

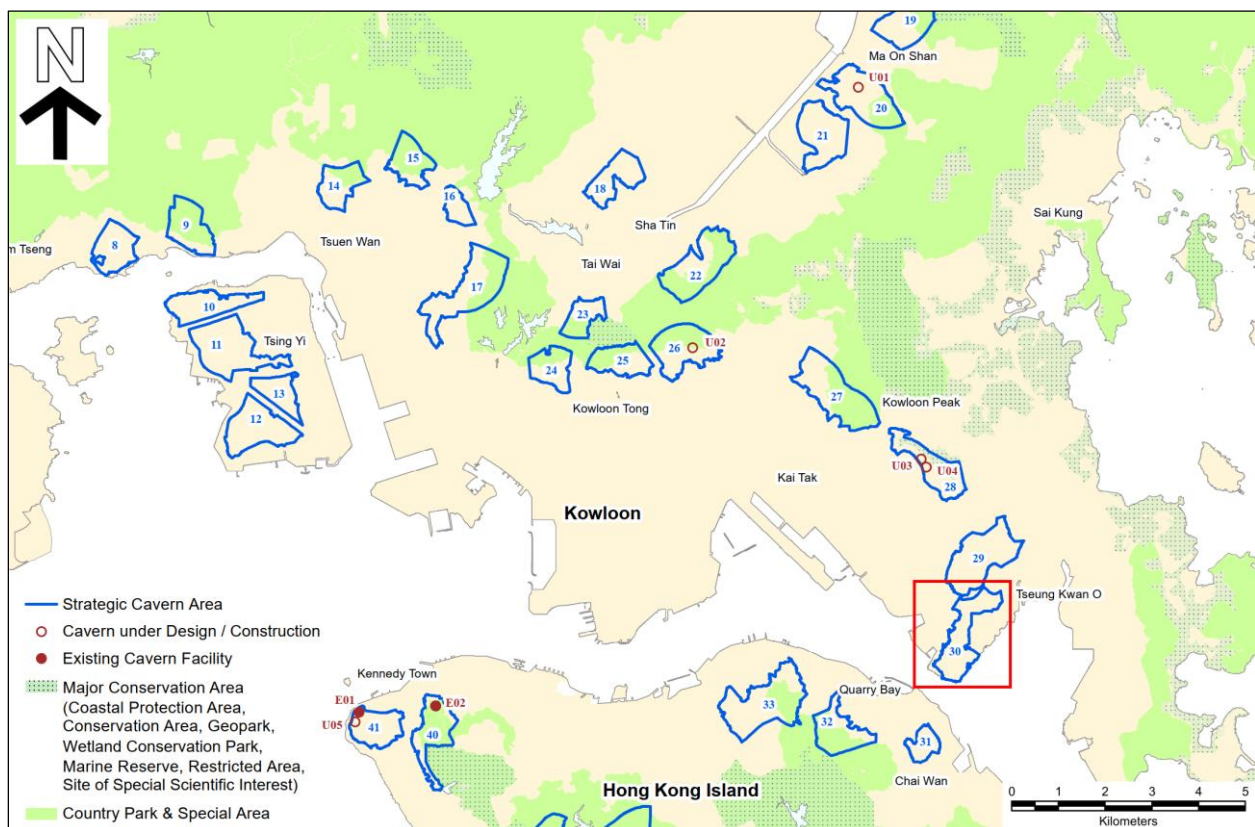
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 30 – YAU TONG

This Information Note describes the characteristics and development constraints of Strategic Cavern Area No. 30 - Yau Tong (the SCVA). 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) ¹ :	Cha Kwo Ling, Yau Tong, Lei Yue Mun OZP Tseung Kwan O OZP
Area:	108.8 ha
Maximum elevation in the SCVA:	+205 mPD
Minimum elevation in the SCVA:	0 mPD

3. District Context

Location

The SCVA is located to the east of Yau Tong in the east Kowloon. It covers the area of Devil's Peak (Pau Toi Shan) and Chiu Keng Wan Shan. Tseung Kwan O town centre is to the northeast of the SCVA, Tiu Keng Leng is to the east, Yau Tong to the west and Lam Tin to the northwest.

The SCVA is generally hilly with a maximum elevation of about +205 mPD. Yau Tong No. 2 Fresh Water Service Reservoir is located in the middle portion of the SCVA, and Che Ting Tsuen and Ma Pui Tsuen are located in the southern portion of the SCVA. There are several residential developments surrounding the SCVA. To the northeast of the SCVA, there is the Tseung Kwan O town centre which mainly consists of high-rise residential developments, including Choi Ming Court (about 400 m to the northeast of the SCVA) and Park Central (about 600 m to the northeast of the SCVA). To the east of the SCVA, Tiu Keng Leng comprises high-rise residential developments, including Shin Ming Estate (at the northeastern boundary of the SCVA), Kin Ming Estate (about 250 m to the northeast of the SCVA) and Ocean Shores (at the northeast boundary of the SCVA). To the west and northwest of the SCVA, Yau Tong and Lam Tin are two major residential areas with high-rise residential developments including Lei Yue Mun Estate (at the western boundary of the SCVA), Ko Yee Estate (at the western boundary of the SCVA), Kwong Tin Estate (about 250 m to the northwest of the SCVA), Hong Nga Court (about 650 m to the northwest of the SCVA), and local villages including On Li Sai Tsuen and Ma Wan Tsuen (both at the southwestern boundary of the SCVA).

¹ For details of the latest land use zonings on the OZPs, please refer to the Town Planning Board Statutory Planning Portal 3 (<https://www.ozp.tpb.gov.hk/>).

A number of key Government, Institution or Community (GIC) facilities support the development of these residential areas, including Tiu Keng Leng Fresh Water Service Reservoirs (about 100 m to the north of the SCVA), Yau Tong Fresh Water Service Reservoir and Yau Tong Salt Water Service Reservoir (both about 100 m to the northwest of the SCVA), and Lam Tin South Sports Centre (about 500 m to the northwest of the SCVA). Also, the Tseung Kwan O Chinese Permanent Cemetery and Tseung Kwan O Columbarium (both at the eastern boundary of the SCVA) are the GIC facilities supporting both local communities and the territory.

Access

The SCVA is accessible from its northern boundary via Chui Ling Road, and western boundary via Wilson Trail off Ko Chiu Road, Cha Kwo Ling Road, an access road to Yau Tong No. 2 Fresh Water Service Reservoir and Pik Wan Road. Regional connections could be routed through the nearby Tseung Kwan O Road, Tseung Kwan O Tunnel and Eastern Harbour Crossing.

The MTR Kwun Tong Line and Tseung Kwan O Line serve the neighbouring areas of the SCVA. The closest stations include Tiu King Leng Station (interchange station of Tseung Kwan O Line and Kwun Tong Line; about 50 m to the north of the SCVA), Yau Tong Station (interchange station of Tseung Kwan O Line and Kwun Tong Line; about 400 m to the west of the SCVA) and Lam Tin Station (Kwun Tong Line; about 1,100 m to the northwest of the SCVA). The proposed Smart and Green Mass Transit System in East Kowloon (SGMTS-EK) promulgated to connect east Kowloon uphill area (subject to study) located to the north and west of the SCVA.

Existing / Planned Facility in SCVA

There is currently no existing 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 O King Road and Chui Ling Road. The eastern boundary of the SCVA is defined by Tseung Kwan O Chinese Permanent Cemetery and the valley topography. The western boundary of the SCVA is defined by Pik Wan Road, Ko Chiu Road and residential developments, including Ko Chun Court, Ko Yee Estate and Lei Yue Mun Estate. The southern boundary of the SCVA is defined by On Li Sai Tsuen, Ma Wan Tsuen and the coastline.

4.2. Geology

The solid geology of the SCVA is primarily medium-grained granite in the western portion, which belongs to Kowloon Granite; fine-grained granite in the central and eastern portions, which belongs to Mount Butler Granite; and fine ash tuff in the southeastern portion, which belongs to Mount Davis Formation. The SCVA is with the rock types that are suitable for the uses of rock caverns. A number of geological features, such as faults, photolineaments and isolated dykes, are identified within and in areas surrounding the SCVA. The excavated fine-grained granite and medium-grained granite within the SCVA are suitable for reuse as concrete aggregate. Other excavated rock 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 11 (Hong Kong & Kowloon) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

4.3. Planning

The SCVA is surrounded by various high-density urban developments, including those in Tseung Kwan O, Tiu Keng Leng, Lam Tin and Yau Tong. The proposed SGMTS-EK will have Yau Tong East station located in the west of the SCVA (subject to study). The surrounding areas are also well connected by major road networks and railways to the rest of the territory.

The abovementioned high-rise and high-density residential developments in areas surrounding the SCVA (e.g. Kin Ming Estate, Park Central, Shin Ming Estate and Lei Yue Mun Estate) and the local villages (e.g. On Li Sai Tsuen and Ma Wan Tsuen) are supported by various GIC facilities (e.g. sports ground, service reservoir, schools, etc.).

Tseung Kwan O New Town located to the east of the SCVA is a major developed area with residential communities as well as commercial and industrial related uses. In particular, a data centre cluster has been developed in the Tseung Kwan O InnoPark (TKO InnoPark, formerly known as TKO Industrial Estates) (about 3 km to the southeast of the SCVA) being in use to serve the financial, cloud and hosting sectors. Data Technology Hub was launched at TKO InnoPark in 2021.

4.4. Environmental

Environmental sensitive receivers to the potential caverns in the SCVA are the nearby existing residential developments (e.g. Shin Ming Estate, Ko Chun Court, Ko Yee Estate, Lei Yue Mun Estate, Kwong Tin Estate, Ocean Shores, Ma Wan Tsuen, Che Ting Tsuen, Ma Pui Tsuen and On Li Sai Tsuen) and school (e.g. Caritas Bianchi College of Careers). The Fortifications at Devil's Peak (Grade 2 historic buildings) are located in the southern portion of the SCVA, Tin Hau Temple at Ma Wan Tsuen (Grade 3 historic building) and Old Quarry Site Structures at Lei Yue Mun (Grade 3 historic building) are located in southern boundary of the SCVA. The southeastern boundary of the SCVA is on the natural coastline of Junk Bay. In addition, a Coastal Protection Area is located to the southwest of the SCVA. There are natural and modified water courses within the SCVA. There are wooded areas within the SCVA.

All potential environmental constraints, which may impose restrictions on the potential caverns, should be identified and taken into account under the Environmental Impact Assessment Ordinance (EIAO) and other relevant ordinances. Project proponents are required to take into account the potential environmental constraints when planning each 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 boundary via Chui Ling Road, from its western boundary via Wilson Trail off Ko Chiu Road, Cha Kwo Ling Road, the access road to Yau Tong No. 2 Fresh Water Service Reservoir and Pik Wan Road. Regional connections could be routed through the nearby Tseung Kwan O Road, Tseung Kwan O Tunnel and Eastern Harbour Crossing.

The extent of potential portal locations at Chui Ling Road in the northern boundary is easily accessible from the expressway network. The connection to the nearest expressway, i.e. Tseung Kwan O Tunnel Road, is reasonably short in distance which allows for easy connection to other areas of Hong Kong.

The extent of potential portal locations at the western boundary can be easily accessed via the existing primary road network through Lei Yue Mun Road, Kwun Tong Bypass and Eastern Harbour Crossing. Access from other areas of Hong Kong is convenient via the expressway network that links with Kwun Tong Bypass and Eastern Harbour Crossing. The project proponent would be required to assess the traffic impacts on the road networks in the vicinity and carry out traffic improvement measures so as to ensure that the traffic infrastructure could cope with the additional traffic flow brought by the project when considering cavern options in any development proposals in the SCVA. All newly proposed run-in/out or priority junctions or signalised junctions, upgrading of access roads, and dedicated access road should be reviewed in traffic impact assessment. Further advice on the scope of the Traffic Impact Assessment shall be sought by the project proponents.

Special traffic and transport arrangements including road closure may be implemented to the roads close to the extent of potential portal locations along Wilson Trail leading to the Tseung Kwan O Chinese Permanent Cemetery during Ching Ming and Chung Yeung Festivals. Also, there have been local concerns (including those from Kwun Tong District Council members) on the traffic capacity of the local roads in Kwun Tong. Project proponents should take account of the above when considering cavern options.

The southeastern boundary of the SCVA is on the coastline of Junk Bay. Provision of direct marine access can be considered as it may be beneficial to some potential uses that require marine transport.

4.6. Other Key Issues / Constraints on Cavern Development

A Drainage Services Department's tunnel, namely the Harbour Area Treatment Scheme Stage 1 tunnel, passes through the northern portion of the SCVA. A railway tunnel of the Tseung Kwan O Line, passes through the central and northern portions of the SCVA. Tiu Keng Leng Station is located approximately 50 m to the northeastern boundary of the SCVA. The Tseung Kwan O - Lam Tin Tunnel passes through the northern portion of the SCVA. Owing to the difference in elevations, these tunnels and station would not pose any insurmountable constraint on the potential uses of rock caverns within the SCVA.

Project Proponents should take due consideration of the latest progress/ results of the study.

5. Extent of Potential Portal Locations

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

The SCVA can be accessed from the section of Wilson Trail connecting Ko Chiu Road, the roundabout adjacent to Lei Yue Mun Estate connecting Cha Kwo Ling Road, and the slope adjacent to Yau Tong No. 2 Fresh Water Service Reservoir to the west of the SCVA; the open space near the junction between O King Road and Pik Wan Road to the northwest; and Chui Ling Road to the northeast.

The potential portal locations on Wilson Trail and Chui Ling Road are on roadside slopes and access could be made via provision of suitable run-in/out or priority controlled junctions, depending on the proposed use. The access via Chui Ling Road should take into account the nearby MTR Tiu Keng Leng Station to avoid conflict and to better integrate if possible.

The potential portal locations at the slope adjacent to Yau Tong No. 2 Fresh Water Service Reservoir and the roundabout near Lei Yue Mun Estate are on restricted-access roads. Given that the restricted nature, they would unlikely be able to support high traffic-generating activities, without major upgrading of the access roads. Project proponents should liaise with relevant stakeholders/parties for permission to use the restricted roads.

The potential portal location near the junction of O King Road and Pik Wan Road is located in a valley below the road level. The access to the potential portal may be feasible by provision of a dedicated access road across the valley. The project proponent should carry out engineering design and traffic assessment to establish the feasibility.

The project proponents may also explore the feasibility using O King Road as access and potential portal locations. O King Road currently is a non-exclusive right-of-way granted to the Ocean Shores. The project proponents shall consult Lands Department before planning O King Road as access and potential portal locations. If O King Road or any part thereof is required as access and potential portal locations, the project proponent should take up the management and maintenance responsibility of O King Road, subjected to liaison with Lands Department.

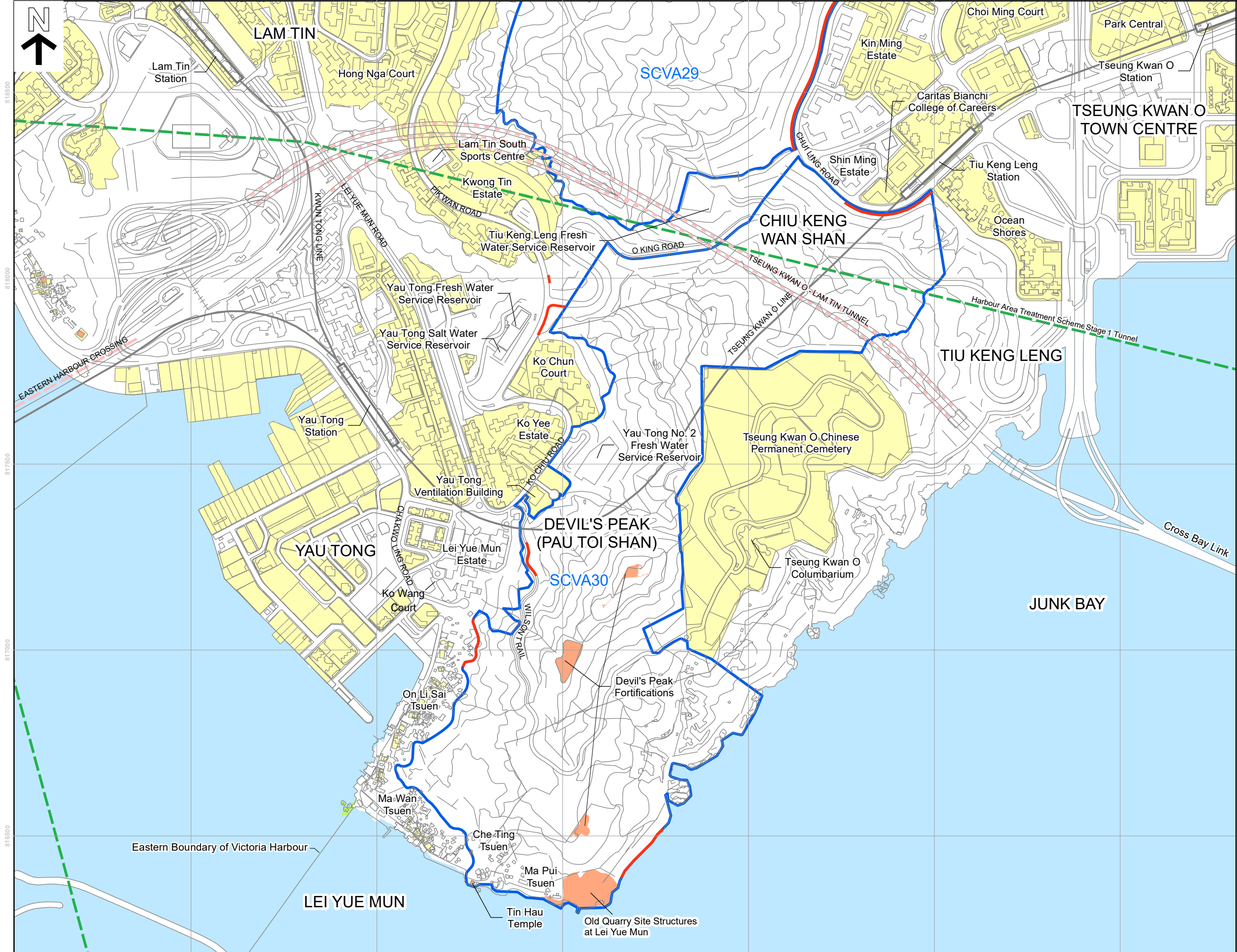
The southeastern boundary of the SCVA is on the coastline. Potential portal access via marine transport to cavern facilities may be explored by the project proponents.

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

Project proponents should carry out further studies on identifying specific locations of portals for projects considering cavern options.

6. Remarks to Information Note

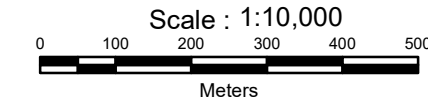
The Cavern Master Plan and all supporting documents do not exempt project proponents for cavern projects from following the relevant statutory procedures. Information including the extent of potential portal locations indicated in this Information Note should serve as reference materials only. In formulation 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 / Light Rail / Tram
- Vehicle Tunnel
- Drainage Services Department Tunnel
- Sea
- Graded Historic Building
- Private Lot
- Coastal Protection Area (CPA)

Note: All private lots located inside the boundary of the Strategic Cavern Area have been excised. Project proponents shall check the latest land status with the Lands Department. Reference should be made to the Explanatory Statement of the Cavern Master Plan for the delineation criteria of Strategic Cavern Area.



REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 30 - YAU TONG

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
PLANNING DEPARTMENT



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