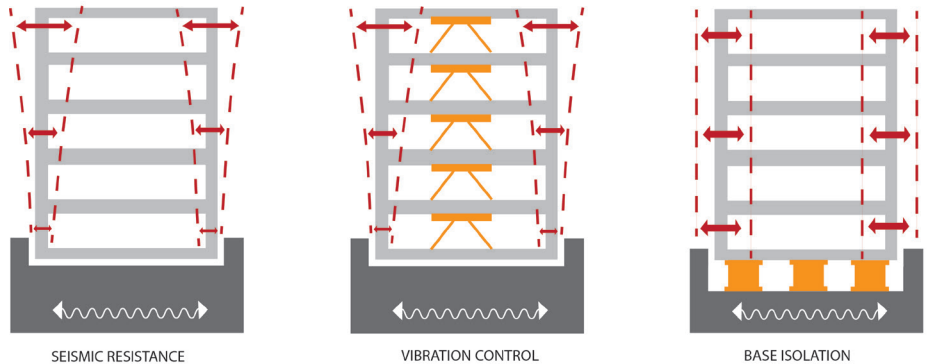


Disaster Preparedness: Designing for resiliency

Seismic

Geotechnical and structural engineers working with Providence to conduct exploration and analysis are confident that the structural solutions developed will successfully integrate resiliency considerations to the site. The design will include rigorous application of engineers' recommendations for site preparation, foundation and slab design, and seismic design. Some considerations for the site include:

- The core hospital will be located on the portion of the site that has the best geotechnical conditions to mitigate the impact of a seismic event. The current structural design takes advantage of the existing sloping, hard-soil conditions, using stepped underground parking to found the hospital on a solid base. The seismic demand at this site is similar to many others within Vancouver, as the buildings will be founded on glacial till.



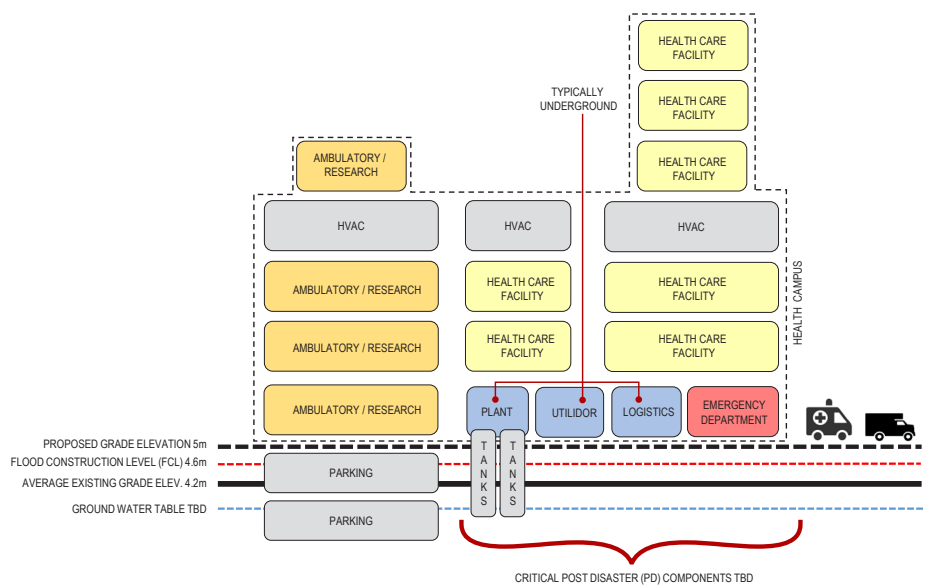
EARTHQUAKE-RESISTANT BUILDING OPTIONS

- As part of the indicative design process the structural engineers are exploring state-of-the-art seismic systems which go beyond building code requirements and achieve resiliency and post-earthquake functionality for critical hospital operations after a major seismic

event. Included in this exploration is base isolation, which is a method that has been successfully applied to limit the downtime in restoring functionality following an earthquake. The goal is to protect building contents and components, as well as limit injuries to occupants from falling debris.

Climate Change

The Station Street site and all the facilities on the campus will be designed to meet the City of Vancouver flood construction levels (FCLs). The main floor is located above the City of Vancouver (COV) mandated datum level and all critical functions are placed at this level or higher. Tanked or waterproof foundations will be utilized for levels below the FCL, for example, parking. Typically, the logistics, parking and energy plant associated with an acute care hospital would be located underground. However, to ensure operation of the hospital in the case of flood, many elements required for core hospital function will be located above-grade based on best practices and lessons learned from the impacts of recent disasters such as Hurricane Sandy (New York, 2012) on local hospitals functioning post flood.



SPECIAL CONSIDERATIONS FOR HOSPITAL OPERATIONS

continued on next page ...

Re-imagining St. Paul's with patients at the heart of care

The new St. Paul's is a bold plan to develop a new hospital and health campus that will transform the future of health care for British Columbians

continued from previous page ...

Resilience

The hospital facility and operations will be coordinated with the latest municipal, provincial and national emergency management response plans.

A hospital and health care campus at Station Street will be better able to cope with potential serious emergencies than the existing St. Paul's. There will be purpose-built space to stage large emergency response, triaging and crowd management activities inside and outside of the hospital and health campus facilities.

Transportation Network

The road network will provide for alternate routes to the emergency department, ensuring access in the event that any given street is impassable.



CITY OF VANCOUVER NEW STREETS & PREFERRED EMERGENCY RESPONSE LOCATION

Environmental Considerations

There are strict environmental safety standards and codes that have to be met prior to any development. This project will ensure that all such requirements are addressed. An environmental and archaeology assessment is in progress.

Vision for the new St. Paul's

Providence's vision for the new St. Paul's is to lead in the delivery of British Columbia's new model for health care by providing our patients with the highest quality, integrated, compassionate and patient-centred care, where and when they need it most.

Find out more about the project

More information about the St. Paul's Redevelopment Project is available on our website at thenewstpauls.ca.

You can also contact us by email at thenewstpauls@providencehealth.bc.ca