

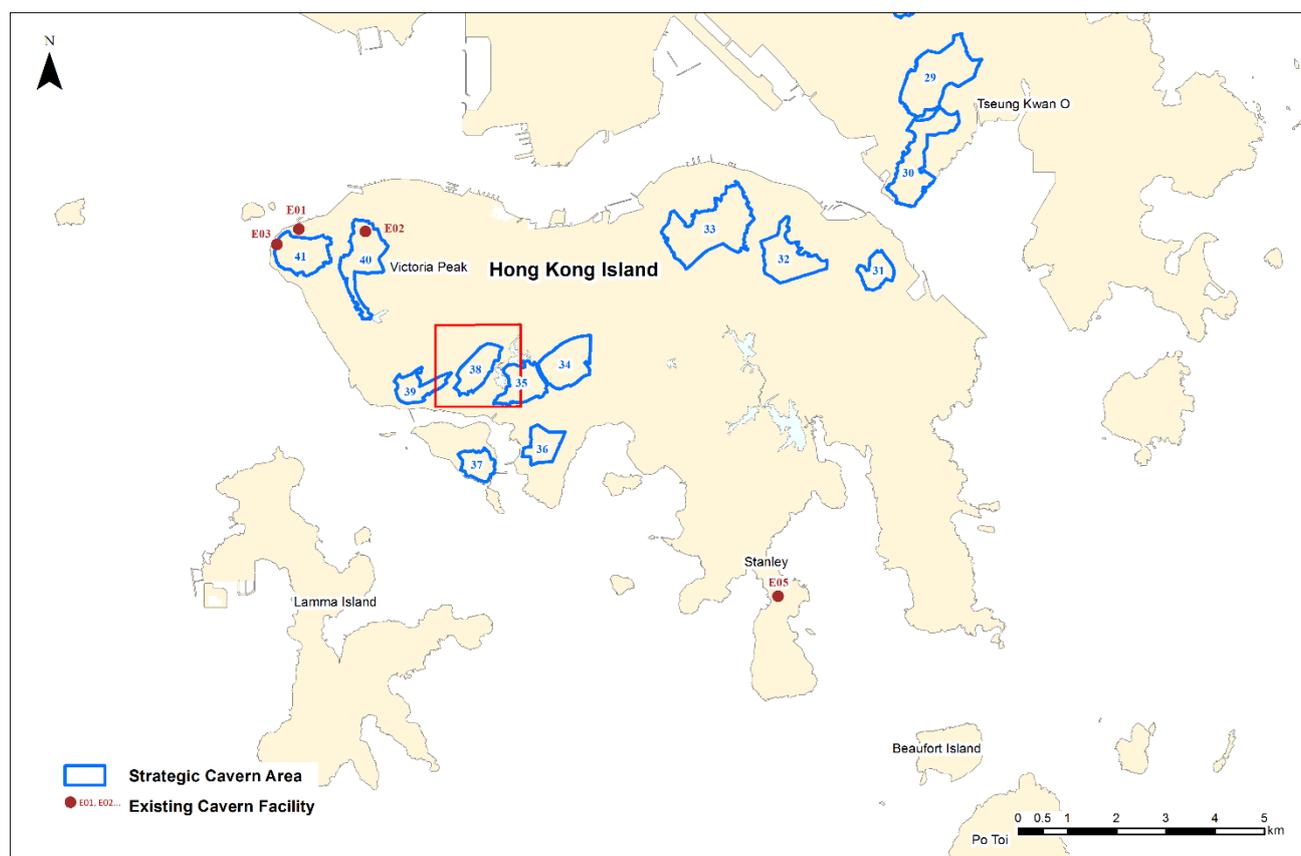
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 38 – TIN WAN SHAN

This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 38 - Tin Wan Shan (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 Plan (OZP):	Draft The Peak Area OZP No. S/H14/12 Draft Aberdeen & Ap Lei Chau OZP No. S/H15/32
Area:	51.5 ha
Maximum elevation in the SCVA:	+252 mPD
Minimum elevation in the SCVA:	+34 mPD

3. District Context

Location

The SCVA is located in the southwestern part of Hong Kong Island. It occupies the area of Tin Wan Shan in Aberdeen. Aberdeen Country Park is to the north of the SCVA, Shek Pai Wan and Wong Chuk Hang are to the southeast, Aberdeen is to the south, and Tin Wan is to the southwest.

The SCVA is generally hilly with a maximum elevation of about +252 mPD. A majority of the SCVA encroaches onto Aberdeen Country Park. To the southeast, south and southwest of the SCVA, the areas of Shek Pai Wan, Aberdeen and Tin Wan are predominantly residential communities with medium- to high-rise developments. These include Yue Kwong Chuen (at the southeastern boundary of the SCVA), Shek Pai Wan Estate (about 250 m to the southeast of the SCVA), Aberdeen Centre (about 250 m to the south of the SCVA) and Tin Wan Estate (about 200 m to the southwest of the SCVA). In Aberdeen and Tin Wan, industrial related uses are intended to be phased out gradually through redevelopment for residential uses.

In the proximity of the SCVA, there are a number of key Government, Institution and Community (GIC) facilities supporting the development of surrounding areas, including Aberdeen Fresh Water Service Reservoir (about 50 m to the southeast of the SCVA), Aberdeen Water Treatment Works (about 50 m to the southeast of the SCVA) and Yue Kwong Road Sports Centres (about 120 m to the south of the SCVA). Aberdeen Chinese Permanent Cemetery is at the southwestern boundary of the SCVA. To the further southeast of the SCVA, the industrial area of Wong Chuk Hang has been rezoned to “Other Specified Uses” annotated “Business” and gradually transformed into a new business area for information technology and telecommunications industries, non-polluting industries, office and other commercial uses, with high-rise developments clustering along Wong Chuk Hang Road and Heung Yip Road.

Access

The SCVA is accessed from its southeastern edge via Aberdeen Reservoir Road. Regional connections to the northern and western parts of Hong Kong Island could be routed through Aberdeen Praya Road, Wong Chuk Hang Road and Aberdeen Tunnel.

The MTR South Island Line serves the neighbouring areas of the SCVA. The nearest station is Wong Chuk Hang Station, which is about 1,200 m to the southeast of the SCVA. The proposed MTR 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. The South Island Line (West), 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 a proposed station at Aberdeen (exact location to be confirmed) serving the locality of the SCVA.

Land Use Zoning

Under the Draft The Peak Area OZP No. S/H14/12 and the Draft Aberdeen & Ap Lei Chau OZP No. S/H15/32, the majority of the SCVA falls within an area zoned “Country Park” (“CP”), which is part of Aberdeen Country Park and with a small remaining portion zoned “Green Belt” (“GB”) and “Government, Institution or Community” (“G/IC”) in the south. The zoning of the surrounding areas includes “CP” in the northeast and northwest (also part of Aberdeen Country Park), “G/IC”, “Residential (Group A)”, “GB”, “Other Specified Uses” annotated “Cemetery” and “Residential (Group E)” to the southeast and southwest of the SCVA.

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

There is currently no existing or planned cavern facility within the SCVA.

4. Summary of Characteristics of Strategic Cavern Area

4.1. Boundary

The southern boundary of the SCVA is defined by Peel Rise, St. Peter’s Secondary School and the Aberdeen Chinese Permanent Cemetery. The eastern boundary of the SCVA is defined by Aberdeen Reservoir Road. The western boundary of the SCVA is defined by Peel Rise and a geological photolineament. The northern boundary of the SCVA is defined by an extent of 800 m from the potential portal locations.

4.2. Geology

The solid geology of the SCVA is primarily fine ash vitric tuff in the northeastern and southwestern portions, which belongs to Ap Lei Chau Formation; and coarse ash crystal tuff in the central portion, which belongs to Mount Davis Formation. 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 rocks within the SCVA 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) and Map Sheet 15 (Hong Kong South & Lamma Island) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

4.3. Planning

The SCVA is fronting various residential and industrial/business areas in Shek Pai Wan, Wong Chuk Hang, Aberdeen and Tin Wan. The SCVA is also well connected to the rest of the territory by roads and railways. There is potential for the SCVA to support their developments.

The areas of Tin Wan, Aberdeen and Shek Pai Wan are major residential communities consisted of medium- to high-rise developments (e.g. Yue Kwong Chuen and Tin Wan Estate) supported by various GIC facilities (e.g. sports centre, school, water treatment works, service reservoir, etc.). The industrial areas in Tin Wan and Aberdeen have been rezoned to “Residential (Group E)” (except for the waterfront industrial area) and are intended to be transformed into residential areas gradually. There is also a plan to redevelop the aged Yue Kwong Chuen for the improvement of the living environment and provision of more residential flats. In view of the possible large population induced by these planned residential developments, the SCVA would be able to provide the solution space to support such expansion by providing additional suitable GIC facilities (e.g. leisure centre/sports centre) and retail uses in caverns to serve the expanding urban development whilst balancing community needs. Further, relocation of infrastructure facilities (e.g. service reservoir) to caverns could also be another option for releasing 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 Tin Wan Shan as a natural backdrop to the adjacent communities.

The industrial area of Wong Chuk Hang has been rezoned to “Other Specified Uses” annotated “Business” and gradually transformed into a business area with information technology and telecommunications industries, non-polluting industries, office and other commercial uses. In particular, various wine storage facilities have been developed, making use of the spacious industrial buildings and good connectivity available in this area. Should there be any need for expansion of the industry, there is potential for the SCVA to provide new space to accommodate food and/or wine storage related uses. Storage of wine in caverns can benefit from its stable and secure environment.

4.4. Environmental

Environmental sensitive receivers to cavern development in the SCVA are the nearby residential developments (e.g. Yue Kwong Chuen, Yue Fai Court and Shek Pai Wan Estate) and schools (e.g. St. Peter’s Secondary School and Pui Tak Canossian College). The majority of the SCVA encroaches onto Aberdeen Country Park. There are also natural greenery, Water Gathering Ground, natural or modified surface water courses within the SCVA. Pok Fu Lam Country Park and Pok Fu Lam Reservoir Catchment Area Site of Special Scientific Interest are to the west of the SCVA. A number of built heritages are identified in the vicinity of the SCVA, including the Dams of the Aberdeen Upper Reservoir and the Aberdeen Lower Reservoir (both are declared monuments), the Valve House and Pump house of the Aberdeen Lower Reservoir (both are Grade 2 historic buildings), the Aberdeen Management Centre, Chemical House and Air Vents of the Aberdeen Lower Reservoir (both are Grade 3 historic buildings), the Old Aberdeen Police Station, Main Building and two Annexes (Grade 2 historic buildings) and Tin Hau Temple (Aberdeen) (Grade 3 historic building).

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 via Aberdeen Reservoir Road, which is an Urban Local Distributor that leads to Aberdeen Main Road. Regional connections could be routed through Aberdeen Praya Road, Wong Chuk Hang Road and Aberdeen Tunnel.

There have been local concerns on the traffic capacity of the local roads in the Southern District, particularly for Aberdeen Tunnel and Ap Lei Chau Bridge Road. Project proponents should take account of the concerns in formulating cavern development proposals and review and assess any potential traffic impact on both local and district basis.

4.6. Other Key Issues / Constraints on Cavern Development

Under the conceptual scheme of the proposed MTR South Island Line (West), there will be a railway tunnel approximately 200 m to the south of the SCVA. A cable tunnel, namely the Hong Kong Electric Wah Fu - Bowen Road Cable Tunnel, is about 500 m to the northwest of the SCVA. Several abandoned tunnels are identified approximately 200 m to the south and 500 m to the southeast of the SCVA. As these existing and planned underground structures are away from the SCVA, they will not pose any insurmountable constraint on cavern development within the SCVA.

5. Potential Land Uses

The potential land uses for the SCVA are as follows:

Land use	Description
Leisure Centre/Sports Centre	<p>The SCVA is located close to a large population catchment as it is adjacent to the various existing and planned major residential developments in Tin Wan, Aberdeen and Shek Pai Wan. 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>The potential portal locations are in close proximity to the existing residential developments (e.g. Yue Kwong Chuen) and the proposed South Island Line (West) Aberdeen Station. The ease of access for local residents further enhances the potential for housing such facilities in the SCVA.</p>
Retail	<p>For the same reason as described for “leisure centre/sports centre”, the SCVA could also provide new space for retail uses in caverns to support the communities nearby.</p>

Land use	Description
Service Reservoir	Given the close proximity to the existing and planned major residential developments in Tin Wan, Aberdeen and Shek Pai Wan, there is opportunity for the SCVA to provide alternative space for relocating the existing infrastructure facilities (e.g. service reservoirs) in the vicinity, so as to release the surface land for other uses to support the neighbouring communities.
Wine Storage	The SCVA is adjacent to the existing and planned major business areas in Wong Chuk Hang, and also close to the proposed South Island Line (West) Aberdeen Station. The SCVA enjoys good connectivity and can be easily accessed by the general public. In particular, Wong Chuk Hang has been developed with a number of wine storage facilities. There is thus potential to provide space for wine storage related uses to support the commercial development in the areas and meet the demand from both local communities and the territory.

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 location is shown on the Reference Drawing.

The SCVA is accessed along Aberdeen Reservoir Road to the south of the SCVA. The section of road leading to the potential portal location is relatively steep. This would have to be taken into account by the project proponents when planning/developing the proposed land uses in caverns. Access to potential portal could be made via provision of suitable run-in/out or priority controlled junction, depending on the proposed land use.

The potential portal location is on cut slopes with natural terrain 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.

7. Concluding Remarks

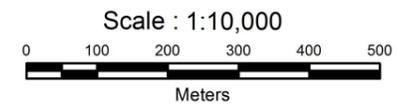
The SCVA presents an opportunity for rock cavern developments to serve the neighbouring residential communities (e.g. by housing leisure centre/sports centre, retail or service reservoir) and provide space for potential commercial uses (e.g. by housing wine storage). Project proponents for cavern development should take due consideration of the existing and proposed residential developments, environmental sensitive receivers, and the accessibility for cavern development, 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
 - Existing Railway Line
 - Proposed Railway Line
 - Cable Tunnel / Gas Tunnel
 - Vehicle Tunnel
 - Drainage Services Department Tunnel
 - Abandoned Tunnel
 - Reservoir / River / Nullah / Sea
 - Graded Historic Building
 - Declared Monument (Historic Building)
 - Private Lot
 - Potentially Hazardous Installation
 - Consultation Zone of Potentially Hazardous Installation
 - Country Park
 - Site of Special Scientific Interest



REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 38 - TIN WAN SHAN