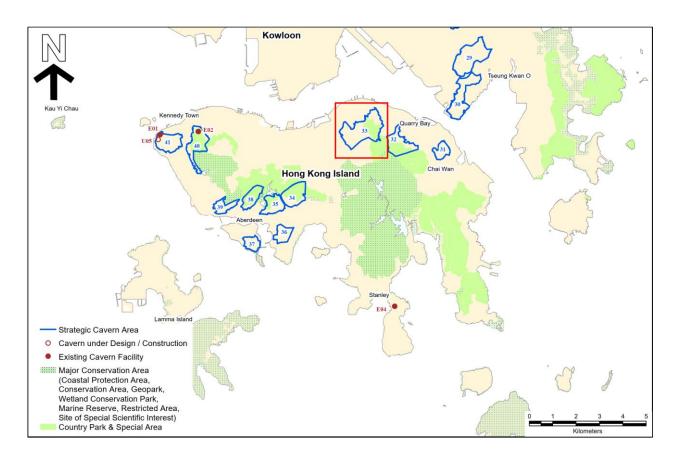
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 33 – BRAEMAR HILL

This Information Note describes the characteristics and development constraints of Strategic Cavern Area No. 33 - Braemar Hill (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: North Point OZP

Quarry Bay OZP

Area: 161.4 ha

Maximum elevation in the SCVA: +313 mPD

Minimum elevation in the SCVA: +5 mPD

3. District Context

Location

The SCVA is located in the northeastern part of Hong Kong Island. It occupies the area of Braemar Hill and Lin Fa Kung Hill in North Point. Quarry Bay is located to the east of the SCVA, Tai Tam Country Park (Quarry Bay Extension) is to the southeast, Tai Hang and Causeway Bay are to the west and North Point is to the north.

The SCVA is generally hilly with a maximum elevation of about +313 mPD. A majority of eastern portion of the SCVA encroaches onto Tai Tam Country Park (Quarry Bay Extension). The MTR Quarry Bay Station and Braemar Hill Fresh Water Service Reservoir are located at the northeastern and northern portions of the SCVA respectively.

There are several developed communities around the SCVA. To the east is a major residential and commercial area in Quarry Bay with high-rise and high-density developments including Taikoo Shing (about 350 m to the east of the SCVA) and Taikoo Place (about 50 m to the east of the SCVA). To the west are Tai Hang and Causeway Bay. Tai Hang is mainly a residential area with medium- to high-rise housing developments including Lai Tak Tsuen (at the western boundary of the SCVA), while Causeway Bay is a major commercial and shopping area. To the north is North Point which is another major commercial and residential area with high-rise and high-density developments clustering along Java Road and King's Road (both to the north 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/).

There are various Government, Institution or Community (GIC) facilities serving the local areas as well as the territory, such as Victoria Park (about 350 m to the west of the SCVA), Hong Kong Stadium (about 750 m to the southwest of the SCVA), Hong Kong Shue Yan University (about 250 m to the northwest of the SCVA), Quarry Bay Salt Water Service Reservoir (abutting eastern boundary of the SCVA), North Point High Level Fresh & Salt Water Service Reservoirs (about 20 m to the north of the SCVA), North Point West Fresh Water Service Reservoir (about 30 m to the northwest of the SCVA). Also, a number of schools including Chinese International School, Hong Kong Japanese School, St. Joan of Arc Secondary School, Pui Kiu Middle School, etc., are located to the immediate north of the SCVA.

Access

The SCVA is accessible from its north-eastern edges via Pak Fuk Road, Tin Hau Temple Road and Tsat Tsz Mui Road; from its eastern edge via King's Road; from its north-western edge via Yee King Road; and from its northern edge within Braemar Hill Road Playground adjacent to Braemar Hill Road. Regional connections could be routed through the nearby Island Eastern Corridor, Eastern Harbour Crossing and Central – Wan Chai Bypass.

The MTR Island Line and Tseung Kwan O Line serve the neighbouring areas of the SCVA. The closest stations include Island Line's Tai Koo Station (about 400 m to the east of the SCVA), Quarry Bay Station (at north-eastern corner of the SCVA; interchange station of Island Line and Tseung Kwan O Line), North Point Station (about 730 m to the north of the SCVA; interchange station of Island Line and Tseung Kwan O Line), Fortress Hill Station (about 350 m to the northwest of the SCVA) and Tin Hau Station (about 200 m to the northwest of the SCVA).

The proposed MTR North Island Line will serve the northern part of the Hong Kong Island by extending the Tung Chung Line eastward and the Tseung Kwan O Line westward. The North Point Station at the northern side of the SCVA will serve as an interchange station of the proposed North Island Line and the existing Island Line and Tseung Kwan O Line.

Further to the north of the SCVA is the North Point Ferry Pier (about 1 km to the north of the SCVA) which provides passenger ferry services to Hung Hom, Kowloon City and Kwun Tong. Ferry services for Dangerous Goods Vehicles to Kwun Tong, Mui Wo and Discovery Bay are also provided at the North Point Vehicular Ferry Pier (about 800 m to the north 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 mainly defined by Cloud View Road, Pak Fuk Road, Po Luen Path, private residential developments including Braemar Hill Mansions and schools. The eastern boundary of the SCVA is defined by Mount Parker Road, King's Road, some private lots and residential developments of Parker Terrace. The western boundary of the SCVA is defined by Yee King Road and residential developments including Lai Tak Tsuen.

4.2. Geology

The solid geology of the SCVA is primarily fine-grained granite and fine- to medium-grained granite, which belong to Mount Butler Granite. The SCVA is with the rock types that are suitable for the uses of rock caverns. Some geological features, such as photolineaments, are identified within and in areas surrounding the SCVA. The excavated rock within the SCVA will be suitable for reuse as construction aggregate.

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 long-established urban developments in Quarry Bay, Tai Hang, Causeway Bay and North Point along the northern coast of Hong Kong Island. They are the major commercial and residential communities in the northern part of Hong Kong Island.

The abovementioned areas consist of various medium- to high-rise residential developments (e.g. Taikoo Shing, Lai Tak Tsuen and Braemar Hill Mansions) which are supported by a number of GIC facilities (e.g. sports ground, service reservoir, school, etc.).

Quarry Bay, Causeway Bay and North Point are major commercial areas in the northern part of Hong Kong Island, with key commercial developments such as Taikoo Place and a number of shopping centres. The remaining industrial areas in the proximity to Shipyard Lane, Westlands Road and Tong Chong Street are intended to be phased out through redevelopment for commercial use. Several data centres have been developed in the Eastern District, such as those in the industrial areas in Chai Wan and Taikoo Place in Quarry Bay.

4.4. Environmental

Environmental sensitive receivers to the potential caverns in the SCVA are the nearby existing residential developments (e.g. Parker Terrace, Braemar Hill Mansions and Lai Tak Tsuen) and schools (e.g. St. Joan of Arc Secondary School, Chinese International School and Hong Kong Japanese School). The SCVA encroaches onto Tai Tam Country Park (Quarry Bay Extension). There are wooded areas, natural and modified water courses within the SCVA. A number of built heritages are identified in the vicinity of the SCVA. Former Quarry Bay School (Grade 3 historic building), Mansion and Garage, Woodside (both Grade 2 historic building) are located close to the eastern boundary of the SCVA. Hong Kong Red Swastika Society Building (Grade 1 historic building), Scout Den, Queen's College (Grade 2 historic building), No. 12 School Street (Grade 3 historic building), No. 4 Second Lane in Tai Hang (Grade 3 historic building), Nos. 30-31 Sun Chun Street, Tai Hang (Grade 3 historic building), No. 2, No. 3 and No. 4 Li Kwan Avenue (Three individual Grade 3 historic building) and Haw Par Mansion (Grade 1 historic building) are identified in the area to the west of the SCVA. Tin Hau Temple (Causeway Bay) and Lin Fa Temple are declared monuments located in the proximity to the western boundary of the SCVA. Tunnel Portal of Water Mains from No. 5 Dam (Grade 2 historic building) is identified in the area to the north of the SCVA. A government historic site identified by Antiquities and Monuments Office (AMO), namely Wartime Cooking Ranges, Tai Tam Country Park, Quarry Bay, is located in the vicinity to the SCVA. Species of conservation importance including Yellow Pond Turtle are recorded in Tai Tam Country Park (Quarry Bay Extension) 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, 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

The SCVA can be accessed from its north-eastern edges via Pak Fuk Road, Tin Hau Temple Road and Tsat Tsz Mui Road; from its eastern edge via King's Road; from its north-western edge via Yee King Road; and from its northern edge within Braemar Hill Road Playground adjacent to Braemar Hill Road. Regional connections could be routed through the nearby Island Eastern Corridor, which is located to the north of the SCVA.

King's Road, which is the main connection road between the SCVA and Island Eastern Corridor and the rest of the territory, is anticipated to have sufficient capacity for various traffic generating activities. The project proponents would be required to review the traffic impact on a project specific basis. The access at Yee King Road to the northwest of the SCVA is well connected to the rest of the territory via Lai Tak Tsuen Road and Tai Hang Road. There are traffic congestion issues at Braemar Hill Road during school peak hours which should be taken into account by the project proponents when identifying suitable access for potential caverns. The potential portal location at Braemar Hill Road Playground shall be suitable for pedestrian emergency exit from caverns only. The trams service along King's Road should be taken into account as a whole by the project proponents when developing cavern proposals.

4.6. Other Key Issues / Constraints on Cavern Development

Two railway tunnels of the MTR Island Line and Tseung Kwan O Line and Quarry Bay Station are located in the north-eastern portion of the SCVA. Towngas Braemar Hill Gas Main Tunnel is located in the western portion of the SCVA. The Water Supplies Department's Kornhill Tunnel is about 500 m to the east of the SCVA. There are also Drainage Services Department's tunnels located in the vicinity of the SCVA namely the Hong Kong West Drainage Tunnel (approximately 50 m to the southwest of the SCVA) and the Wan Chai East and North Point Trunk Sewer Tunnels (200 m or above to the north of the SCVA). Vehicle tunnel of the Eastern Harbour Crossing is located approximately 250 m to the northeast of the SCVA. Based on the latest available information, the two tunnels of the proposed North Island Line will be about 200 m to 500 m to the north of the SCVA.

Although there are a number of underground structures within and surrounding the SCVA, they are not likely to pose insurmountable constraint on the potential uses of rock caverns within the SCVA. Project proponents should take into account such existing and future underground infrastructure when pursuing cavern projects.

Quarry Bay Jogging Trail and Wilson Trail Section 2 are located within the SCVA. Project proponents shall take into account when considering cavern options.

5. Extent of Potential Portal Locations

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

The SCVA is accessible from Yee King Road and Braemar Hill Road Playground to the northwest and north; Pak Fuk Road, Tin Hau Temple Road and Tsat Tsz Mui Road to the northeast; and from its eastern edge via King's Road.

The potential portal locations along these roads are generally adjacent to existing slopes which provide relatively easy access to the SCVA. The extent of potential portal locations along Yee King Road and Pak Fuk Road may be suitable for developing multiple portals. The potential portal location at the end of Tin Hau Temple Road may be suitable for developing single portal given the limited space. Project proponents should take account the gradient and alignment of the access road and the proximity to private lots when considering portal locations.

The extent of potential portal location at Braemar Hill Road Playground shall be suitable for emergency pedestrian exit from caverns only. In deriving the development proposal in the SCVA, the project proponents should take into account the traffic conditions of Braemar Hill Road in particular during school peak hours and is required to conduct necessary studies and assessments relevant to each project stage and review and assess any potential traffic impact on both local and district bases.

As the MTR Quarry Bay Station is located within the SCVA, additional pedestrian access to the potential caverns may be considered if appropriate.

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

