

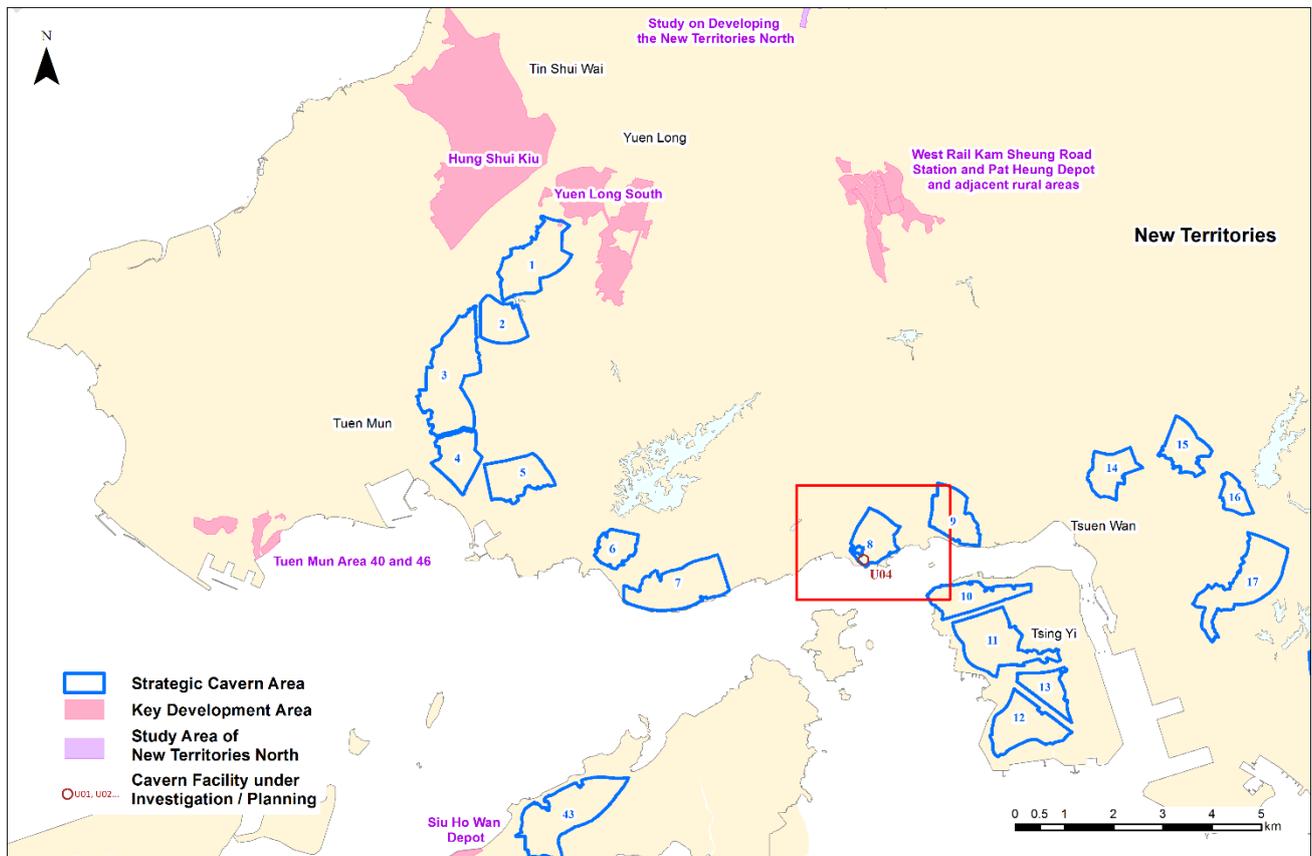
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 08 – SHAM TSENG SOUTH

This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 08 - Sham Tseng South (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 Tsuen Wan West OZP No. S/TWW/19
Area:	73.8 ha
Maximum elevation in the SCVA:	+180 mPD
Minimum elevation in the SCVA:	+7 mPD

3. District Context

Location

The SCVA is located at Sham Tseng in the western part of the New Territories. Tsing Lung Tau is to the west of the SCVA, Ting Kau is to the east, Tai Lam Country Park is to the north and Ma Wan across Ma Wan Channel is to the south.

The SCVA is generally hilly with a maximum elevation of about +180 mPD. Sham Tseng East Village is located on the southwestern part of the SCVA. An area to the southwest of Sham Tseng East Village has been excluded from the SCVA as it comprises areas zoned “Village Type Development” located at both sides of Tuen Mun Road.

Surrounding the SCVA, Sham Tseng is a residential area with low- to high-rise developments as well as local villages, including Vista Del Mar (at the southeastern boundary of the SCVA), Golden Villa (at the southern boundary of the SCVA), Ocean Pointe (about 100 m to the southwest of the SCVA) and Sham Tseng Village (about 600 m to the west of the SCVA). Similarly, along the coastal area fronting Ma Wan Channel, Tsing Lung Tau to the west of the SCVA and Ting Kau to the east of the SCVA are also residential communities with low- to medium-rise developments, such as Sea Crest Villa (about 650 m to the west 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 Sham Tseng, including Sham Tseng Water Treatment Works (about 1,350 m to the west of the SCVA), Sham Tseng West Fresh Water Service Reservoir (about 1,300 m to the west of the SCVA) and Sham Tseng Sewage Treatment Works (close to the southwestern boundary of the SCVA). Under the “Relocation of Sham Tseng Sewage Treatment Works to Caverns – Feasibility Study”, the facility has been proposed for relocation to cavern at the hillside to its northeast across Castle Peak Road (Sham Tseng), which is within the boundary of the SCVA.

Access

The SCVA is accessed from its southern boundary via Castle Peak Road (Sham Tseng and Ting Kau sections). Regional connections could be routed through Castle Peak Road, Tuen Mun Road and Tsing Long Highway. There is no railway serving the locality of the SCVA.

Land Use Zoning

Under the Approved Tsuen Wan West OZP No. S/TWW/19, the entire SCVA is zoned “Green Belt”. The excluded area in southwestern part of the SCVA is with zonings of “Village Type Development” and “Green Belt”. The surrounding areas of the SCVA are mainly zoned “Green Belt”, while there are some “Village Type Development”, “Government, Institution or Community”, “Residential (Group A)”, “Residential (Group C)”, “Residential (Group E)”, “Other Specified Uses” annotated “Sewage Treatment Plant” and “Open Space” zones to the east, south and west.

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 cavern facility in the SCVA. The relocation of Sham Tseng Sewage Treatment Works to rock cavern in the SCVA is currently under feasibility study.

4. Summary of Characteristics of Strategic Cavern Area

4.1. Boundary

The northeastern boundary of the SCVA is defined by Tsing Long Highway. The southern boundary of the SCVA is defined by Castle Peak Road (Sham Tseng and Ting Kau sections), and private lots. The eastern boundary of the SCVA is defined by Tuen Mun Road and private lots. The western boundary of the SCVA is defined by the valley topography and private lots. The area in the southwestern part of the SCVA has been excluded from the SCVA as it comprises areas zoned “Village Type Development” located at both sides of Tuen Mun Road. Individual private lots located on the hillside within the SCVA have been excised from the SCVA. 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 SCVAs.

4.2. Geology

The solid geology of the SCVA is primarily medium-grained granite, which belongs to Lantau Granite; and fine-grained granite within the northern portion, which belongs to Tai Lam Granite. The SCVA is with the rock types that are suitable for cavern development. A number of geological features, such as inferred faults, photolineaments and isolated dykes, are within and in the areas surrounding the SCVA. The excavated fine-grained granite and medium-grained granite within the SCVA are suitable for reuse as construction aggregate.

Further geological information of the SCVA can be found in the 1:20,000-scale Geological Map Sheet 6 (Yuen Long) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

4.3. Planning

Although the SCVA is not served by railway, it is close to the existing urban developments in Sham Tseng, Tsing Lung Lau and Ting Kau. The proposed relocation site of Sham Tseng Sewage Treatment Works is located at the southwestern part of the SCVA. The released surface land after relocation of the facility could accommodate other beneficial uses such as residential development. Given the SCVA is also well connected to the rest of the territory by major highways, namely Castle Peak Road and Tuen Mun Road, there is potential for the SCVA to support the development of the areas.

The areas surrounding the SCVA are mainly the residential development areas in Sham Tseng, Tsing Lung Lau and Ting Kau. These areas consist of various high- to low-rise residential developments (e.g. Bellagio and Ocean Pointe) as well as local villages (e.g. Sham Tseng Village) supported by a number of GIC facilities (e.g. sewage treatment works, service reservoir, water treatment works). The SCVA is considered to have the potential of housing 'Not-In-My-Backyard' (NIMBY) type of facilities, such as sewage treatment works, to minimise the nuisance to the community. The proposed relocation of Sham Tseng Sewage Treatment Works to cavern in the SCVA is one of the examples, which is currently under feasibility study.

Coupled with the potential released site by relocating Sham Tseng Sewage Treatment Work, there is potential for the SCVA to be planned and developed holistically to bring about greater synergy effects, and to enable more effective utilisation of land resources in Sham Tseng. In view of this potential future development, as well as the existing communities, the SCVA could provide suitable community facilities, such as leisure centre/sports centre or civic centre, to serve the rising need of the existing/future communities in a scale proportionate to the then development context in the area. Project proponents should take into account the latest development of the Sham Tseng Sewage Treatment Works relocation project when pursuing other cavern development project.

4.4. Environmental

Environmental sensitive receivers to cavern development in the SCVA include the nearby residential developments (e.g. Ocean Pointe, Golden Villa, Vista Del Mar and Sham Tseng East Village). Natural or modified water courses and wooded areas are located within the SCVA and some are close to the extent of potential portal locations. A Grade 3 historic building of Homi Villa, is located in close proximity to the south of the SCVA. Water Gathering Grounds are located in the proximity to the north of the SCVA.

All potential environmental constraints, which may impose restrictions on the cavern development, should be identified and taken into account 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 southern boundary via Castle Peak Road (Sham Tseng and Ting Kau sections). Regional connections could be routed through Castle Peak Road, Tuen Mun Road and Tsing Long Highway.

4.6. Other Key Issues / Constraints on Cavern Development

A Water Supplies Department (WSD) tunnel, the Tai Lam Chung Supply Tunnel No. 03, is located within the northern part of the SCVA. Due to the difference in elevation, this tunnel would not pose any insurmountable constraint to cavern development in the SCVA. Two other WSD tunnels, the Tai Lam Chung Catchwater LMNO Tunnel 04 and the Tai Lam Chung Catchwater LMNO Tunnel 02, are approximately 300 m to the north and northwest respectively of the SCVA. A vehicle tunnel, the Tai Lam tunnel, is approximately 100 m to the north of the SCVA. A cable tunnel, the CLP Sham Tseng to Ma Wan Cable Crossing, is approximately 100 m to the southwest of the SCVA. Due to the differences in locations and elevations, these tunnels would also not pose any insurmountable constraint to cavern development in the SCVA.

5. Potential Land Uses

The potential land uses for the SCVA are as follows:

Land use	Description
<p style="text-align: center;">Leisure Centre/Sports Centre</p>	<p>The SCVA is located adjacent to various existing major residential communities in Sham Tseng, Tsing Lung Tau and Ting Kau such as Ocean Pointe and Bellagio. The potential released site of Sham Tseng Sewage Treatment Works after relocation may be developed for other uses and bring in new population. There is potential for the SCVA to support the potential expansion/future development of these areas by providing additional supporting community facilities, such as leisure centre/sports centre, to serve the rising demand of the increasing population in a scale proportionate to the then development context in the area.</p> <p>Some of the potential portal locations are in close proximity to the existing residential developments (e.g. Ocean Pointe). The close and easy access for the local residents enhances the potential of housing such facilities in the SCVA.</p>

Land use	Description
Civic Centre	<p>For the same reason as described for “Leisure Centre/Sports Centre”, there is potential for the SCVA to support the potential expansion/future development of these areas by providing additional supporting community facilities, such as civic centre, to serve the rising demand of the increasing population in a scale proportionate to the then development context in the area.</p> <p>Some of the potential portal locations are in close proximity to the existing residential developments (e.g. Ocean Pointe). The close and easy access for the local residents enhances the potential of housing such facilities in the SCVA.</p>
Sewage Treatment Plant	<p>The SCVA is adjacent to various major existing residential communities in Sham Tseng, Tsing Lung Tau and Ting Kau. There is opportunity for the SCVA to support the potential expansion/future development of these areas by providing additional supporting infrastructure facilities, such as sewage treatment plant.</p> <p>The adjacent Sham Tseng Sewage Treatment Plant has been proposed for relocation to cavern in the SCVA. The relocation could release the surface land for other beneficial uses and for integration with the potential future development. Moreover, housing the NIMBY type of facility in caverns can help minimise the nuisance to the existing/future communities in respect of land use compatibility.</p> <p>Some of the potential portal locations of the SCVA are away from the existing residential areas, which make the SCVA compatible with such land use.</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 potential portal locations on Castle Peak Road (Sham Tseng and Ting Kau sections) are located at the toe of slopes alongside the carriageway. Castle Peak Road (Sham Tseng and Ting Kau sections) is a dual carriageway and could support a range of traffic generating activities.

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

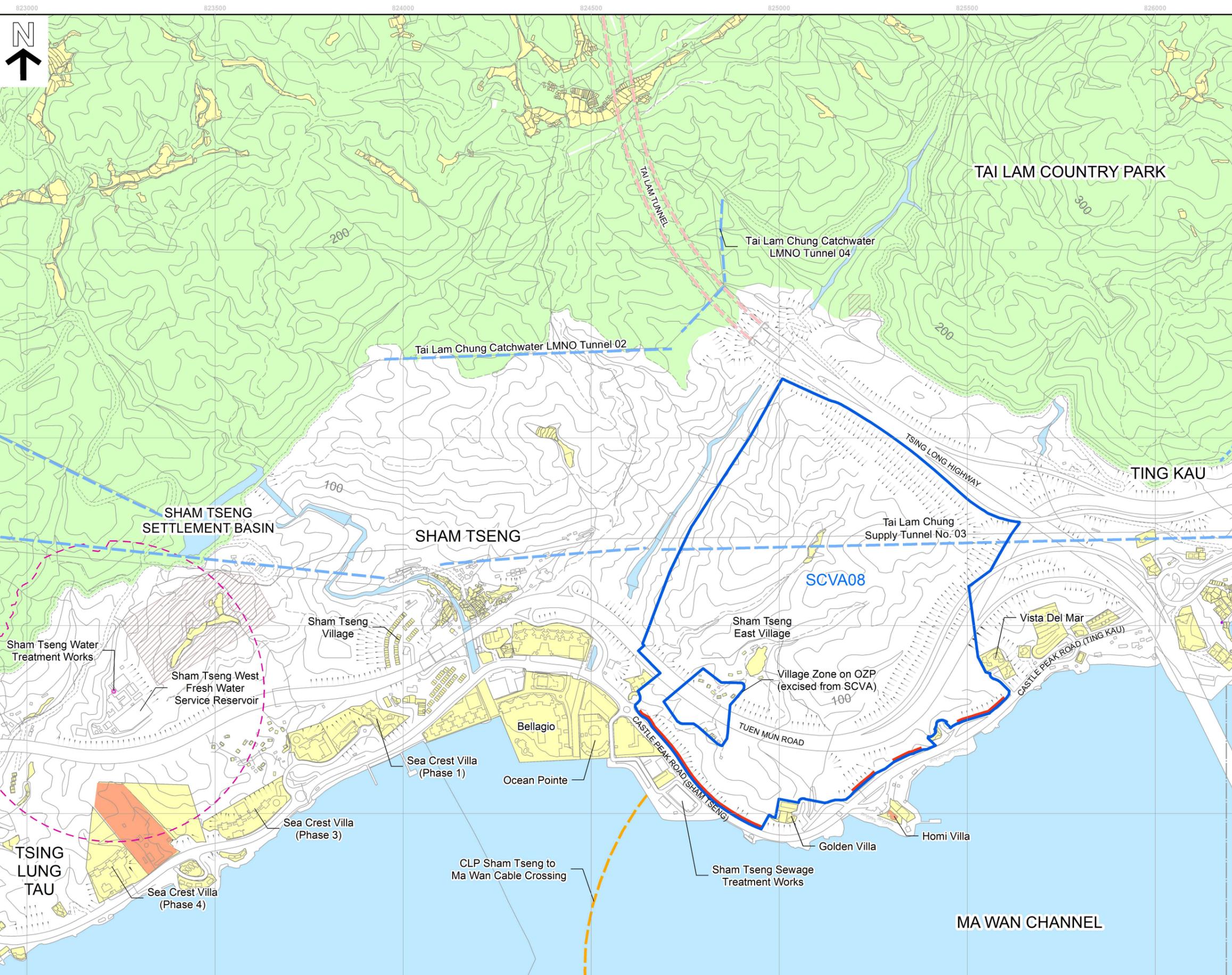
Project proponents should carry out further studies on identifying specific locations of portals for the proposed cavern development.

7. Concluding Remarks

The SCVA presents an opportunity for locating suitable land uses in rock caverns to serve the neighbouring residential communities and its potential expansion/future development in Sham Tseng, Tsing Lung Lau and Ting Kau by housing NIMBY type of facilities (e.g. sewage treatment plants) to minimise the nuisance to the community. The Sham Tseng Sewage Treatment Works is under feasibility study for relocation to cavern in the SCVA. In this relation, the SCVA could be integrated with the future development of the potential released site of Sham Tseng Sewage Treatment Works after its relocation, for example, by providing community facilities (e.g. leisure centre/sports centre or civic centre) in an appropriate scale with respect to the development. Project proponents for cavern development should take due consideration of the existing and potential residential development, environmental sensitive receivers, accessibility for cavern development, and the status of Sham Tseng Sewage Treatment Works relocation project, to minimise the interfacing issues and bring about greater synergy and opportunities.

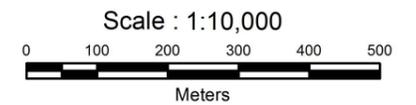
8. Notes

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
 - Cable Tunnel / Gas Tunnel
 - Vehicle Tunnel
 - Water Supplies Department Tunnel
 - Reservoir / River / Nullah / Sea
 - Site of Archaeological Interest
 - Graded Historic Building
 - Private Lot
 - Burial Ground
 - Potentially Hazardous Installation
 - Consultation Zone of Potentially Hazardous Installation
 - Country Park

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. 08 - SHAM TSENG SOUTH