new development.

新發展 – 有第二階段公眾參與者提出於新發展加入社區設施、公共停車場及單車徑。

Response 回應：

The preliminary planning schemes published on the PE2 publicity materials have incorporated the potential community facilities, such as community hall, day care centre for elderly and homes for the elderly. The future development would design the number of parking spaces (including residential car park and visitor car park) according to the Hong Kong Planning Standards and Guidelines published by the Planning Department. To incorporate cycling track in the future development, DSD has communicated with CEDD during the preliminary planning stage. The implementation method and programme of cycling track is subject to CEDD's decision.

第二階段公眾參與宣傳資料上公佈的初步規劃方案已加入可興建的社區設施，如社區會堂、長者日間護理中心及安老院。未來發展項目亦會根據規劃署所制定的《香港規劃標準與準則》設計車位數目（包括住客及訪客車位）。就未來發展項目加入單車徑，署方已於初步規劃用地階段與土木工程拓展署溝通，如何及何時實施此單車徑計劃須待土木工程拓展署作出決定。

4 Other PE2 Related Issues 第二階段公眾參與其他之相關事項

4.1 Summary of PE2 Related Events 第二階段公眾參與之相關事項總結

4.1.1.1 The other PE2 related issues happened during April to May 2017 are summarised in **Table 2**.

於 2017 年 4 月至 2017 年 5 月期間與第二階段公眾參與的其他相關事項總結請參閱**表二**。

Table 2 – PE2 Related Issues
表二、第二階段公眾參與之相關事項

Date 日期	Issue 事項	Consulter 諮詢者
27-04-2017	Submission of Petition Letter: to express their concerns and objections to the project 提交請願信：反對本項目及表達他們對本項目的關注	Assistant of Hon Fernando Cheung Chiu Hung, Mr. Chiu Yan Loy & representative of Sham Tseng Local Residents 工黨張超雄助理趙恩來先生及深井居民代表
28-04-2017	Meeting with LegCo Members: to discuss the possible impacts brought by the project 與立法會議員會面：討論該項目帶來的潛在影響	LegCo member Hon Michael Tien, TWDC member Mr. Cheng Chit Pun and representative of Sham Tseng Local Residents 立法會議員田北辰、荃灣區議會議員鄭捷彬及深井居民代表
11-05-2017	Meeting with LegCo Members: to express their concerns on the proposed relocation site and possible impact of the development 與立法會議員會面：表達他們對建議搬遷地點和發展帶來的潛在影響的關注	LegCo member Hon Fernando Cheung and representative of Sham Tseng Local Residents 立法會議員張超雄及深井居民代表
26-05-2017	Submission of Letter: to express their objection to the project 提交書信：反對本項目	Coastal Affairs Committee (CAC) of Tsuen Wan District Council (TWDC) 荃灣區議會沿海事務委員會

4.2 Responses to Major Comments 主要意見之回應

Access Point of the Relocated STW 搬遷後的污水廠出入口

4.2.1.1 During the ad-hoc meeting with Hon Michael Tien, TWDC member Mr. Cheng Chit Pun and representatives of residential estates/villages in Sham Tsang, Hon Michael Tien requested the Government to review the portal location for the relocated SmTSTW.
與立法會議員田北辰、荃灣區議會議員鄭捷彬及深井居民代表會面期間，田北辰議員要求政府重新探討搬遷後的污水處理廠的入口位置。

Response 回應：

*The access point to cavern is subject to several limitations. It has to be complied with the road design requirements, such as turning radius, elevation change, etc. It also bounded by the location of cavern which is governed by numbers of selection criteria, such as adequacy of rock cover, and quality of rock mass. There were three other alternative locations (namely alternative locations A, B & C as shown in **Figure 21**) that have been studied. Based on the selection criteria, alternative locations B & C were not considered favourable for cavern development (no suitable portal location, insufficient rock cover, and poor rock mass quality). However, the remaining alternative location A would be using the same access point as the selected site, in order to fulfil the road design requirement for the portal. Comparing the alternative location A to the selected site, rockhead of alternative location A is not as shallow as that of the selected site so more excavation works is required and the project cost is increased. Based on the available ground investigation records, alternative location A has deeper weathering and poorer rock mass quality than the selected site, therefore it is considered to be less favourable. Besides, alternative location A has lower cost-effectiveness since additional pumping station would be required to pump the influent from area further away from the majority of the sewage generation area. Therefore, the selected site with the access point located behind Golden Villa was chosen to be the relocation site of cavern SmTSTW.*

*Subsequent to PE2, an alternative site has been identified (See **Figure 22**). The location, arrangement and alignment of caverns are reviewed with additional ground investigation. Comparing to the conforming scheme, the portal connecting to Castle Peak Road is moved eastward to Hoi Mei Wan which can avoid traffic impact to the local access to Golden Villa during the construction and operation stage of the*

relocated SmTSTW. Also, large site formation works is not required near Golden Villa to build the portal.

*岩洞出入口的位置亦受到各種限制。岩洞入口通道必須合乎道路設計的要求，如迴轉半徑、高度變化等。此外，其位置亦受制於岩洞選址的各項環境限制，如岩石覆蓋和基岩面的充分性以及岩石的質量。除現有選址外，署方已研究其餘三個可選擇的岩洞位置（如**圖二十一**所顯示的可選擇岩洞位置 A、B 及 C）。根據選擇標準，位置 B 及 C 不適合作岩洞開發（原因：沒有合適入口位置通道、岩石覆蓋不足及岩石質量差）。然而，剩餘的可選擇位置 A 將使用與現有選址相同的入口位置，以便滿足道路設計的要求。將可選擇位置 A 與現有選址比較，可選擇位置 A 的基岩面不及現有選址的淺，挖掘工程量因此而增加，令項目成本上升。根據現有的土地勘測記錄，可選擇位置 A 比現有選址的風化度較深和岩石質量較差，因此被認為不太有利。此外，可選擇位置 A 的成本效益較低，因需要額外的泵房將進水從遠離主要污水收集區域的地方泵至污水處理廠。因此，入口位於黃金花園後方的現有選址被選定為深井污水處理廠的搬遷地點。*

*在第二階段公眾參與後，研究選定了另一個替代選址（**見圖二十二**）。替代選址的佈局、方向及位置都依據額外的土地勘察資料來設計。岩洞的出入口位置比原先選址向東移至海美灣，以避免在興建及營運污水廠時對附近黃金花園產生交通影響。而且在黃金花園附近亦無需進行大型平整工程以興建岩洞出入口。*

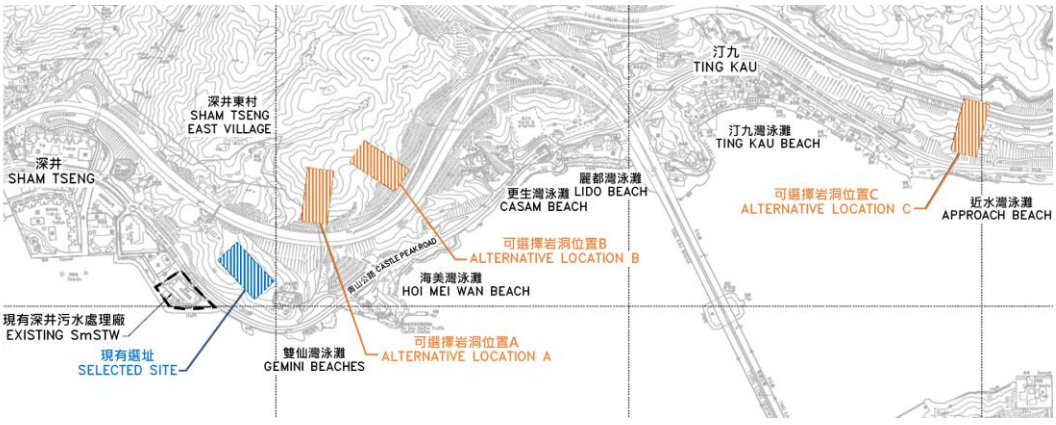

Figure 21 – Alternative Locations of Caverns
圖二十一、可選擇的岩洞位置

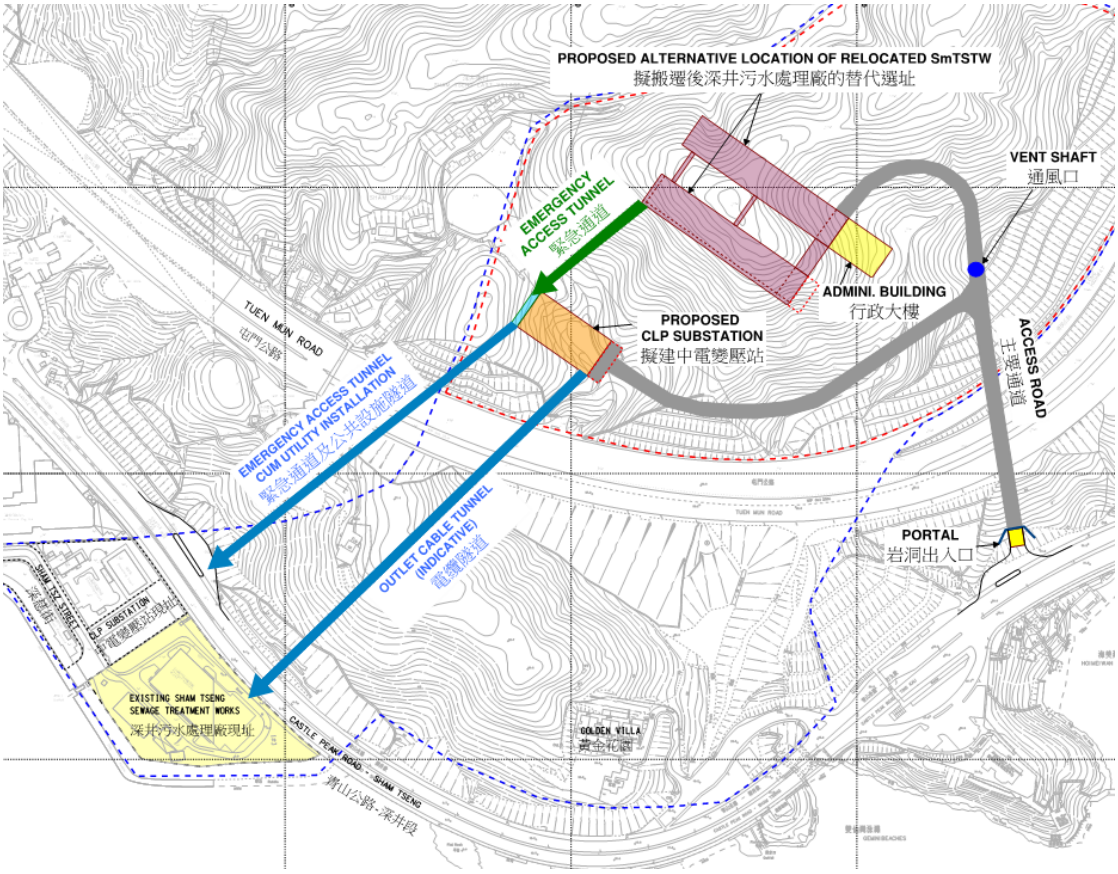

Figure 22 – Alternative Site after PE2
圖二十二、替代選址的岩洞位置

Ventilation Shaft 通風口

4.2.1.2 During the ad-hoc meeting with Hon Michael Tien, TWDC member Mr. Cheng Chit Pun and representatives of residential estates/villages in Sham Tsang, the representatives of residential estates expressed their concern on the close vicinity of the future ventilation shaft to local residents. They considered long-term cumulative effect of inhalation of the exhaust gas from SmTSTW would jeopardize their health. Hon Michael Tien requested the Government to review the feasibility to locate the shaft higher or further away from the residential area.
與立法會議員田北辰、荃灣區議會議員鄭捷彬及深井居民代表會面期間，深井居民代表表示關注未來污水處理廠出風口的位置，擔心長期吸入污水處理廠排出的氣體會危害健康。田北辰議員要求政府探討遷移出風口至較高及更遠離民居的位置。

Response 回應：

Please refer to ***Section 3.3.1.2*** *for the characteristic and typical treatment of gas released from the sewage treatment plant. It is estimated that the H_2S concentration is around 0.15ppm and NH_3 is around 8ppm with small amount of volatile organic compounds (VOCs)*

if sufficient ventilation rate provided inside the caverns. The concentration of H_2S can be varied from 0.1-0.5ppm, which is slightly perceptible by the operators, but far below the toxic nor flammable level, i.e. the environment of cavern is regarded as safe for the operators. After deodorisation, the H_2S and NH_3 in the exhaust air would be further reduced (less than 0.001ppm H_2S and 0.074ppm NH_3), which is well below the odour threshold (0.01ppm H_2S, US Department of Labour) detectable by human. It is technically feasible to relocate the ventilation shaft at a higher level or further away from the residential areas, however the capital cost and operation cost would be increased significantly because the ventilation shaft tunnel length would be increased and additional power for the ventilation fans would be needed.

*Subsequent to PE2, an alternative site has been identified (See **Figure 22**). Comparing to the conforming scheme, the ventilation shaft is further far away from the sensitive receivers and the air quality / odour impact would be further reduced.*

*有關污水處理廠排放之氣體特徵及其一般處理方法，請參閱**第 3.3.1.2 節**。若岩洞內有足夠的通風，估計岩洞內含有硫化氫濃度約為 0.15ppm（容量百萬分之一）、氨的濃度約為 8ppm 及少量揮發性有機化合物。硫化氫的濃度變化為 0.1-0.5ppm，工作人員能輕微地察覺硫化氫，但此濃度仍遠遠未達到有毒或可燃的水平，即岩洞內的環境仍適合工作。除臭後，排出氣體的硫化氫及氨將進一步減少（硫化氫小於 0.001ppm 及氨約 0.074ppm），遠低於人可檢測到的氣味限度（美國勞工部的限制為 0.01ppm 硫化氫）。將出風口放在較高或遠離住宅區的位置技術上是可行的，但延長的出風口隧道和通風扇的額外耗電量，會增加資本成本和運營成本。*

*在第二階段公眾參與後，研究選定了另一個替代選址（**見圖二十二**）。它的位置比原先方案更遠離容易受臭味影響的地點，從而減少空氣及氣味的影響。我們將於下一設計階段再作評估。*

Traffic Impact of Future Residential Development 未來住宅發展帶來的交通影響

4.2.1.3 During the ad-hoc meeting with Hon Michael Tien, TWDC member Mr. Cheng Chit Pun and representatives of residential estates/villages in Sham Tsang, representative from Golden Villa queried on the traffic figures generated by the future development in the preliminary traffic

impact assessment and representative from Ocean Pointe expressed their concern on traffic generated by the new development would overload the local traffic network.
與立法會議員田北辰、荃灣區議會議員鄭捷彬及深井居民代表會面期間，黃金花園居民代表詢問未來土地發展完成後的交通評估及有關交通數字，而縉皇居居民代表表示關注未來發展所產生的交通流量，擔心深井交通不勝負荷。

Response 回應：

*Please refer to **Section 3.5.1.2** for the responds to traffic generated by the new development. Furthermore a real-time video record on the traffic conditions at two strategic junctions at Sham Tseng has been carried out on normal weekdays from consecutive Monday to Friday for the period from 7:30am to 9:00am in September 2017, in order to strengthen our understanding on the actual traffic situation in Sham Tseng for further traffic impact study if necessary.*
*有關新發展的交通增長，請參閱**第 3.5.1.2 節**。此外，深井兩個主要路口已於 2017 年 9 月其中一個星期一至五連續的工作日，於上午 7 時 30 分至 9 時進行實時錄影，以加強對深井實際交通情況的了解，如有需要會作進一步交通影響之研究。*

Sufficiency of Community Facilities 充裕的社區設施

4.2.1.4 During the ad-hoc meeting with Hon Michael Tien, TWDC member Mr. Cheng Chit Pun and representatives of residential estates/villages in Sham Tsang, TWDC member Mr. Cheng suggested the Government to consider more types of community facilities to be provided at the released site.
與立法會議員田北辰、荃灣區議會議員鄭捷彬及深井居民代表會面期間，鄭捷彬議員則建議政府考慮在釋出土地提供更多類型的社區設施。

Response 回應：

*Various types of community facilities were considered at the beginning of the study and responses from various department were received. The short-listed facilities to be considered are presented in **Table 3** and the rejected facilities are presented in **Table 4**.*
*研究開始時署方曾考慮於新發展土地提供不同的社區設施。經與相關部門的跟進，可選取的社區設施請見**表三**，而未被選取的社區設施請見**表四**。*

Table 3 – Short-listed Facilities to be considered in the Plans
表三、可選取的社區設施

Shortlisted Facilities 被選取的社區設施	Floor Area Requirement in HKPSG Standards (m^2) 香港規劃標準與準則的樓面面積要求（平方米）
Community hall 社區會堂	About 1,260 約 1,260
Residential Care Homes for the Elderly (RCHE) (100 places) 安老院舍 (100 個名額)	About 1,096 約 1,096
Day Care Centre/Units for the Elderly (DEs/DCUs) (60 places) 長者日間護理中心/單位 (60 個名額)	Approx. 40-place DE: 267 約 40 個名額的長者日間護理中心: 267 Approx. 20-place DCU attached to RCHE: 70 約 20 個名額並附設於安老院舍的長者日間護理單位: 70

Table 4 – Community Facilities not short-listed
表四、未被選取的社區設施

Rejected Facilities 被拒絕的社區設施	Response from Department 相關部門回應
Multifunctional Complex 多用途綜合大樓	Individual facilities, instead of complex, would be considered. 多用途綜合大樓的各項設施將會獨立考慮
Library 圖書館	Plan to expand the Tsuen Wan Public Library/ existing mobile library in Sham Tseng can satisfy current demand. 計劃擴大荃灣公共圖書館/深井現有的流動圖書館，預計可以滿足需求
Public swimming pool 公眾游泳池	Overlap with clubhouse facilities of private developments. 與私人發展的會所設施重疊
Sports centre (w/ badminton, table-tennis, and volleyball courts) 體育館（包括羽毛球場、乒乓球場及排球場	Overlap with clubhouse facilities of private developments/ low demand of such facilities in the district. 與私人發展的會所設施重疊/區內需求沒有不足
Training facilities for adults 成人訓練設施	Considered not required as there is a centre at Tsuen Wan now 認為荃灣區已有相關設施而不必在深井區提供
Post office 郵局	Mobile Post Office available outside Rhine Garden in regular periods. Supplementary postal facilities available in shopping centre. 香港郵政已定期在海韻花園外提供流動郵政局，亦於購物中心提供郵政設施
Child Care Centre 幼兒中心	There is no plan to provide childcare center at Sham Tseng after reviewing the existing and planned provision of childcare services. 考慮到現時及將來在深井區內對幼兒服務的需求，認為沒有計劃在深井設置幼兒中心.
Police Station 警署	No upmost urgent need identified 沒有迫切需要
Youth activities centre 青年活動中心	There is an Integrated Children and Youth Service Centre (ICYSC) at Bellagio 碧堤半島已有綜合兒童和青年服務中心
Multi-purpose room 多功能廳	Considered to be provided in the proposed community hall at released site. 認為可以融入在社區會堂當中
Wet market 濕貨市場	Considered not necessary as there is a temporary wet market in Sham Tseng. 認為沒有必要，因深井區已有臨時濕貨市場

5 Way Forward 下一步工作

5.1 Investigation, Design & Construction Stage 勘查研究、設計及建造階段

5.1.1.1 PE1 and PE2 of this Study were completed successfully in January 2016 and April 2017 respectively. Public views and suggestions on the Sham Tseng STW relocation project, as well as the preliminary land use proposals of the released site were collected to facilitate the planning and design in the Investigation, Design & Construction (IDC) stage.

本研究的第一階段及第二階段公眾參與活動已於 2016 年 1 月及 2017 年 4 月順利完成，以收集公眾對深井污水處理廠搬遷項目及釋出土地初步規劃方案的意見及建議，以便於勘查研究、設計及建造階段的規劃及設計。

5.1.1.2 The public concerns and comments were received and summarized for further optimization of the Project in the future. If "Relocation of Sham Tseng STW into Caverns" project is to be proceeded, further public engagement would be conducted during the investigation stage.

已收集的公眾意見將用於此項目於未來的更深入設計。假若「搬遷深井污水處理廠往岩洞」的項目落實進行，進一步的公眾參與活動會於勘查研究階段展開。

Appendix 1 附錄 1

List of PE2 Activities
第二段公眾參與活動列表

List of Stage 2 Public Engagement Activities 第二階段公眾參與活動列表

Roving Exhibitions 巡迴展覽	
Locations 地點	**Dates 日期（D 日 / M 月 / Y 年）**
Sham Tsz Street Playground 深井深慈街遊樂場	20/3/2017 - 5/4/2017
Sham Tseng Temporary Playground 深井臨時遊樂場	6/4/2017 - 30/4/2017
Community Engagement Activities 社區參與活動	
Activities 活動	**Dates 日期（D 日 / M 月 / Y 年）**
Site Visit to Stanley Sewage Treatment Works 赤柱污水處理廠實地考察	6/4/2017
Focus Group Meeting with Sham Tseng East Village 深井東村焦點小組會議	27/3/2017
Focus Group Meeting with Golden Villa and Pink Villa 黃金花園及紅樓焦點小組會議	27/3/2017
Focus Group Meeting with Rhine Terrace 海韻臺焦點小組會議	27/3/2017
Focus Group Meeting with Ocean Pointe 縉皇居焦點小組會議	7/4/2017
Public Forum 公眾論壇	9/4/2017