

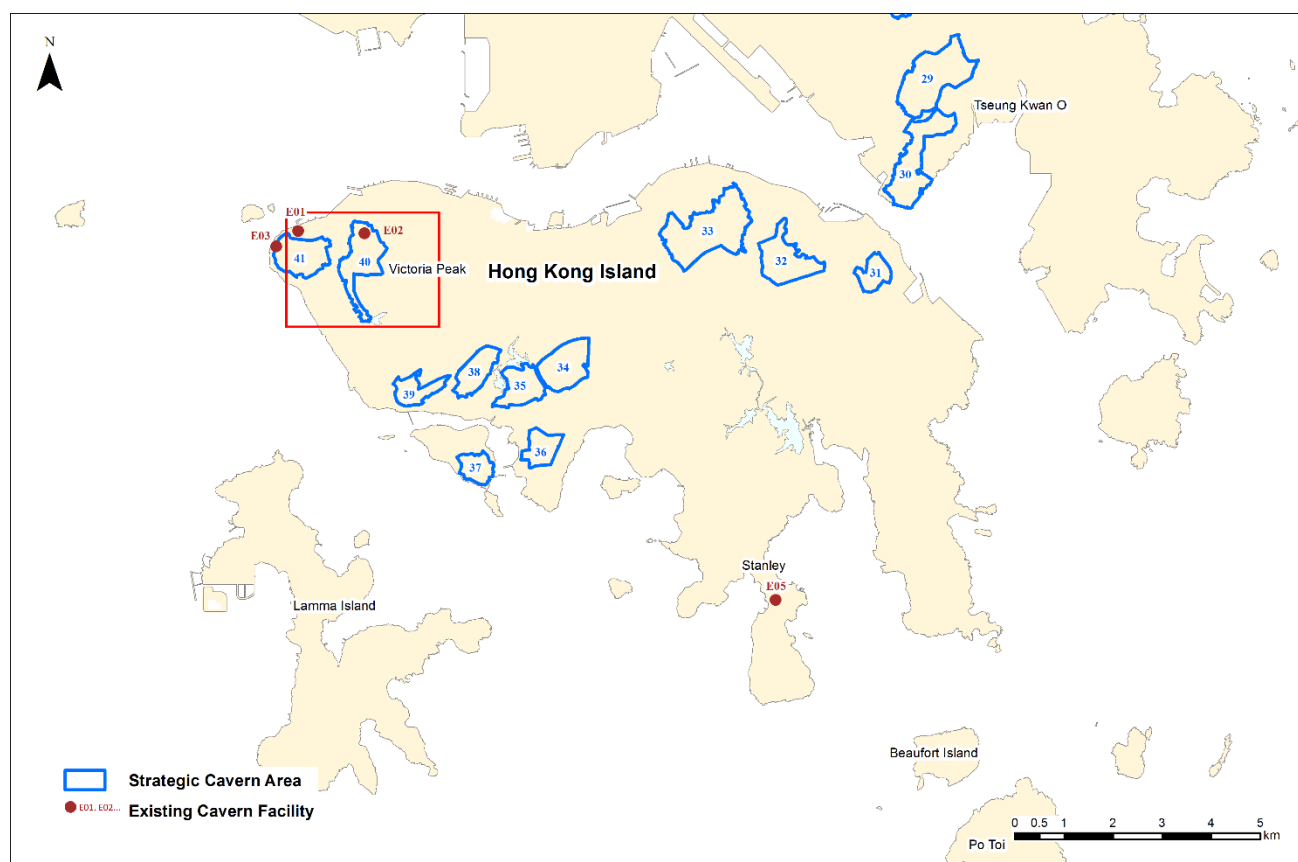
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 40 – POK FU LAM

This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 40 - Pok Fu Lam (the SCVA). It indicates the potential land uses suitable for cavern development within the area but would not pre-empt other possible land uses put forward by the project proponents with justifications. It also denotes the extent of potential portal locations. The spatial context of the SCVA is illustrated in the Reference Drawing appended to this Information Note.

Reference should be made to the Explanatory Statement of the Cavern Master Plan for its background and purposes, as well as the definition and delineation criteria of SCVAs.

1. Location Plan



2. Strategic Cavern Area Details

Outline Zoning Plans (OZPs):	Draft Pok Fu Lam OZP No. S/H10/16 Approved Mid-Levels West OZP No. S/H11/15 Draft The Peak Area OZP No. S/H14/12
Area:	86.1 ha
Maximum elevation in the SCVA:	+360 mPD
Minimum elevation in the SCVA:	+75 mPD

3. District Context

Location

The SCVA is located in the northwestern part of Hong Kong Island. It occupies the area of Lung Fu Shan in Mid-Levels. Sai Wan and Sai Ying Pun are to the north and northeast of the SCVA, Victoria Peak and Pok Fu Lam Country Park are to the east and south, Pok Fu Lam is to the southwest and Kennedy Town is to the west.

The SCVA is generally hilly with a maximum elevation of about +360 mPD. A majority of the SCVA encroaches onto Lung Fu Shan Country Park and Pok Fu Lam Country Park. Besides, the SCVA abuts the Pok Fu Lam Catchment Area Site of Special Scientific Interest (SSSI) at its southeast.

To the west, north and northeast of the SCVA, the areas of Kennedy Town, Sai Wan and Sai Ying Pun are predominantly residential communities with high-density developments. These include Kwun Lung Lau (about 400 m to the west of the SCVA), Connaught Garden (about 800 m to the northeast of the SCVA) and Academic Terrace (about 100 m to the northwest of the SCVA). These areas are supported by a number of key Government, Institution and Community (GIC) facilities and other facilities which also serve the territory, including the University of Hong Kong (at the northern boundary of the SCVA), Chinese Christian Cemetery (at the western boundary of the SCVA), Queen Mary Hospital (at the western boundary of the SCVA), Kotewall Road Fresh Water Service Reservoir and Hatton Road No. 2 Fresh Water Service Reservoir (both at the northeastern boundary of the SCVA) and Victoria Road Fresh Water Service Reservoir (about 300 m to the southwest of the SCVA).

Western Salt Water Service Reservoir and Western No. 2 Salt Water Service Reservoir beside the University of Hong Kong Centennial Campus at the northern portion of the SCVA are the existing cavern facilities.

Access

The SCVA is accessed from its northern and southwestern edges via Pok Fu Lam Road and the slope behind Queen Mary Hospital. Regional connections could be routed through Pok Fu Lam Road, Connaught Road West and Western Harbour Crossing.

The MTR Island Line serves the locality of Sai Ying Pun, Sai Wan and Kennedy Town. The nearest stations include Sai Ying Pun Station (about 600 m to the northeast of the SCVA), HKU Station (about 100 m to the north of the SCVA) and Kennedy Town Station (about 300 m to the northwest of the SCVA). The proposed South Island Line (West), with an indicative implementation window from 2021 to 2026 recommended for planning, will serve the western and southern parts of Hong Kong Island. This proposed railway line, together with the South Island Line and the Island Line, will form a railway loop covering the central and western parts of Hong Kong Island. The South Island Line (West) will comprise HKU Station and a proposed station at the Queen Mary Hospital (exact location to be determined) serving the locality of the SCVA.

Land Use Zoning

Under the Draft Pok Fu Lam OZP No. S/H10/16, the Approved Mid-Levels West OZP No. S/H11/15 and the Draft The Peak Area OZP No. S/H14/12, the majority of the SCVA falls within an area zoned “Country Park” (“CP”), which is part of Lung Fu Shan Country Park and Pok Fu Lam Country Park. The portions in the north, west and south are zoned “Green Belt” (“GB”), with “Government, Institution or Community” (“G/IC”) zones in the north and south sides. The zoning of the surrounding areas includes “CP”, “GB”, “G/IC”, “Residential (Group B)”, “Residential (Group C)”, “Open Space”, “Other Specified Uses” annotated “Cemetery” and “Other Specified Uses” annotated “Petrol Filling Station”.

For details of the latest land use zonings on OZPs, please refer to the Town Planning Board website (<http://www.tpb.gov.hk>).

4. Summary of Characteristics of Strategic Cavern Area

4.1. Boundary

The northern boundary of the SCVA is defined by the University of Hong Kong. The eastern boundary of the SCVA is defined by the Pok Fu Lam Reservoir Catchment Area SSSI, and also by an extent of 800 m from the potential portal locations. The western boundary of the SCVA is defined by Queen Mary Hospital and private lots along Pok Fu Lam Road. The southern boundary of the SCVA is defined by Pok Fu Lam Reservoir Road and private lots along Pok Fu Lam Road.

4.2. Geology

The solid geology of the SCVA is primarily fine ash vitric tuff in the central and southern portions, which belongs to Ap Lei Chau Formation; coarse ash crystal tuff in the northern portion, which belongs to Mount Davis Formation; and localised medium-grained granite in the northern and southwestern portions, which belongs to Kowloon Granite. The SCVA is with the rock types that are suitable for cavern development. A number of geological features, such as faults, photolineaments and folds, are identified within and in areas surrounding the SCVA. The excavated medium-grained granite in the northern and southwestern portions of the SCVA is suitable for reuse as construction aggregate. Other excavated rocks can be used as road base materials and for asphalt production, etc.

Further geological information of the SCVA can be found on the 1:20,000-scale Geological Map Sheet 11 (Hong Kong & Kowloon) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

4.3. Planning

The SCVA is adjacent to various residential areas in Kennedy Town, Sai Wan and Sai Ying Pun. The SCVA is also well connected to the rest of the territory by roads and railway. There is potential for the SCVA to support the development of these areas.

The areas of Kennedy Town, Sai Wan and Sai Ying Pun are major residential communities consisted of high-rise developments (e.g. Kwun Lung Lau, Connaught Garden and Academic Terrace) supported by various GIC facilities (e.g. hospital, school, sewage treatment works and service reservoir, etc.). In view of the existing compact and high density built environment and the increasing population in these areas, there is opportunity for the SCVA to provide solution space to support such expansion and to improve the provision of GIC facilities for the community, such as by providing additional suitable community facilities (e.g. leisure centre/sports centre) in caverns. Also, relocation of existing infrastructure facilities (e.g. service reservoir) to caverns could be considered to release surface land for other uses (e.g. community facilities). This could enable more effective utilisation of land resources in the areas while preserving the landscape of Lung Fu Shan as a natural backdrop to the adjacent communities.

The SCVA is situated in a strategic location being adjacent to the University of Hong Kong, Queen Mary Hospital and the associated facilities in Sai Wan and Pok Fu Lam. The development of these facilities should be further enhanced, for example, by housing research/testing laboratories in caverns in support of the relevant high value-added research and development. This would also be in line with the six strategic industries where Hong Kong enjoys clear advantages, as outlined in the 2010/11 Policy Address, including education facilities, medical services, testing and certification services, innovation and technology, environmental industries, cultural and creative industries.

The western side of the SCVA is directly facing the existing Chinese Christian Cemetery with other related facilities. Should there be any need for additional land for such uses, there is potential for the SCVA to support such need by providing columbarium and related uses in caverns.

It should also be noted that the SCVA falls partly within an area that is restricted by the Pok Fu Lam Moratorium. The Moratorium covers part of the Mount Davis and extends through the Pok Fu Lam area to Wah Fu Estate. The policy of the administrative Moratorium, imposed on traffic grounds, is to:

- (i) defer sale of Government land;
- (ii) defer all further lease modifications which would give rise to a greater intensity of development; and
- (iii) realise any development proposed for the Pok Fu Lam Site, approval to partially uplift the Pok Fu Lam Moratorium will be required.

Any cavern development in this area must take account of the Pok Fu Lam Moratorium, and Transport Department and Lands Department should be consulted with regards to any proposals.

4.4. Environmental

Environmental sensitive receivers to cavern development in the SCVA are the nearby residential developments (e.g. Academic Terrace), and Queen Mary Hospital and the associated facilities, etc. The SCVA comprises natural greenery and Water Gathering Ground. The northeastern part of the SCVA encroaches onto Lung Fu Shan Country Park and a minor portion in the southern part of the SCVA encroaches onto Pok Fu Lam Country Park. The southern boundary of the SCVA abuts the Pok Fu Lam Reservoir Catchment Area Site of Special Scientific Interest. There are natural or modified surface water courses within the SCVA. Several graded historic structures including Pinewood Battery (Grade 2 historic building), Air Vents at the Service Reservoir in Pok Fu Lam Reservoir (Grade 3 historic building), Elliot Treatment Works Building (Grade 3 Historic Building), etc. are located within the SCVA. Several declared monuments, including the Exterior of University Hall and the Exterior of the Main Building of the University of Hong Kong, Pok Fu Lam Reservoir, Masonry Bridge, Gauge Basin and the Former Watchmen's Cottage of Pok Fu Lam Reservoir, are located in the vicinity of the SCVA. Other graded historic buildings, including Nurses Quarters of Queen Mary Hospital, Queen Mary Hospital Main Block (Wing A to E), No. 34 Lugard Road, The Peak, Pok Fu Lam Conduit, Alberose, No. 128 Pok Fu Lam Road as well as Box Culvert, Embankment and Old Masonry Dam of Pok Fu Lam Reservoir, are also located in the vicinity of the SCVA.

All potential environmental constraints, which may impose restrictions on cavern development, should be identified and taken into account in cavern development proposals under the Environmental Impact Assessment Ordinance (EIAO) and other relevant ordinances, such as the Country Parks Ordinance. Project proponents are required to take into account the potential environmental constraints when planning each cavern development project and undertaking the environmental impact assessment under the EIAO to determine its environmental acceptability, potential environmental impacts and environmental mitigation measures required.

4.5. Traffic

The SCVA can be accessed from its northern and southwestern edges via Pok Fu Lam Road and the slope behind Queen Mary Hospital. Regional connections could be routed through Pok Fu Lam Road, Connaught Road West and Western Harbour Crossing.

The road network surrounding the potential portals provides a good level of accessibility from other areas of Hong Kong. Access from the north can be routed via Connaught Road West and the Western Harbour Crossing and access from the south can be routed via Shek Pai Wan Road, all of which are high capacity roads.

It is noted that the SCVA falls partly within the Pok Fu Lam area which is currently restricted by the Pok Fu Lam Moratorium, project proponents are required to take special attention to any potential traffic impacts to the Pok Fu Lam area when planning cavern development. In view of the local concerns, any potential local and accumulative traffic impacts to the district as a whole should also be assessed and minimized as far as possible.

4.6. Other Key Issues / Constraints on Cavern Development

A Drainage Services Department's tunnel namely the Hong Kong West Drainage Tunnel and one of its adits pass through the SCVA from east to southwest. Two Water Supplies Department's tunnels are located in the vicinity of the SCVA, including (1) the Pok Fu Lam tunnel about 50 m to the south of the SCVA; and (2) an unnamed tunnel about 100 m to the west of the SCVA. The proposed railway tunnel for the South Island Line (West) will be in close proximity to the western boundary of the SCVA. The existing railway tunnel for the Island Line is about 50 m to the north of the SCVA. Several abandoned tunnels are about 500 m to the northwest, 100 m to the north, 400 m to the northeast and 500 m to the east of the SCVA respectively. Po Shan Road Drainage Tunnels of the Lands Department, are about 150 m to the east of the SCVA. Owing to the difference in elevations and/or horizontal separations with respect to the extent of potential portal locations, these tunnels would not pose any insurmountable constraint on cavern development within the SCVA.

Water Supplies Department Western Salt Water Service Reservoir and Western No. 2 Salt Water Service Reservoir are located in two caverns in the northern portion of the SCVA. There will be interfacing issues should there be any cavern development in the SCVA in the vicinity of these cavern facilities.

5. Potential Land Uses

The potential land uses for the SCVA are as follows:

Land use	Description
Columbarium	<p>The SCVA has good connectivity and is easily accessible by the general public with railway stations at Sai Ying Pun, the University of Hong Kong and Kennedy Town. The SCVA is also located adjacent to the Chinese Christian Cemetery in Pok Fu Lam. There is potential for the SCVA to provide space for columbarium in caverns to meet the future demand. Some of the potential portal locations of the SCVA are away from existing residential areas and directly fronting the existing cemetery, which makes it more compatible with such land use.</p>
Leisure Centre/Sports Centre	<p>The SCVA is located close to a large population catchment as it is adjacent to the various existing major residential communities in Kennedy Town, Sai Wan and Sai Ying Pun. There is potential for the SCVA to support these neighbouring communities by providing additional supporting community facilities, such as leisure centre/sports centre, to meet the rising demand.</p> <p>Some of the potential portal locations are in close proximity to the existing residential developments (e.g. Academic Terrace) and also the railway stations at Sai Ying Pun, the University of Hong Kong and Kennedy Town. The ease of access for the local residents further enhance the potential for housing such facilities in the SCVA.</p>

Land use	Description
<p style="text-align: center;">Research/Testing Laboratories</p>	<p>The location of the SCVA is strategic in nature for being near the University of Hong Kong and Queen Mary Hospital. It is supported by convenient transport infrastructure enabling regional connections. This provides a favourable setting for the SCVA to house research/testing laboratories, to support the high value-added research and development for the university and medical industry in the area. Other hospital related uses could also be considered, including the housing of radioactive substances/facilities (e.g. proton treatment or other cancer treatment facilities).</p> <p>The development of research/testing laboratories is in line with the six strategic industries where Hong Kong enjoys clear advantages, as outlined in the 2010/11 Policy Address (i.e. education facilities, medical services, testing and certification services, innovation and technology, environmental industries, cultural and creative industries).</p>
<p style="text-align: center;">Service Reservoir</p>	<p>Given the proximity to the existing major residential communities in Kennedy Town, Sai Wan and Sai Ying Pun, there is opportunity for the SCVA to provide alternative space for relocating the existing service reservoirs in the vicinity, so as to release the surface land for other uses to support the neighbouring communities.</p>

Note: Zoning amendment/planning application may be required to facilitate the pursuit of the above potential land uses.

6. Extent of Potential Portal Locations

The extent of the potential portal locations is shown on the Reference Drawing.

The SCVA is generally accessed from the slope behind Queen Mary Hospital to the south; Pok Fu Lam Road to the west; and the slope at Pokfield Road Bus Station adjoining Pok Fu Lam Road to the northwest of the SCVA.

An extent of potential portal location is located at a natural slope behind Queen Mary Hospital. Accessing potential portal location has to be via the existing roads within the area of Queen Mary Hospital. Cavern uses related to the future development of Queen Mary Hospital could consider using this extent of potential portal location.

The potential portal locations along Pok Fu Lam Road, are located at the slopes along the carriageway. Portal access could be formed by local widening of the roads with provision of suitable run in/out traffic system or priority junction to minimise the disruption to the existing road network. The extent of potential portal locations at Pokfield Road Bus Station falls within an area zoned “Other Specified Uses” annotated “Petrol Filling Station”. The potential safety hazard implications of the petrol filling station should be fully assessed should this location be considered for cavern development.

All potential portal locations of the SCVA are with natural slopes above. There may be potential natural terrain hazards in the vicinity which will require further study by the project proponents.

Project proponents should carry out further studies on identifying specific locations of portals for the proposed cavern development.

Apart from the abovementioned extent of potential portal locations, the northern boundary of the SCVA adjoining the University of Hong Kong could also be considered as potential portal location. Access to the SCVA could be provided along University Drive, which is currently a restriction road connecting Kotewall Road and Bonham Road. Cavern uses related to the future development of the University of Hong Kong could consider using this extent of potential portal location.

7. Concluding Remarks

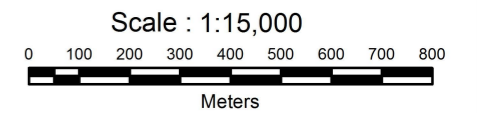
The SCVA presents an opportunity for rock cavern developments to serve the neighbouring communities (e.g. by housing leisure centre/sports centre or service reservoir) and support the development of the university and hospital in the area (e.g. by housing research/testing laboratories). Also, there is potential for the SCVA to provide columbarium and related uses in caverns to meet the future territorial demand. Project proponents for cavern development should take due consideration of the existing and proposed residential developments, environmental sensitive receivers, accessibility for cavern development and development constraints posed by the Pok Fu Lam Moratorium, to minimise the interfacing issues and bring about greater synergy and opportunities.

8. Notes

The Cavern Master Plan and all supporting documents do not exempt project proponents for cavern development from following the relevant statutory and planning procedures. Information including the potential land uses and the extent of potential portal locations indicated in this Information Note should serve as reference materials only. In formulation of development proposals, project proponents should conduct the necessary studies and assessments relevant to each project stage. Reference should be made to the “Implementation” section of the Explanatory Statement of the Cavern Master Plan for further details.



- ### Legend
- Strategic Cavern Area
 - Extent of Potential Portal Locations
 - Committed Major Road
 - Existing Railway Line
 - Proposed Railway Line
 - Existing Tram
 - Cable Tunnel / Gas Tunnel
 - Vehicle Tunnel
 - Drainage Services Department Tunnel
 - Water Supplies Department Tunnel
 - Lands Department Tunnel
 - Abandoned Tunnel
 - Reservoir / River / Sea
 - Site of Archaeological Interest
 - Government Historic Site Identified by AMO
 - Graded Historic Building
 - Declared Monument (Historic Building)
 - Private Lot
 - Country Park
 - Site of Special Scientific Interest



REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 40 - POK FU LAM