

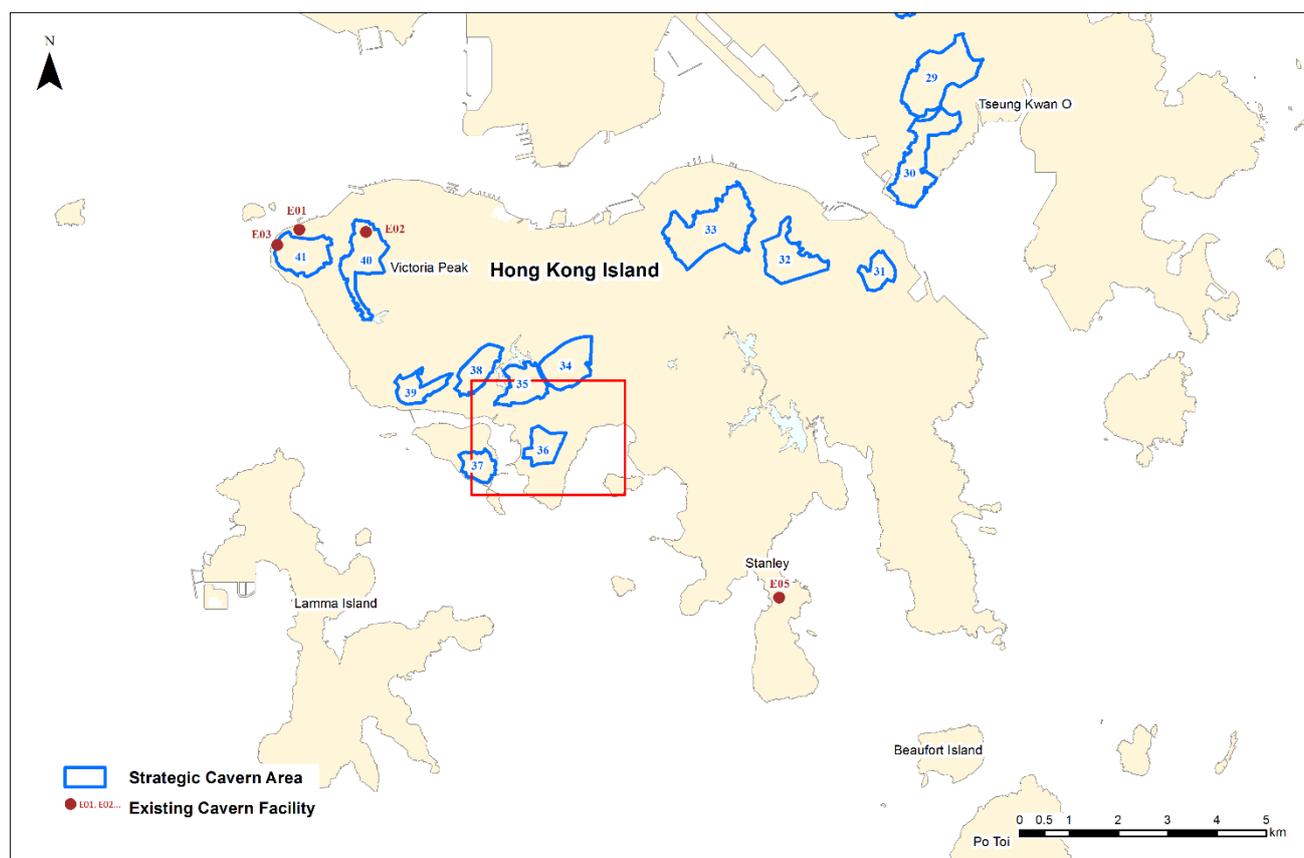
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 36 – NAM LONG SHAN

This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 36 - Nam Long 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):	Approved Aberdeen & Ap Lei Chau OZP No. S/H15/31
Area:	41.7 ha
Maximum elevation in the SCVA:	+285 mPD
Minimum elevation in the SCVA:	+1 mPD

3. District Context

Location

The SCVA is located in the southern part of Hong Kong Island. It occupies the area of Brick Hill (Nam Long Shan) in Wong Chuk Hang. Shouson Hill is to the northeast of the SCVA, Wong Chuk Hang is to the north, Shek Pai Wan and Aberdeen are to the northwest, and Po Chong Wan is to the west.

The SCVA is generally hilly with a maximum elevation of about +285 mPD. To the northeast of the SCVA, the area of Shouson Hill is predominantly residential communities with low-rise developments such as Shouson Peak (about 800 m to the northeast of the SCVA). To the northwest of the SCVA, the industrial area in 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 medium- to high-rise developments clustering along Wong Chuk Hang Road and Heung Yip Road. To the northwest of the SCVA, Shek Pai Wan and Aberdeen are other residential areas with medium to high-rise developments, including Shek Pai Wan Estate (about 1,100 m to the northwest of the SCVA) and Yue Kwong Chuen (about 1,300 m to the northwest of the SCVA). The industrial related uses in Aberdeen are intended to be phased out gradually through redevelopment for residential uses. To the immediate west of the SCVA, there are some high-rise residential developments (such as Broadview Court at about 200 m to the west of the SCVA), a cluster of schools (e.g. Canadian International School and Victoria Shanghai Academy) and a concentration of industrial undertakings including boatyards in Po Chong Wan. This portion of Aberdeen Channel also serves as the Aberdeen South Typhoon Shelter with a number of tourism and private recreational facilities including the Jumbo Floating Restaurant (about 700 m to the west of the SCVA), Aberdeen Boat Club (about 400 m to the west of the SCVA) and the Aberdeen Marina Club (about 450 m to the west of the SCVA). Ocean Park, one of the major recreational theme parks in Hong Kong, is located at the northeastern and southern boundary of the SCVA.

In the proximity of the SCVA, there are a number of key Government, Institution and Community (GIC) facilities supporting the development of surrounding areas and the territory, including a cluster of hospitals and related facilities (such as Grantham Hospital at about 800 m to the north of the SCVA), Hong Kong Police College (at the northern boundary of the SCVA) and Wong Chuk Hang Fresh Water Service Reservoir (at the western boundary of the SCVA).

Access

The SCVA is accessed from its northeastern and western edges via an access road extended from Ocean Park Road, Shum Wan Road and Nam Long Shan Road. Regional connections could be routed through the nearby Wong Chuk Hang Road and Aberdeen Tunnel.

The MTR South Island Line serves the neighbouring areas of the SCVA. The nearest stations include Ocean Park Station (about 550 m to the northeast of the SCVA) and Wong Chuk Hang Station (about 350 m to the north of the SCVA). The 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) which will serve the locality in the proximity to the SCVA.

Land Use Zoning

Under the Approved Aberdeen & Ap Lei Chau OZP No. S/H15/31, the majority of the SCVA falls within an area zoned “Green Belt” (“GB”), with the remaining portion in the northwest zoned “Government, Institution or Community” (“G/IC”). The zoning of surrounding areas includes “GB” to the east, “G/IC” to the north and west, “Industrial” to the west, “Comprehensive Development Area” to the northwest, “Other Specified Uses” annotated “Ocean Park” to the south and northeast and “Coastal Protection Area” to the east and south.

For details of the latest land use zonings on the OZP, 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 northern boundary of the SCVA is defined by the existing “G/IC” zoning (including Hong Kong Police College and other facilities). The eastern boundary of the SCVA is defined by private lots and the Ocean Park Funicular Tunnel. The western boundary of the SCVA is defined by Nam Long Shan Road and Shum Wan Road. The southern boundary of the SCVA is defined by the Ocean Park.

4.2. Geology

The solid geology of the SCVA is primarily fine ash vitric tuff with eutaxite, which belongs to Ap Lei Chau Formation. The SCVA is with a rock type that is 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 material and for asphalt production, etc.

Further geological information of the SCVA can be found on the 1:20,000-scale Geological 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 adjacent to various residential, industrial and tourism areas in Wong Chuk Hang, Shek Pai Wan, Po Chong Wan and Shouson Hill. Given that the SCVA is also well connected to the rest of the territory by roads and railways, there is potential for the SCVA to support the development of these areas.

The areas of Shek Pai Wan, Wong Chuk Hang and Shouson Hill are major residential communities consisted of low- to high-rise developments (e.g. Broadview Court, Shek Pai Wan Estate and Shouson Peak) supported by various GIC facilities (e.g. sports centre, school, hospital, service reservoir, etc.). There is also a plan to redevelop the aged Yue Kwong Chuen for improvement of the living environment and provision of more residential flats. In view of the existing compact and high density built environment and the potential increase in 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, for example, 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 release surface land for other uses (e.g. community facilities). This could enable more effective utilisation of land resources while preserving the landscape of Brick Hill (Nam Long Shan) as a natural backdrop to the adjacent communities.

In Po Chong Wan, there is a concentration of industrial undertakings such as boatyards, taking advantage of the proximity to Aberdeen Channel, Aberdeen South Typhoon Shelter and the existing marinas in Sham Wan. The SCVA could be used for the provision of new space to accommodate industrial type of storage/warehousing facilities in caverns if necessary.

Given that the SCVA is strategically sandwiched by the northern and southern parts of the Ocean Park, there is potential for the SCVA to provide space for themed recreational or retail facilities and the associated vehicle parking facilities in caverns to reinforce the role of the area as a recreational/tourism hub.

4.4. Environmental

Environmental sensitive receivers to cavern development in the SCVA are the nearby residential developments (including Manly Villa and Broadview Court) and schools (including Singapore International School, Victoria Shanghai Academy, Hong Kong Juvenile Care Centre Chan Nam Cheong Memorial School, Marycove School and Canadian International School). The SCVA comprises natural greenery, shrubby and wooded areas, and with natural or modified surface water courses. Coastal Protection Area is located to the east and south of the SCVA along the coastline.

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 its northeastern and western edges via an access road extended from Ocean Park Road, Shum Wan Road and Nam Long Shan Road. Regional connections could be routed through the nearby Wong Chuk Hang Road and Aberdeen Tunnel.

The extent of potential portal locations are all reasonably accessible from the nearest expressway of Wong Chuk Hang Road and from other areas of Hong Kong via the Aberdeen Tunnel, both of which are with high capacity.

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

The Ocean Park Funicular Tunnel is located approximately 50 m to the east of the SCVA. As it is away from the SCVA boundary, it would not pose any insurmountable constraint to cavern development.

5. Potential Land Uses

The potential land uses for the SCVA are as follows:

Land use	Description
<p>Leisure Centre/Sports Centre Recreation Complex</p>	<p>The SCVA is located close to a large population catchment as it is in the vicinity of various existing major residential communities in Shek Pai Wan, Wong Chuk Hang and Shouson Hill. 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 SCVA is strategically sandwiched by the northern and southern parts of the Ocean Park. There is potential for the SCVA to provide additional space to accommodate themed recreational facilities in caverns, to reinforce the recreational/tourism development in the area.</p> <p>The potential portal locations are in close proximity to the existing residential developments (e.g. Broadview Court), Ocean Park Station (about 550 m from the SCVA) and Wong Chuk Hang Station (about 350 m from the SCVA). The ease of access for local residents and the public could further enhance the potential for housing such facilities in the SCVA.</p>
<p>Retail</p>	<p>The SCVA is strategically sandwiched by the northern and southern parts of the Ocean Park. There is potential for the SCVA to provide additional space to accommodate themed retail use in caverns, to reinforce the recreational/tourism development in the area.</p> <p>The potential portal location is in close proximity to Ocean Park Station (about 550 m from the SCVA) and Wong Chuk Hang Station (about 350 m from the SCVA). The ease of access for the public could further enhance the potential for housing such use in the SCVA.</p>

Land use	Description
Service Reservoir	Given that the SCVA is adjacent to various residential and business communities in Shouson Hill, Wong Chuk Hang, Po Chong Wan 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.
Storage/Warehousing	Po Chong Wan is a hub of water-related industrial uses including boatyards, and is adjacent to the Aberdeen South Typhoon Shelter and the existing marinas in Sham Wan. Given that the SCVA is fronting the industrial area and is adjacent to the Aberdeen Channel, it could be used for the provision of new space to accommodate industrial type of storage/warehousing facilities in caverns if necessary.

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 accessed from an access road extended from Ocean Park Road to the northeast; and Shum Wan Road and Nam Long Shan Road to the west.

The access road extended from Ocean Park Road is a narrow restricted road. The extent of potential portal located at a slope adjacent to this road would be suitable to accommodate low traffic-generating activities. Major road upgrading works would be required such that it could be able to support moderate to high traffic-generating activities. Since there is a distance between the potential portal location and the SCVA, a long adit will be required to connect the potential portal and the SCVA. Project proponents should liaise and obtain consent from the relevant parties/stakeholders on the use of the restricted road for cavern development.

The extent of potential portal locations along Shum Wan Road and Nam Long Shan Road are located rather near the residential developments and schools, and so they probably would not be suitable for high traffic generating activities. Both portal locations could be accessed via a run-in/out or priority controlled junction, depending on the proposed land-use.

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

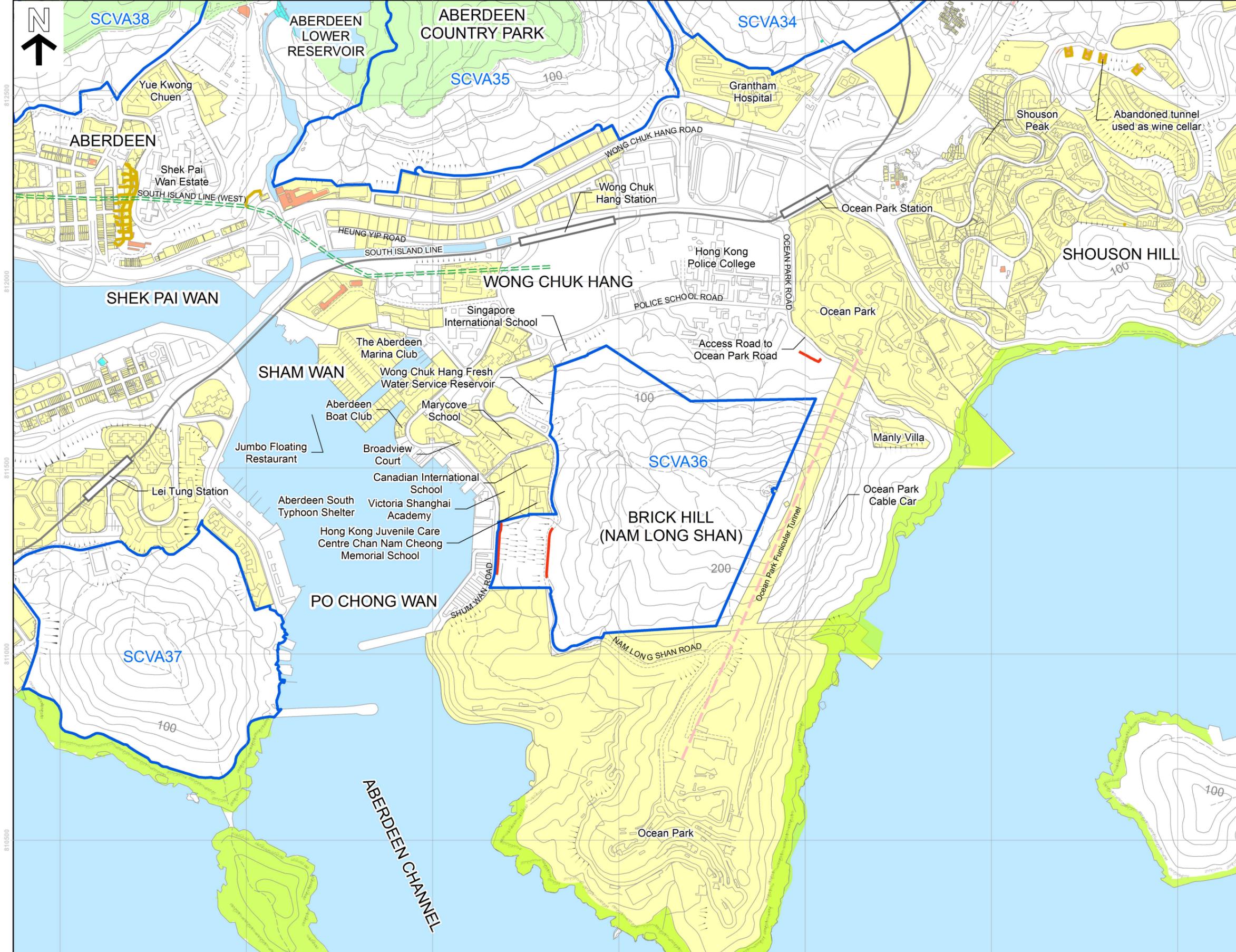
Project proponents should carry out further studies on identifying specific locations of portals for the proposed cavern development.

7. Concluding Remarks

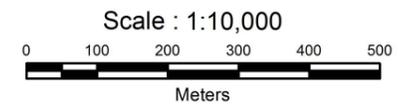
The SCVA presents an opportunity for rock cavern developments to serve the neighbouring residential communities (e.g. by housing service reservoir and/or leisure centre/ sports centre) and support the nearby industrial undertakings (e.g. by housing storage/warehousing facilities). It also has the potential to develop related recreational and retail uses in caverns in support of the Ocean Park and the recreational/tourism development in the area. Project proponents for cavern development should take due consideration of the existing and proposed residential developments, environmental sensitive receivers, and 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
 - Vehicle Tunnel
 - Abandoned Tunnel
 - Reservoir / River / Nullah / Sea
 - Graded Historic Building
 - Declared Monument (Site of Archaeological Interest)
 - Declared Monument (Historic Building)
 - Private Lot
 - Country Park
 - Coastal Protection Area (CPA)



REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 36 - NAM LONG SHAN