

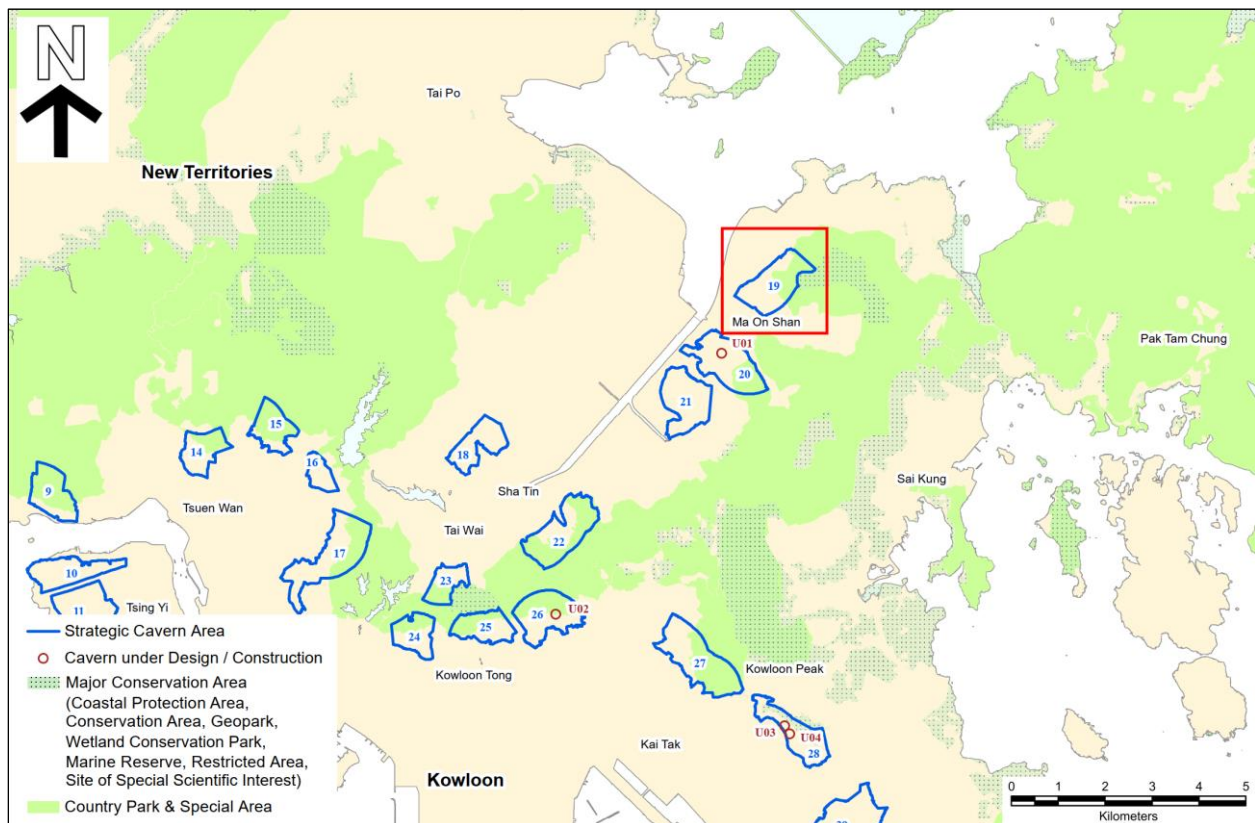
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 19 – MA ON SHAN

This Information Note describes the characteristics and development constraints of Strategic Cavern Area No. 19 - Ma On Shan (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 Plan (OZP) ¹ :	Ma On Shan OZP
Area:	113.1 ha
Maximum elevation in the SCVA:	+389 mPD
Minimum elevation in the SCVA:	+5 mPD

3. District Context

Location

The SCVA is located in the southwestern part of Ma On Shan. Ma On Shan town is to the north of the SCVA, Ma On Shan Country Park is to the east, Tai Shui Hang is to the south, Sha Tin New Town is to the southwest and Sha Tin Hoi (Tide Cove) is to the west.

The SCVA is generally hilly with a maximum elevation of about +389 mPD. About half of the SCVA at the eastern side encroaches onto Ma On Shan Country Park. There are some structures scattered on the hillsides within the SCVA.

The residential areas of Ma On Shan adjacent to the SCVA contain medium- to high-rise residential developments (e.g. Kam Ying Court about 200 m to the north of the SCVA, Yiu On Estate about 300 m to the northwest of the SCVA and Heng On Estate about 200 m to the west of the SCVA, Kam Chun Court is in the west of SCVA, Yan On Estate and Kam Pak Court about 85 m to the west of the SCVA, Kam Tai Court about 450 m to the southwest of the SCVA) and local villages (e.g. Ma On Shan Tsuen about 700 m to the southeast of the SCVA and Tai Shui Hang about 400 m to the southwest of the SCVA). To the southwest of the SCVA, Sha Tin New Town also consists of various medium- to high-rise residential developments and local villages.

In the proximity of the SCVA, there are a number of key Government, Institution or Community (GIC) facilities supporting the development of Ma On Shan, including sports halls (e.g. Heng On Sports Centre about 300 m to the west of the SCVA and Ma On Shan Sports Centre about 950 m to the northwest of the SCVA) and a cluster of service reservoirs (i.e. Ma On Shan Fresh Water Service Reservoir, Ma On Shan No. 2 Fresh Water Service Reservoir, Ma On Shan Salt Water Service Reservoir, Ma On Shan No. 2 Salt Water Service Reservoir and Ma On Shan No. 3 Salt Water Service Reservoir, all are close to the northern 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/>).

Access

This SCVA is accessible from its northern and western edges via Ma On Shan Tsuen Road and Ma On Shan Road respectively. Regional connections could be routed through the nearby Tate's Cairn Highway, Tolo Highway and Ma On Shan Bypass.

The MTR Tuen Ma Line serves the Ma On Shan area and the stations in the vicinity of the SCVA include Ma On Shan Station (about 700 m to the north of the SCVA), Heng On Station (about 400 m to the west of the SCVA) and Tai Shui Hang Station (about 350 m to the southwest of the SCVA).

Existing / Planned Facility in SCVA

There is 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 a geological fault. The eastern boundary of the SCVA is defined by Ma On Shan Site of Special Scientific Interest (SSSI) and the solid geology of sedimentary rock. The north-western boundary of the SCVA is defined by Ma On Shan Tsuen Road and Ma On Shan Bypass. The southern boundary of the SCVA is defined by private lots and a geological fault.

4.2. Geology

The solid geology of the SCVA is primarily fine-grained granite within the eastern portion and medium-grained granite within the western portion, both of which belong to Shui Chuen O Granite. The SCVA is with the rock types that are suitable for the uses of rock caverns. A number of geological features, such as faults and photolineaments, are identified 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 on the 1:20,000-scale Geological Map Sheet 7 (Sha Tin) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

4.3. Planning

The SCVA is close to the existing urban developments in Ma On Shan. The surrounding areas are also well connected by major roads and railways to the rest of the territory.

The major residential communities of Ma On Shan are located to the western and northern sides of the SCVA. These areas consist of various medium- to high-rise residential developments (e.g. Kam Ying Court, Heng On Estate, Yiu On Estate, Kam Chun Court, Yan On Estate and Kam Fai Court) and local villages (e.g. Ma On Shan Tsuen) supported by a number of GIC facilities (e.g. sportshall, service reservoir, etc.). There are also planned public housing developments at Hang Tai Road (namely Kam Pak Court) under construction to the west of the SCVA and a planned public housing site at Ma On Shan Tsuen Road within the SCVA.

4.4. Environmental

Environmental sensitive receivers to the potential caverns in the SCVA are the nearby existing residential developments (e.g. Heng On Estate, Yiu On Estate and Kam Ying Court, Yan On Estate, Kam Fai Court, Kam Pak Court and Kam Chun Court), a proposed public housing site at Ma On Shan Tsuen Road and schools (e.g. Ma On Shan St. Joseph's Primary School, Chiu Chow Association Secondary School and Ma On Shan Lutheran Primary School). The SCVA comprises wooded area and shrubby hillside. The eastern portion of the SCVA encroaches onto Ma On Shan Country Park, and is adjacent to the Ma On Shan SSSI and Water Gathering Grounds. There are two built heritages at Tai Shui Hang, namely the Cheung Village House (Sha Tin), No. 6 Tai Shui Hang (Grade 3 historic building) and Cheung Village Houses (Sha Tin), Nos. 16-18 Tai Shui Hang (Grade 3 historic building). There are three heritages near the portal of Ex-Ma On Shan Mine Tunnel along Ma On Shan Tsuen Road and some structures of the three heritages are located within the SCVA, namely Site Structures at Mining Settlement, Ma On Shan Iron Mine (Grade 3 historic building), Exterior walls of 240 ML and 110 ML, Ma On Shan Iron Mine (Grade 2 historic building) and Mineral Preparation Plant, Ma On Shan Iron Mine (Grade 3 historic building). Two traditional permitted burial grounds are located in the vicinity of the SCVA (one to the northeast and one to the south). The Ma On Shan Iron Mine within the SCVA is known to be occupied as bat roost. There are natural or modified surface water courses and woodlands within the SCVA.

All potential environmental constraints, which may impose restrictions on potential caverns, 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 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

This SCVA can be accessed from its northern and northwestern edges via Ma On Shan Tsuen Road and Ma On Shan Road respectively. Regional connections could be routed through the nearby Tate's Cairn Highway, Tolo Highway and Ma On Shan Bypass.

The SCVA can be easily accessed from the primary road network if direct road connections to Ma On Shan Road can be established. Ma On Shan Road is a high-capacity expressway and it is expected to have sufficient capacity to accommodate more traffic in future. Access to the SCVA via Ma On Shan Tsuen Road can also be routed through Ma On Shan Road, rendering the SCVA with very high accessibility from other areas of the territory via the major road networks.

4.6. Other Key Issues / Constraints on Cavern Development

An abandoned tunnel namely the Ex-Ma On Shan Mine Tunnel and its portal at Ma On Shan Tsuen Road is located within the SCVA and extends further to the southeast of the SCVA. A Water Supplies Department's tunnel between the Tai Shui Hang Shaft and High Island Main Tunnel is located about 50 m to the south of the SCVA. Owing to the differences in locations and elevations, these tunnels would not pose any insurmountable constraint to the potential uses of rock caverns within the SCVA.

5. Extent of Potential Portal Locations

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

The SCVA is accessed from Ma On Shan Tsuen Road to the north and Ma On Shan Road to the northwest.

The potential portal location at Ma On Shan Tsuen Road is located at the slope alongside the carriageway. Direct road access could be provided via suitable connection arrangement associated with the portal formation to suit the proposed use in future projects considering cavern options. However, the associated road connection and portal formation works should be away from Ma On Shan Country Park as far as practicable to reduce any possible ecological, visual and recreational impact on the country park and disturbance to its users.

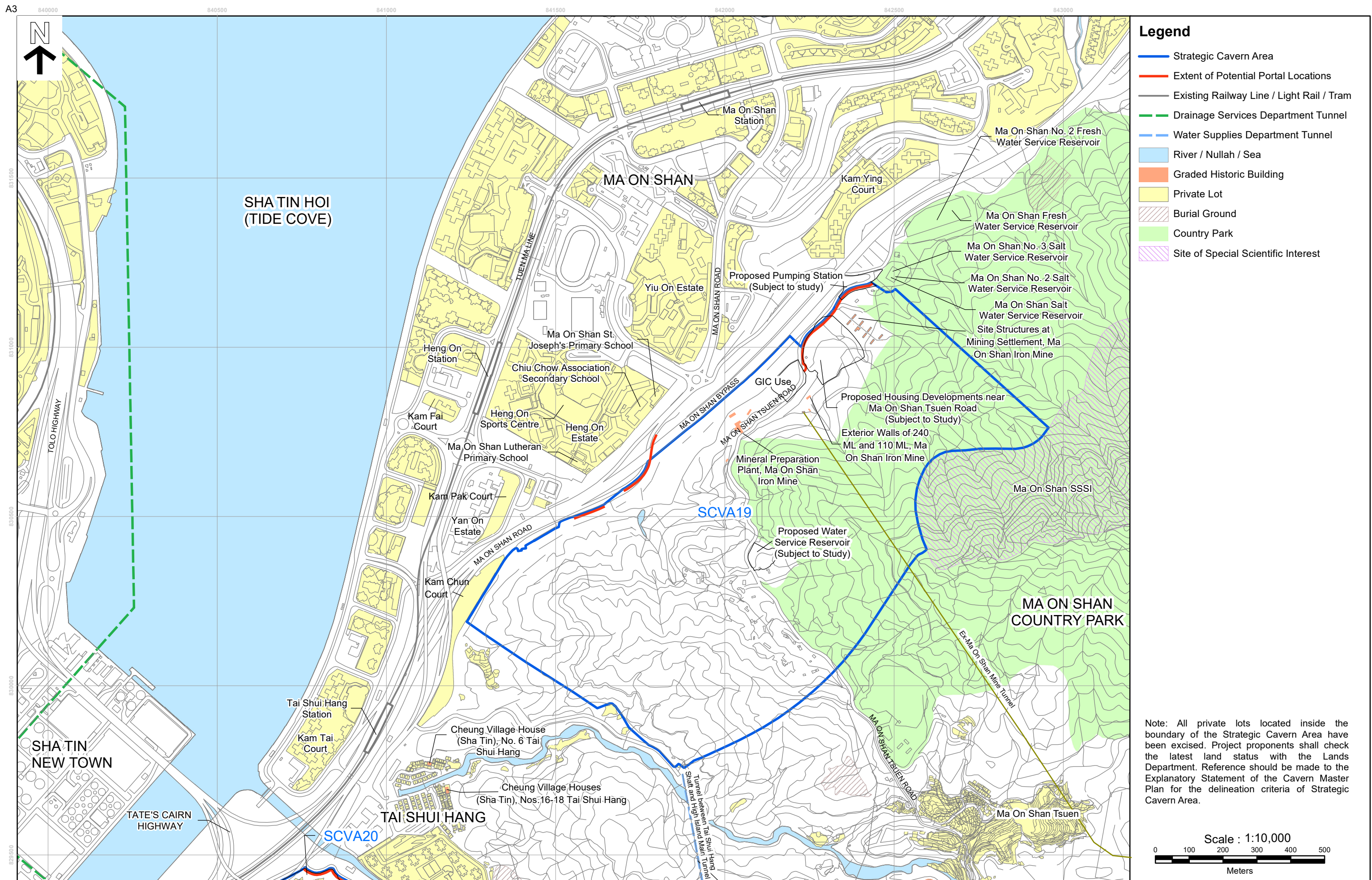
The potential portal locations along Ma On Shan Road are located at the slopes alongside the carriageway. Direct road connection to the portal would require adequate merging and diverging arrangements. This would likely involve slope excavation and/or retaining structures to be constructed along Ma On Shan Road.

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 the 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 Cavern Master Plan for further details.



REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 19 - MA ON SHAN

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
PLANNING DEPARTMENT



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