

**For discussion
on 17 November 2014**

**Legislative Council Panel on Health Services
Expansion of the Hong Kong Red Cross
Blood Transfusion Service Headquarters**

Purpose

This paper briefs Members on the proposed expansion of the Hong Kong Red Cross Blood Transfusion Service (BTS) Headquarters.

Background

2. BTS is needed to ensure sufficient supply of safe and high-quality blood and blood components for local blood transfusion services in all hospitals in Hong Kong. With its headquarters located adjacent to Queen Elizabeth Hospital, BTS is under the management of the Kowloon Central Cluster of the Hospital Authority (HA). BTS is the only organisation responsible for collection and supply of fully-tested blood and haematopoietic stem cells, and is also the major provider of plasma products in Hong Kong. Its key services include collecting, testing, processing and distributing blood and blood components to blood banks in both public and private hospitals, as well as motivating the community to donate blood and haematopoietic stem cells regularly. In addition, BTS provides a number of highly specialised services, including the External Quality Assurance Programme for blood banks in Hong Kong and a reference laboratory for immuno-haematology. It operates Hong Kong's only public cord blood bank and bone marrow donor registry which assists patients in need of bone marrow transplant to find unrelated matched haematopoietic stem cells.

Need for Expansion of BTS

Insufficient Space

3. The existing BTS Headquarters building at King's Park Rise was built in 1984. Over the years, services provided by BTS have expanded in volume, scope and complexity. In terms of volume, the annual blood collection has increased since 1984 by around 78% to 247 000 units. The number of fresh blood components processed from whole blood donation has increased by around 100% to 629 700 units since 1984 and the number of plasma derived medicinal products by around 500% to 157 000 units over the same period. With Hong Kong's population projected to grow from 7.2 million in 2013 to 7.6 million in 2020 and the elderly population (population aged 65 or above) increased by 36% during the same period, the overall demand for blood collection is estimated to further increase by 15 to 20%. Besides, in terms of service scope and complexity, the number of tests required for each unit of donated blood has remarkably increased. With significant medical advances over the years, each unit of blood is now tested not only for hepatitis B surface antigen and syphilis, it is also tested for hepatitis B virus deoxyribonucleic acid (DNA), human immunodeficiency virus (HIV) antibodies and ribonucleic acid (RNA), hepatitis C antibodies and RNA, and human T-cell leukaemia/lymphoma virus antibodies. Additional processes have also been introduced to ensure product quality and safety through the introduction of new technologies such as universal leuco-filtration. The existing space provision in the BTS Headquarters building has become inadequate for its current scale of operations and workload and unable to meet with the projected growth in future years.

Outdated Design

4. Completed 30 years ago, the design of the BTS Headquarters building has become outdated and lags behind prevailing international standards for blood

processing establishments. At present, laboratories are scattered on different floors of the building, which is not conducive to efficient and effective operations. The configuration of the building does not facilitate planning of laboratories that can readily meet the requirements of Good Manufacturing Practices (GMP). GMP is a system commonly adopted for ensuring that products may be consistently produced and controlled according to quality standards appropriate to their intended use and as required by the product specification. In particular, GMP recommends that there should be uni-directional flow of blood and plasma products in the production processes to minimize chances of contamination of the products. There is a need to address the limited space and outdated design of the existing building in order to ensure compliance with such requirement. An earlier GMP audit also highlighted insufficient provision of laboratory bench spaces in the BTS Headquarters to cater for the required operation and workflows.

5. To address the space shortage and outdated design which may pose potential risks of blood products contamination as well as occupational hazards, we plan to expand the BTS Headquarters to bring its facilities up to prevailing international standards, provide adequate space to cope with its projected level of services, and ensure a safe working environment.

The Proposed Project

6. The proposed project involves the in-situ expansion of the existing BTS Headquarters building to provide improved and appropriate facilities for the following existing and new services-

Existing service

- (a) Donor Centre;
- (b) Components Preparation Laboratory;
- (c) Grouping and Labelling Laboratory;
- (d) Blood Storage and Issue Section;
- (e) Microbiology Laboratory;

- (f) Blood Components and Quality Control Laboratory;
- (g) Red Cell and Platelet Reference Laboratory;
- (h) Infectious Diseases Screening Laboratories;
- (i) Human Leucocyte Antigens and Molecular Laboratory;
- (j) Reagent Preparation;
- (k) Donor Blood Sample Archive;
- (l) Training, Research and Development;
- (m) Computer Server Room;
- (n) Administration Offices;
- (o) Workshops and other supporting facilities;

New/expanded services

- (p) Cord Blood Bank;
- (q) Cellular Therapy Laboratory;
- (r) Tissue Typing Laboratory;
- (s) Nucleic Acid Test Laboratory;
- (t) Leucodepletion Laboratory;
- (u) Viral Inactivation Laboratory; and
- (v) Bone Marrow Donor Registry.

Project Implementation

7. In order to allow continued operation of BTS during the construction period and mitigate potential vibration risks for sensitive equipment items, the proposed expansion of the BTS Headquarters will be implemented in two stages as follows -

- (a) stage 1 - construction of a new eight-storey annex block connected to the existing building at the adjacent vacant area; and
- (b) stage 2 - rearrangement of the functional layouts of the existing

building, including removal of the existing partition walls for expansion of the lower ground floor upon moving out of the existing facilities thereat.

— A site plan of the BTS Headquarters is at Enclosure.

8. The estimated cost of the proposed project is in the order of \$890 million in money-of-the-day (MOD) prices. HA has invited tenders for carrying out the proposed expansion works in October 2014. The contract will only be awarded to the successful tenderer after we have secured funding approval from the Finance Committee (FC).

9. We plan to seek funding approval from FC in February 2015. Subject to FC's approval, we aim to commence the construction works in March 2015 for completion in July 2019.

Public Consultation

10. HA consulted the Yau Tsim Mong District Council (YTMDC) in respect of the proposed project on 26 June and 28 August 2008. Members of YTMDC supported the proposed project. HA updated YTMDC on the current status of the proposed project on 21 August 2014 and received positive feedback.

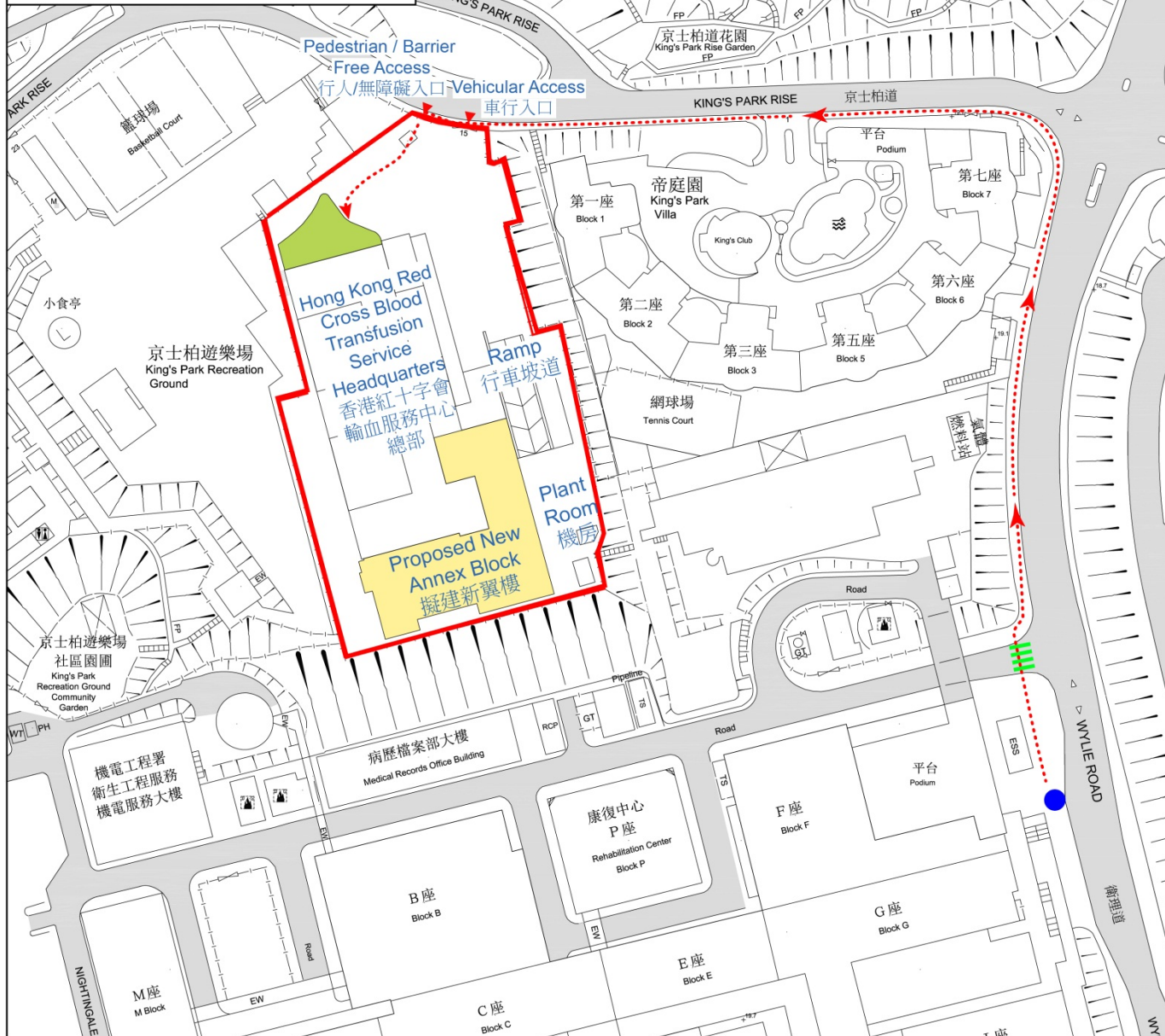
Advice Sought

11. Members are invited to comment on the proposed project as outlined in this paper.

Food and Health Bureau

Hospital Authority

November 2014



Legends 圖例:

Hong Kong Red Cross Blood Transfusion Service Headquarters Site Boundary
香港紅十字會輸血服務中心總部範圍

Proposed New Annex
擬建新翼

Proposed Expanded Area
擬擴建範圍

Existing Pedestrian Crossing
現有行人過路處

Pedestrian / Barrier Free Route
行人/無障礙道路

Existing Bus Stop
現有巴士站

Project Title 項目名稱

8067MM - Expansion of the Hong Kong Red Cross Blood Transfusion Service Headquarters
香港紅十字會輸血服務中心總部擴建計劃

Site Location Plan (Not to Scale)

工地平面圖 (不按比例)