

搬遷深井污水處理廠往岩洞



RELOCATION OF SHAM TSENG SEWAGE TREATMENT WORKS TO CAVERNS

可行性研究
FEASIBILITY STUDY



公眾參與摘要

PUBLIC ENGAGEMENT DIGEST

28/12/2015 - 29/2/2016



渠務署

Drainage Services Department

ARUP

深井
SHAM TSENG

青龍頭
TSENG LUNG TAU

深井污水處理廠
Sham Tseng Sewage
Treatment Works (SmtSTW)
(研究項目 Study Site)





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研究背景

STUDY BACKGROUND

《搬遷深井污水處理廠往岩洞 — 可行性研究》出自於以下兩次探討搬遷現有設施到岩洞的可行性研究。

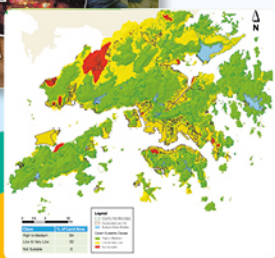
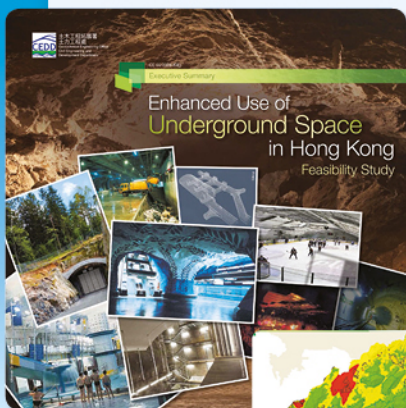
The "Relocation of Sham Tseng Sewage Treatment Works (SmtSTW) to Caverns – Feasibility Study" is an extension of the following two previous studies that had explored the feasibility of relocating existing facilities into rock caverns.

善用香港地下空間 — 可行性研究

Enhanced Use of Underground Space in Hong Kong – Feasibility Study

土木工程拓展署於2009年展開該研究，探討發展地下空間的機遇。研究於2011年完結時總結全港百分之六十四的土地均適合用作地下發展，並指出約400個政府設施有潛力搬遷入岩洞內。

The Civil Engineering and Development Department (CEDD) launched this study in 2009 to examine the opportunities for underground space development in Hong Kong, and had concluded in 2011 that some 64% of the land area in Hong Kong is suitable for large-scale cavern development, and that some 400 government facilities had potential for relocation to rock caverns.



優化土地供應策略 — 維港以外填海及發展岩洞

Enhancing Land Supply Strategy – Reclamation outside Victoria Harbour and Rock Cavern Development

土木工程拓展署繼而於2011年展開下一輪研究，更把發展岩洞歸納為一組「六管齊下」的土地供應組合中：

- 更改土地用途
- 收地
- 發展岩洞
- 重用前石礦場
- 維港以外填海
- 重建

Subsequently, CEDD launched this study in 2011 and brought forward the findings from the last study and rock cavern development formed part of the "six-pronged approach" to enhance land supply:

- Rezoning Land
- Land Resumption
- Rock Cavern Development
- Reuse of Ex-quarry Sites
- Reclamation outside Victoria Harbour
- Redevelopment



搬遷深井污水處理廠往岩洞 — 可行性研究 Relocation of SmTSTW to Caverns Feasibility Study

該輪研究於2011年11月至2012年3月進行第一階段公眾參與。公眾意見普遍支持發展岩洞以增加土地供應。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。

During the Stage 1 Public Engagement (PE) of this study from November 2011 to March 2012, the public views broadly supported rock cavern development as a way to enhance land supply. Based on the site selection criteria confirmed from the Stage 1 PE, SmTSTW was one of the three sites selected as pilot schemes for rock cavern development.

研究於2013年3月至6月進行了第二階段公眾參與。公眾普遍支持搬遷深井污水處理廠及釋放土地用作發展用途。

At the Stage 2 PE from March 2013 to June 2013, public feedbacks on the relocation of SmTSTW into caverns and the release of land for alternative use were generally supportive.

以下三種土地用途獲得最多公眾支持：

These land uses for the Released Site received most support from the public:



公眾亦關注以下課題：

Major concerns on the pilot scheme:



渠務署於2014年12月展開《搬遷深井污水處理廠往岩洞 — 可行性研究》(本研究)，為相關工程進行詳細工程可行性研究，舉行公眾參與活動，以及研究釋出土地可能的用途。

Drainage Services Department launched the "Relocation of Sham Tseng Sewage Treatment Works to Caverns – Feasibility Study" (this Study) in December 2014. The overall objective is to examine the detailed engineering feasibility of the associated works; carry out public engagement; and study the possible uses of the Released Site.

您好，
我是**阿深**，是一名專注
岩洞發展的工程師。我會為您
講解研究的進展！

Hello, I am **Ah Sham**,
an engineer specialised in cavern
developments. Let me tell you
the progress of this Study!



研究概覽 STUDY OVERVIEW



公眾參與 Public Engagement

本研究的公眾參與將於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可能用途的意見。各持分者亦可以建基於早前的研究結果及這次研究最新資料提出進一步意見。

於公眾參與中所收集的意見將有助研究團隊構思釋出土地的初步規劃及完成新污水處理廠的設計大綱。

The Public Engagement (PE) under this Study will be conducted from December 2015 to February 2016. The main purpose is to reach out to local stakeholders and the public to understand their opinions on the relocation of SmTSTW and the possible uses of the existing SmTSTW site. With the findings of the previous studies, it is hoped that the local stakeholders can provide further comments in greater detail after deeper understanding of the project.

Public views collected in the PE would then be taken into consideration when envisioning the initial planning of the existing SmTSTW site, as well as the outline design of the relocated SmTSTW.

海韻花園
Rhine Garden

海韻臺
Rhine Terrace

污水收集範圍
SEWAGE CATCHMENT AREA

深井東村
Sham Tseng East Village

黃金花園及紅樓
Golden Villa & Pink Villa

擬議重置選址
PROPOSED RELOCATION SITE
(有待研究 To be Studied)

深井污水處理廠
SHAM TSENG SEWAGE
TREATMENT WORKS (SmTSTW)
(研究項目 Study Site)

我們會細心聆聽
您的意見！

Please give us your
views!

有關現有深井污水處理廠 About the Existing SmTSTW

位於深慈街的深井污水處理廠自2004年開始投入運作，為沿青山公路近水灣至青龍頭一帶約39,000人提供污水處理服務。

The SmTSTW, located at Sham Tsz Street, Sham Tseng, has been in operation since 2004. It provides sewage treatment services to a population of about 39,000 in the areas from Approach Bay to Tsing Lung Tau along Castle Peak Road.

佔地
Site Footprint

1.1 公頃
ha

設計污水處理量
Design Sewage
Treatment Capacity

每天 17,000 立方米
m³ per day

污水處理設施
Sewage Treatment
Facility

化學強化一級處理
Chemically Enhanced Primary
Treatment



有關岩洞發展

ABOUT CAVERN DEVELOPMENTS

香港岩洞發展
Cavern
Developments in
Hong Kong

赤柱污水處理廠 Stanley Sewage Treatment Works



香港首座設於岩洞內的赤柱污水處理廠於1995年起投入服務。這座二級污水處理廠設計污水處理量為每日11,600立方米，現時每天接收來自赤柱區27,000人約每天9,000立方米污水。廠房設於三組大約120米長、15米寬和17米高的岩洞，並由超過450米行車和通風隧道及豎井連接起來。

從赤柱污水處理的經驗所見，設於岩洞內的廠房不但能融合四周環境，而且在建造和日常運作都沒有對鄰近居民構成不良環境影響。

In 1995, the first cavern sewage treatment works (STW) in Hong Kong was established at Stanley. It is a secondary STW with a design sewage treatment capacity of 11,600m³/day, and currently receiving about 9,000m³/day of sewage arising from 27,000 residents. It is housed in three caverns of 120m long, 15m wide and 17m high that are connected by a series of access, ventilation tunnels and shafts.

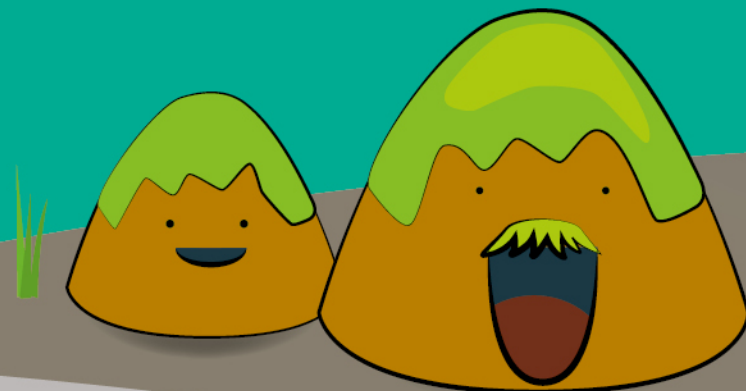
The experience with Stanley STW demonstrates that STW in caverns not only blends in with the nearby environment, but also spares the local residents undesirable environment impacts during construction and daily operation.

西區鹹水配水庫 Western Salt-water Service Reservoirs



坐落於香港大學的西區鹹水配水庫於2009年投入服務。配水庫設於50米長、17.6米寬和17米高的岩洞，容量達到12,000立方米，服務中、西、及山頂區的120,000人口。配水庫搬遷到岩洞後釋放寶貴的土地，提供土地予香港大學建造百周年校園。設計亦能有效保存三座歷史建築及減少砍樹。

In 2009, the Western Salt-water Service Reservoirs at the University of Hong Kong was relocated to rock caverns that are 50m long, 17.6m wide and 17m high. The Salt-water Reservoir has a capacity of 12,000m³ and serves a population of more than 120,000 in the Central, Western and Peak areas. The precious surface land was released for the University's Centennial Campus development. The design helped preserve three graded historic buildings and minimised tree felling.



港島西廢物轉運站 The Island West Transfer Station



港島西廢物轉運站於1997年啟用，是一所在岩洞內建造的廢物轉運設施。它位處於堅尼地城海傍，為中西區及南區（部分）提供服務。由於該區並未有合適的垃圾轉運站選址，發展岩洞提供了一個合適及可行的解決方案。該岩洞長65米，寬度達27米，高12米。

The Island West Transfer Station completed in 1997, involved the construction of a waste transfer facility in a rock cavern near Kennedy Town waterfront. It provides service to Central and Western District and Southern District (part). As there was difficulty in identifying a suitable site for the refuse transfer station within the area, cavern development provided a good and feasible solution. The rock cavern is about 65m long, 27m wide and 12m high.

岩洞發展是成熟及日臻完善的技術，成功應用於不同的用途上。以上是一些本地和海外的例子！

Cavern development is an established technology that has seen continual improvement in its applications. Let me show you some of the local and overseas cavern developments!

海外岩洞發展
Overseas Cavern
Developments

挪威奧斯陸Oset綜合水處理廠 Oset Water Treatment Complex in Oslo, Norway



Oset綜合食水處理廠於1971年建立，建造在五組並排的岩洞內，並於2008年提升後成為歐洲其中一座最大規模的食水處理廠。廠房現在為奧斯陸九成的市民服務，提供每日391,000立方米的飲用水。

The Oset Water Treatment Complex is one of the largest facilities for water treatment in Europe. The original plant was constructed in 1971 and consisted of 5 parallel caverns. The plant was upgraded in 2008 and now produces over 391,000m³ of potable water per day whilst meeting EU standards. The plant serves about 90% of Oslo's population.



搬遷污水處理廠到岩洞的好處

BENEFITS OF RELOCATING STW TO CAVERNS

改善環境

Improve the Environment

將大部分的污水處理設施設置於岩洞內，可以與周邊環境融為一體。

By locating majority of the sewage treatment facilities inside caverns can integrate better with the surrounding environment.



您知道把污水處理廠搬遷入岩洞的好處嗎？讓我告訴您吧！

Do you know the benefits of relocating Sewage Treatment Works to caverns? Let me tell you!

因為污水處理廠設置於岩洞內，在運作過程中所產生的大部分氣體及聲浪將會與外界分隔，空氣及噪音影響因而受到控制。

Since the STW would operate inside the cavern, most of the gas and noise generated during operation would be contained within the enclosed area. The air and noise impacts are therefore under control.

提升服務質素

Enhance Service Quality

污水處理過程將根據最新的環境要求及施工限制而進行檢討。

The sewage treatment process will be reviewed according to the latest environmental requirements and construction constraints.

減少佔地和優化運作效率。

Minimise footprint and enhance operational efficiency.

未雨綢繆，更新老化設備，為未來人口增長作準備。

Upgrade ageing facilities and prepare for future growth in population.

可持續發展

Sustainable Development

搬遷污水處理廠有利釋放海濱用地作其他用途發展。

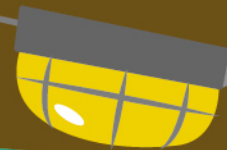
The prime waterfront site currently occupied by the existing SmTSTW could be released for other developments.

把釋出土地發展成與周邊環境更加兼容的用途。

Opportunity to introduce a land use on the Released Site that is more compatible with the surrounding environment.



初步技術及影響評估 PRELIMINARY TECHNICAL AND IMPACT ASSESSMENTS



各項由本搬遷工程帶來的影響已在進行初步技術評估。

Preliminary technical assessments on different aspects are being carried out to study the impacts arising from the relocation works.

對交通沒有負面影響 No Adverse Traffic Impact

根據初步交通影響評估，本搬遷工程將不會對交通帶來負面影響。

Based on the interim results from the preliminary traffic impact assessment, no adverse traffic impact will be arising from the relocation works.

適合岩洞發展的地質 Suitable Geology for Cavern Development

擬議重置選址的初步地質探討結果顯示此位置適合岩洞發展。

The results of the preliminary assessment on the geology of the proposed relocation site shows it is suitable for cavern development.

不會影響現有的排污系統 Will Not Affect the Existing Sewerage System

現有的排污、接駁及污水處理系統將會在項目施工期間繼續運作。

The existing sewerage system and connections, as well as sewage treatment will continue to operate throughout the relocation works.

施工安排 Construction Arrangement

搬遷工程將會妥善設計，並分階段進行，以減低對現有社區的影響。

The relocation works will be carefully designed and phased with a detailed plan to minimise various impacts to the existing community.

對環境沒有負面影響 No Adverse Environmental Impact

根據初步環境評估，本搬遷工程將不會帶來負面環境影響。

Based on the interim results from the preliminary environmental study, the relocation works will not cause any adverse environmental impact.

對周邊的空氣質素沒有帶來負面影響 No Adverse Air Quality Impact to the Surroundings

本研究正在進行包括空氣質素影響評估的初步環境評估中，確保本搬遷工程不會對周邊的空氣質素帶來負面影響。

Air quality impact assessment is being conducted as part of the preliminary environmental study to confirm that there will be no adverse air quality impact to the surroundings.



釋出土地的發展機遇及主要關注 OPPORTUNITIES AND KEY ISSUES OF THE RELEASED SITE

主要機遇 KEY OPPORTUNITIES



住宅用途 Residential Uses

釋出土地位於現有住宅群旁邊，發展住宅用途與現有的用途兼容。

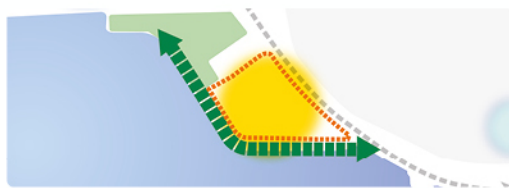
The Released Site is close to existing residential developments and the development of residential uses on the Released Site is compatible with the existing land use.



社區設施及鄰舍商業空間 Community Facilities and Local Commercial Spaces

可於釋出土地上提供給區內居民使用的社區設施及鄰舍商業空間。

There is opportunity to provide community facilities and local commercial spaces to serve the residents in Sham Tseng.



延伸海濱長廊的可能 Possibility to Extend the Waterfront Promenade

延伸海濱長廊有助提供更多休憩用地供社區享用。

Extension of the waterfront promenade provides more recreational spaces for the community.



主要關注 KEY ISSUES



環境影響

Environmental Impacts

在釋出土地上的發展可能會受到青山公路的交通噪音及空氣污染影響。適當的緩解措施將能夠減低影響。

The future development on the Released Site may be subject to traffic noise and air pollution from Castle Peak Road. Mitigation measures can minimise the potential impacts.



交通影響

Traffic Impact

本研究將會進行交通影響評估，以確保在釋出土地上的發展不會為該區帶來負面交通影響。

A traffic impact assessment will be conducted under this Study to ensure no adverse traffic impact to the area will be caused by the future development on the Released Site.

空氣流通影響

Air Ventilation Impact

在釋出土地上的發展應確保不會影響到附近環境的空氣流通。適當的城市設計能有效地確保空氣流通不會受到影響。

The future development on the Released Site should ensure no air ventilation impacts to surroundings. Appropriate urban design controls could effectively ensure no adverse impact on air ventilation.

視覺影響

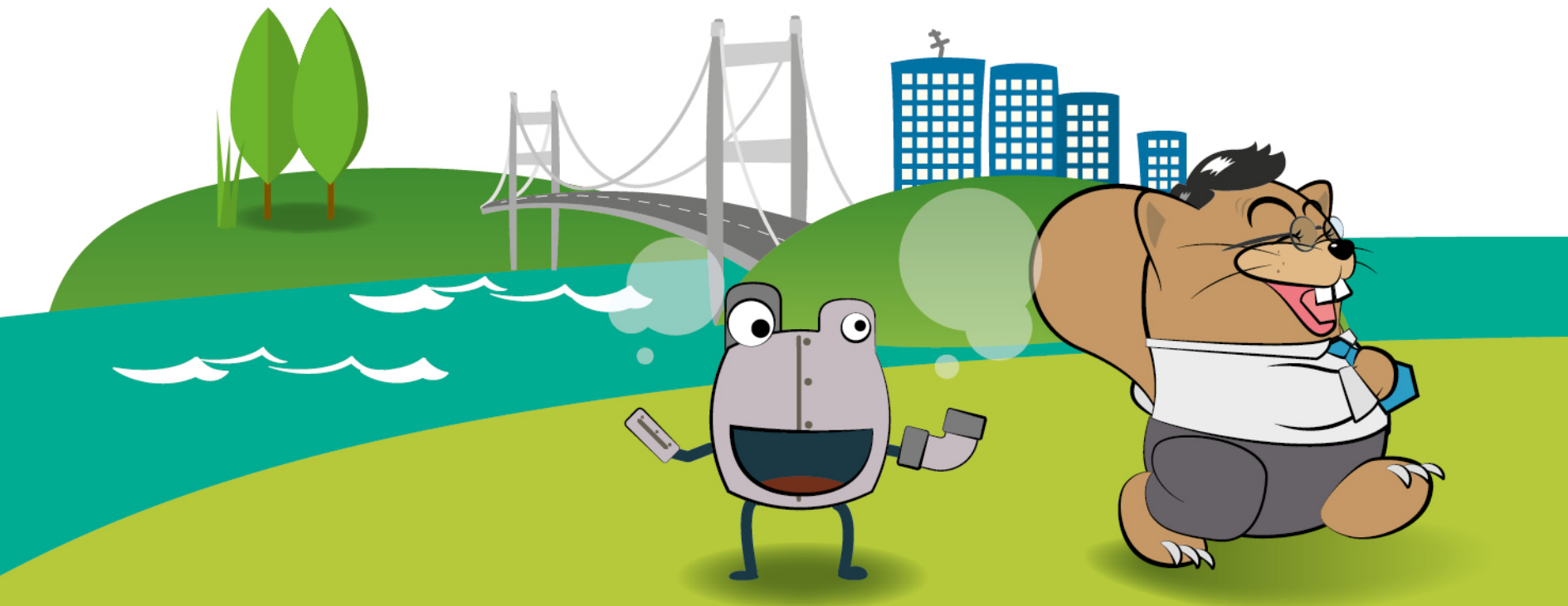
Visual Impact

釋出土地位處海濱，在釋出土地上的發展應與附近建築物視覺上兼容。適當的設計能美化海濱及城市輪廓。

Given the waterfront location of the Released Site, the future development on the Released Site should be visually compatible with the surrounding buildings. Appropriate design measures could embellish the waterfront and cityscape.



筆記 NOTES





發表您的意見 PROVIDE YOUR VIEWS

我們希望聆聽您對搬遷深井污水處理廠及釋出土地可能用途的寶貴意見。

We would like to hear your valuable views on the relocation of Sham Tseng Sewage Treatment Works and the possible uses on the Released Site.

郵寄地址 Mail Address

香港灣仔告士打道5號稅務大樓42樓 渠務署顧問工程管理部

(請註明「搬遷深井污水處理廠往岩洞－可行性研究」)

Drainage Services Department / Consultants Management Division,
42/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong

(Please specify "Relocation of Sham Tseng Sewage Treatment Works to Caverns – Feasibility Study")

熱線電話 Hotline 3142 2256

傳真 Fax 2827 8526

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網頁 Website www.smtstwincaverns.hk

歡迎您在
2016年2月29日或之前將
您的意見以郵遞、熱線電話、
傳真或電郵方式送交我們。

If you have any comments or
suggestions, please send them
to us by post, hotline, fax or
e-mail on or before
29 February 2016.



公眾參與 PUBLIC ENGAGEMENT

誠邀您參加我們的公眾參與活動：

You are welcome to join our public engagement activities:

巡迴展覽 ROVING EXHIBITIONS

28/12/2015 - 7/1/2016

深井深慈街遊樂場（位於深井污水處理廠旁）
Sham Tsz Street Playground, Sham Tseng
(next to the Sham Tseng Sewage Treatment Works)

8 - 18/1/2016

荃灣西樓角路38號荃灣政府合署2樓大堂
2/F Lobby, Tsuen Wan Government Offices
38 Sai Lau Kok Road, Tsuen Wan

19 - 29/1/2016

荃灣深井村路深井臨時遊樂場
Sham Tseng Temporary Playground
Sham Tseng Tsuen Road, Tsuen Wan

社區工作坊 COMMUNITY WORKSHOP

30/1/2016 2:30pm - 5:00pm

深井天主教小學

Sham Tseng Catholic Primary School

如欲參與社區工作坊，可透過網頁上的網上報名表格登記，或從網頁下載報名表格，以電郵/傳真/郵寄遞交。截止報名日期為22/1/2016。成功報名人士將會優先安排入座。

To participate in the Community Workshop, please register through the online registration form on our website on or before 22 January 2016. Alternatively, you could download the registration form from our website and submit the completed form by email, fax or post. Successful applicants will have priority admittance for seating.

註：活動日期/地點或會因需要而更改，請到網頁了解活動詳情。

Note: Date/venue of the events are subject to change, please refer to our website for the latest announcement.