

# Task Force on Kai Tak Harbourfront Development

For discussion  
on 28 September 2021

TFKT/06/2021

## Additional District Cooling System at the Kai Tak Development

### PURPOSE

This paper seeks Members' views on the revised design of the plant building of the additional District Cooling System (DCS) at the Kai Tak Development (KTD).

### BACKGROUND

2. The DCS is an infrastructure to support the sustainable a development at KTD and to help mitigate climate change. It is an energy-efficient air-conditioning system, consuming 35% and 20% less electricity as compared with traditional air-cooled air-conditioning systems and individual water-cooled air-conditioning systems (WACS) using cooling towers respectively.

3. The additional DCS at the KTD will bring about significant environmental benefits. Upon full utilisation, the project is estimated to save about 53 million kilowatt-hour of electricity a year, corresponding to an annual reduction of 37 000 tonnes of carbon dioxide emission.

4. Apart from energy saving, the DCS will bring about the other benefits for individual users and the community, such as more flexible building designs for user buildings as they do not need to install their own chillers and the associated electrical and mechanical equipment; reducing heat island effects at KTD; and providing a more adaptable air-conditioning system to user buildings as cooling capacity can be adjusted to meet the air-conditioning demands without the need for extensive modification or retrofitting works.

5. A location plan of the additional DCS plant is at **Annex A**.

## PROPOSED DESIGN OF PLANT BUILDING

6. The Electrical and Mechanical Services Department (EMSD) last presented the design of the plant building to Members at the meeting on 15 January 2019. EMSD has subsequently engaged a Design-Build-Operate (DBO) contractor to design, build and operate the DCS including the plant building. The following Harbour Planning Principles have been observed in the design scheme prepared by the DBO contractor to ensure its compatibility with the surrounding environment with rich soft landscaping -

**(a) *Preserving Victoria Harbour***

The additional DCS plant has no physical impact and minimal visual impact on the Victoria Harbour. The effect of the submerged seawater discharge has been reviewed to be without adverse impact on the water quality of the Victoria Harbour.

**(b) *Stakeholder Engagement***

We have consulted the Wong Tai Sin District Council, the Housing and Infrastructure Committee of the Kowloon City District Council, and Environment and Hygiene Committee of the Kwun Tong District Council in November 2018. They have agreed in principle with or do not have objection to the proposed project. The design of the additional DCS plant has taken into account their concerns such as maximising the site utilisation for DCS plant and incorporating facilities to promote the sustainable DCS infrastructure to the public.

**(c) *Sustainable Development***

Aiming at achieving the highest rating under BEAM Plus, the additional DCS plant building will be installed with photovoltaic panels. It will include a visitor centre which would raise public awareness about energy conservation design for infrastructure development.

**(d) *Integrated Planning***

The additional DCS plant building is designed to support the efficient functioning of the DCS. Provision of sufficient space for maintenance within the building with

good connectivity between plantrooms, and good road access to the building for emergency vehicular access (EVA) and operational access will be required. A block plan showing the footprint of the DCS plant building and the site boundary is at **Annex B**.

The footprint of the additional DCS plant is optimised so as to match with a section of the proposed 13 km long cycle track in KTD as well as a pedestrian footpath that will connect to the waterfront promenade.

The landscape design will be complementary to and in harmony with the soft landscaping design adopted by the adjacent Desilting Compound of the Drainage Services Department (DSD). This integrated site planning strategy will enhance a harmonious long-term landscape development around the KTD.

The operation of the additional DCS plant will be in close coordination with the adjacent DSD Desilting Compound, including the shared use of the EVA, and the use of seawater intake from the Desilting Compound for heat rejection.

**(e) *Proactive Harbour Enhancement***

The design of the additional DCS plant will minimise its visual impact to the existing harbour with sustainability as an important consideration. We intend to employ a minimalist design approach. The design of façade will not only blend in with the adjacent DSD Desilting Compound and EMSD Headquarters building, but also reduce heat gain and limit the heat island effect of the building on the surrounding area. The rhythmic configuration would soften the façade massing and reduce its visual scale.

**(f) *Vibrant and Accessible Harbour***

Although the additional DCS plant building is not immediately fronting the promenade, its design will blend into the surrounding environment and facilities.

**(g) *Public Enjoyment***

There has been a significant number of requests for visits

to the existing North DCS Plant. A visitor centre including educational facilities such as a video viewing area, an interactive display area and a discussion area will be provided in the plant building of the additional DCS to enhance public understanding on the initiatives and development of DCS in Hong Kong.

The greenery and soft landscape design proposed within the additional DCS plant site will provide an aesthetic view to the environment.

7. A layout plan of the project is at **Annex C**.

## **WAY FORWARD**

8. After consultation with the Task Force and the District Councils, we will consider comments received in drawing up the detailed design of the plant building of the additional DCS.

## **VIEWS SOUGHT**

9. Members are invited to comment on the design of the plant building of the additional DCS at the KTD.

**Annex A** Location Plan

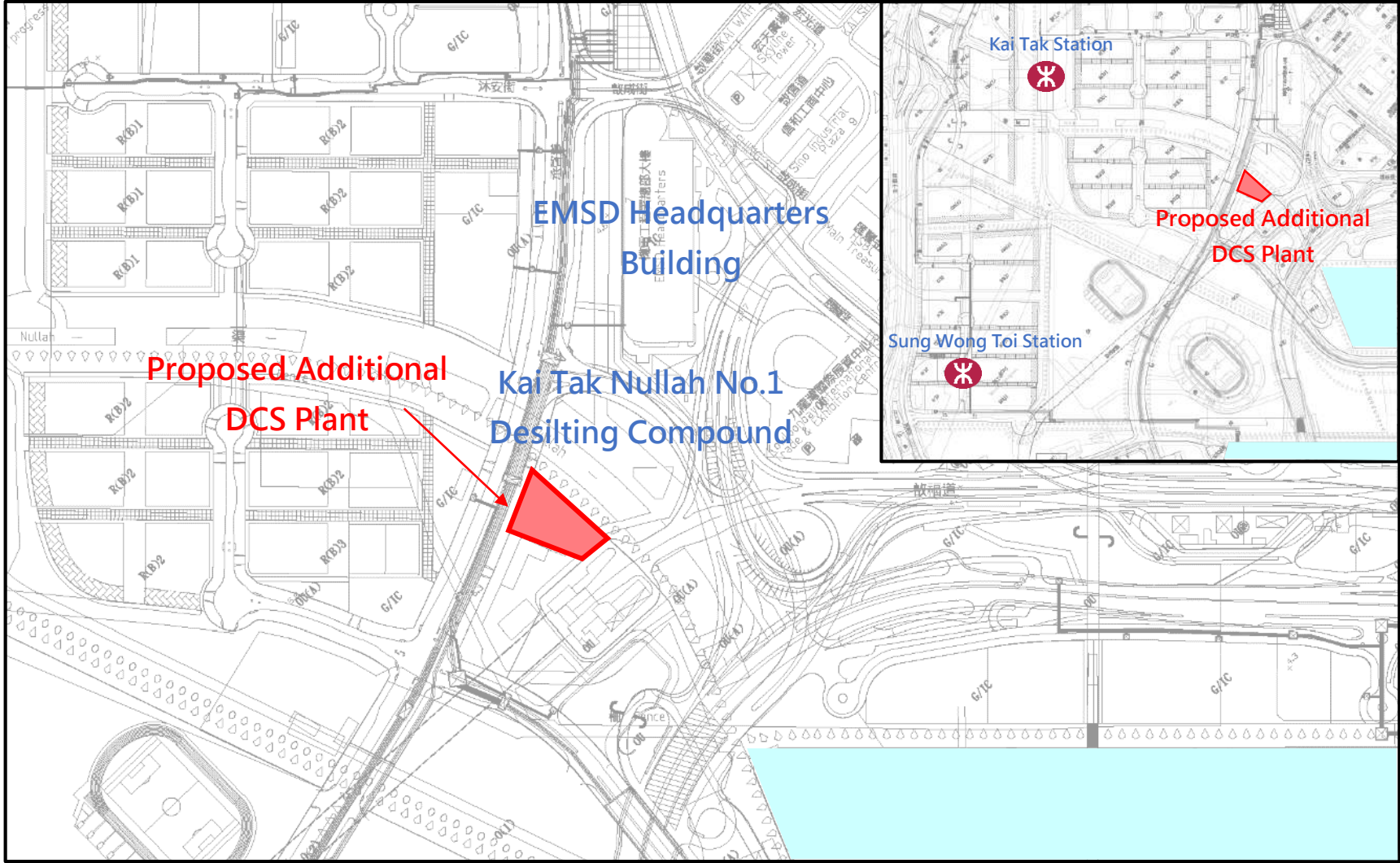
**Annex B** Block Plan on Building Footprint and Site Boundary

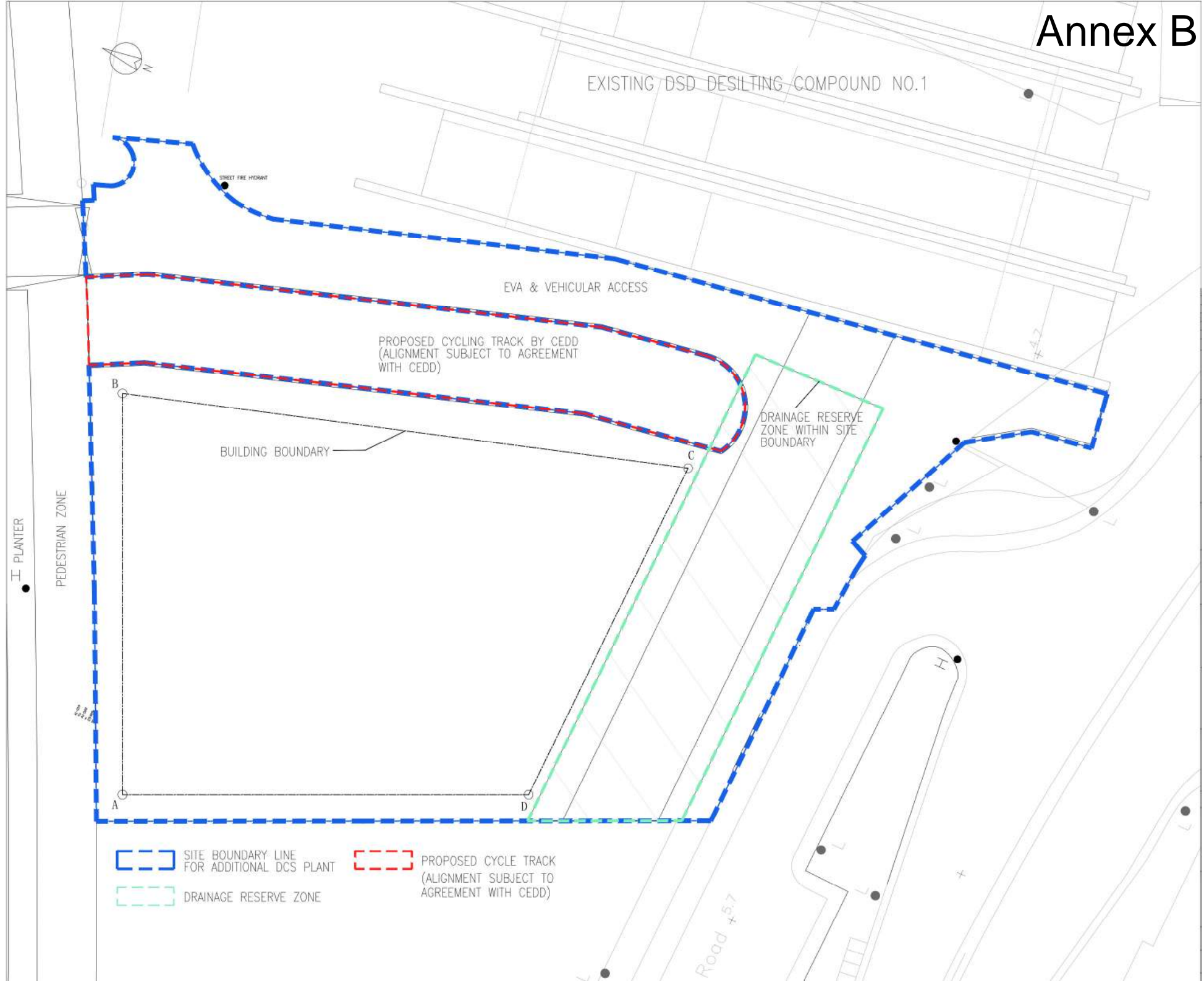
**Annex C** Layout Plan

**Electrical and Mechanical Services Department**

**September 2021**

### Location Plan







### Layout Plan

