

FORT YORK PEDESTRIAN & CYCLE BRIDGE

November 2006



This is a new concept for the Fort York Pedestrian and Cycle Bridge linking Stanley Park (South) in the Niagara Neighbourhood and the Fort York National Historic Site. The bridge will also act as a signature portal to the downtown from the West. This concept has been prepared for:

EDCT—Culture, Cultural Assets—Fort York, City of Toronto

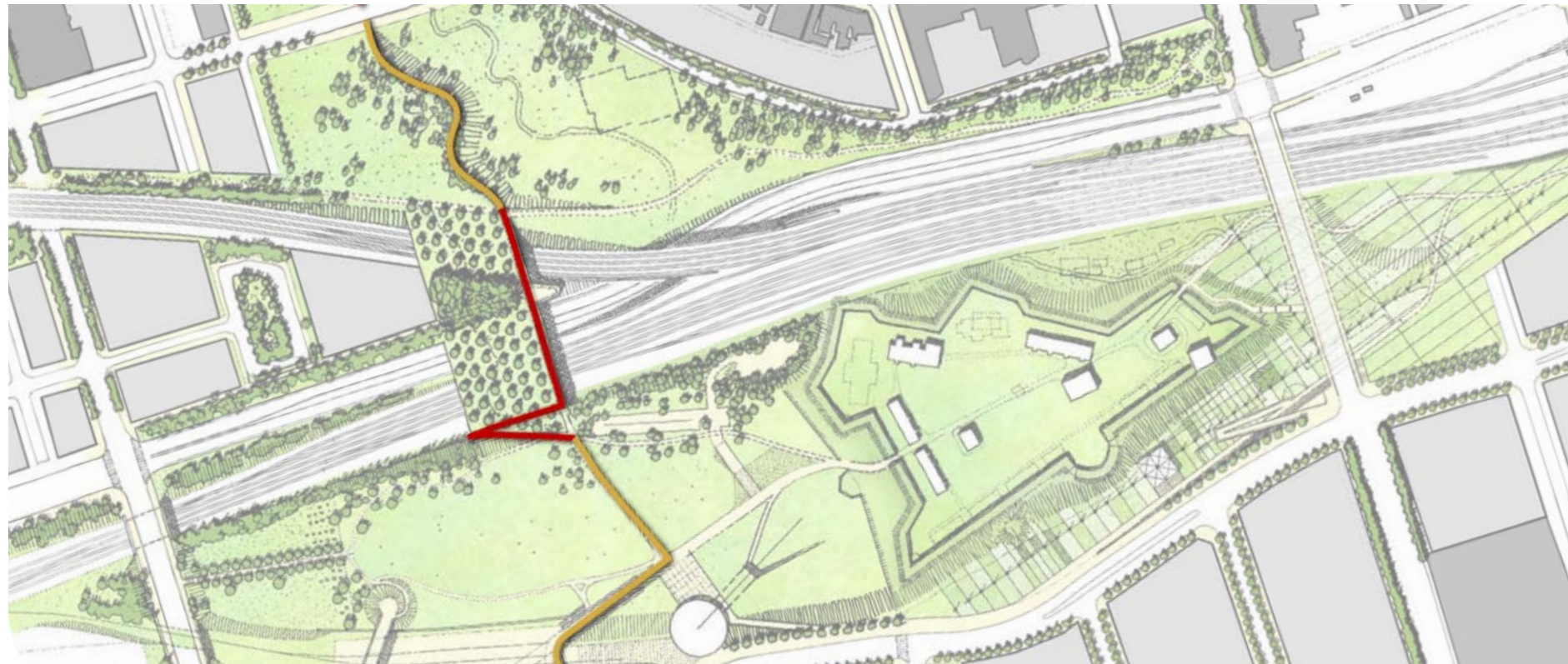
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**David Dennis Design
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The Fort York Land Bridge in the Fort York and Garrison Common Open Space Plan, 2001.

THE LAND BRIDGE IN THE 2001 FORT YORK OPEN SPACE PLAN

The Fort York Land Bridge for pedestrians and cyclists was first proposed in the 2001 Fort York and Garrison Common Parks and Open Space Design and Implementation Plan. It connected the north side of the "Mustering Ground", across the rail corridor and the Front Street Extension (as then projected), to an expansion of Stanley Park, south of Wellington Street.

The Long Range Open Space Demonstration Plan, illustrated left, shows the sixty- metre wide Land Bridge, with a planted deck, in a location where the spans of the bridge could be minimized. It is also shown connected to the Ordnance Street "Triangle", which was assumed to be a potential development site, probably raised to the elevation of the Strachan Avenue Bridge.

The Land Bridge was connected to the central part of the proposed expansion of Stanley Park, which was assumed, in the long term, to include much of the lands currently occupied by Quality Meats and the City Works Yard.



The proposed alternative Fort York Bridge over the Front Street Extension (recommended E.A. alignment) and modified rail corridor.

A PROPOSED ALTERNATIVE CONCEPT FOR THE FORT YORK BRIDGE

There are several reasons for developing an alternative concept for the Fort York Bridge:

There is now a need to consider the construction of the Bridge independently of the Front Street Extension. This means that the Bridge must be designed to fit both the existing and the future alignments of the rail lines and roads in the corridor.

The location of the early expansion of Stanley Park on the south side of Wellington Street has now been determined. This establishes the position of the north end of the bridge.

The configuration of the Front Street Extension has now been determined (recommended plan) through the 2003 Environmental Assessment Study. This design does not easily accommodate the Land Bridge as originally conceived.

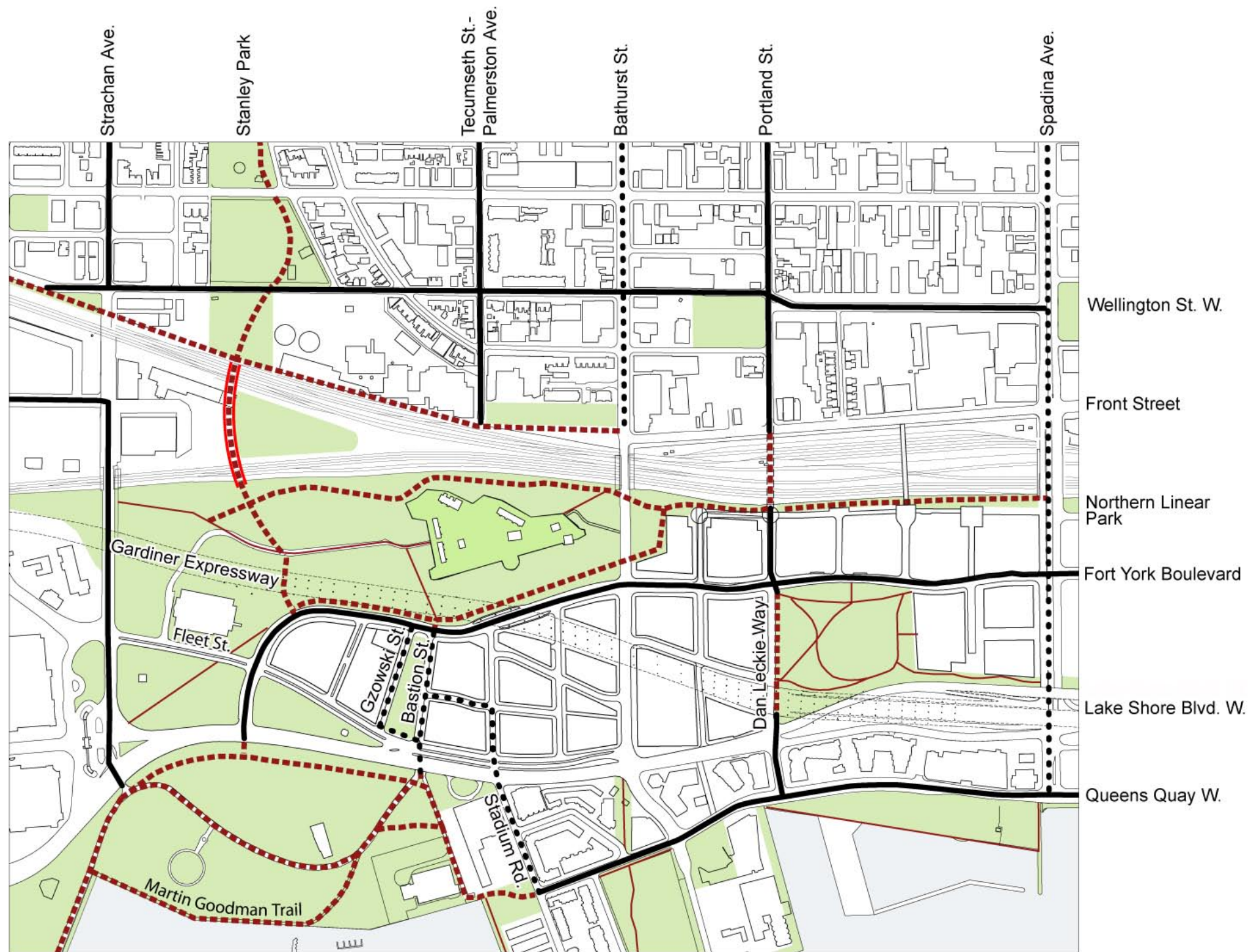


Diagram of the proposed revised pedestrian and cycle network

THE FORT YORK BRIDGE AS A KEY PART OF THE CITY AND WATERFRONT PEDESTRIAN AND BICYCLE NETWORK

This diagram illustrates the strategic importance of the Fort York Bridge in the waterfront pedestrian and cycle network. Once in place, it will forge a key link in the “Garrison Creek” chain of cycle and pedestrian routes, off major city streets, that connect the City to its Waterfront.

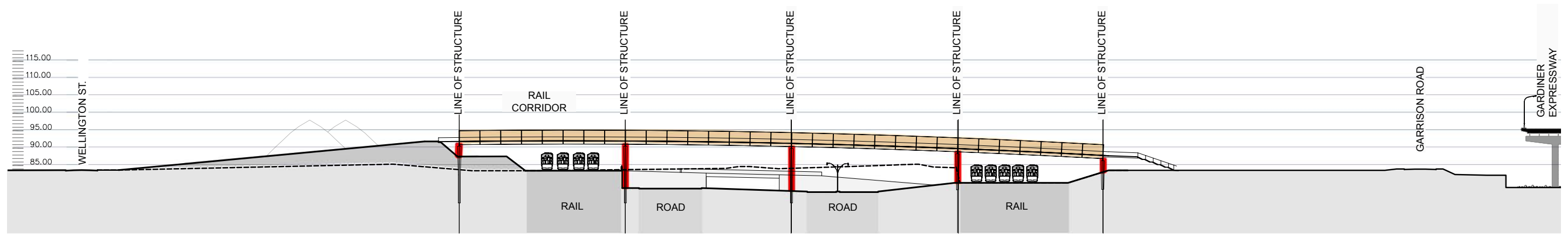
The Fort York Bridge will be the completing link between the Trinity Bellwoods Park – Stanley Park chain, north of the rail corridor and the Fort York – June Callwood Park – Coronation Park/Martin Goodman Trail chain, in the south.

This will provide an alternative to both the Strachan Avenue bikeway with its at-grade rail crossing and the Bathurst Street route, which will become unsuitable for bicycles with the development of the LRT.

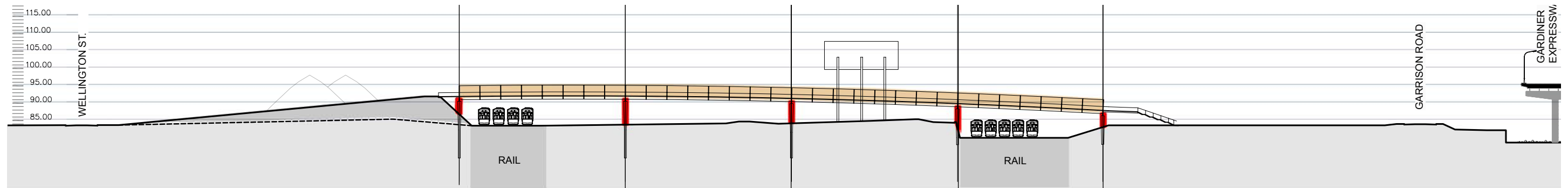
Of similar importance to the Fort York Bridge is the Portland/ Dan Leckie Way Bridge across the rail corridor. It too will connect up a direct city-to-waterfront route and focus bicycle movement away from the heavily trafficked arterial roads.

The completion of these two north-south routes in combination with the principal east-west pedestrian/cycle routes: Wellington Street West; the North Linear Park and Fort York; Fort York Boulevard; and the Martin Goodman Trail, will establish a strong, legible network of pedestrian and bicycle routes in this western area of the downtown

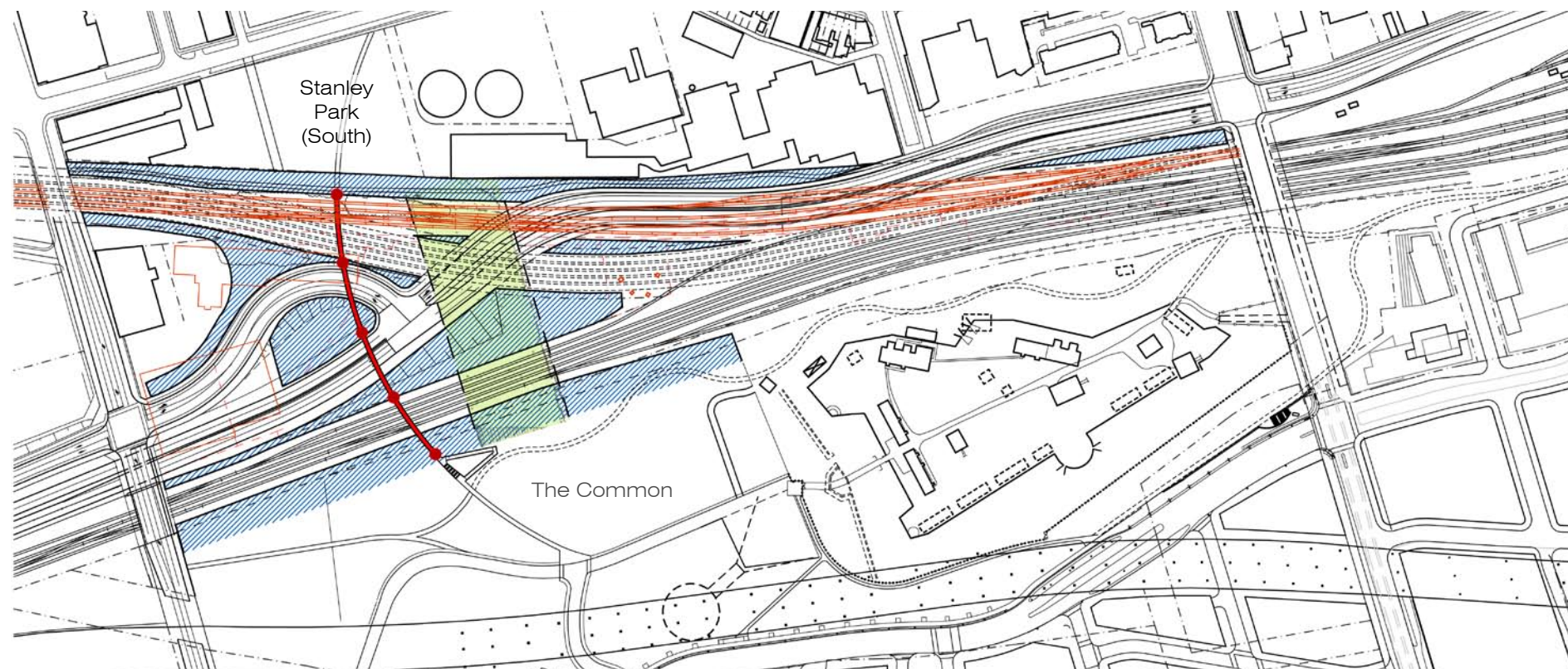
- Proposed Bridge
- Pathway (off-street)
- - - Multiuse Pathway (off-street)
- Bikeway Facility (on-street)
- · · · · Bikeway Connection (on-street)



North-South Section. Fort York Bridge over proposed rail and road corridor.



North-South Section. Fort York Bridge over existing rail and road corridor.



Areas within or alongside both the existing and possible future rail and road corridor where supporting columns of the bridge might be located.

POSSIBLE LOCATIONS OF STRUCTURAL COLUMNS FOR THE BRIDGE

The adjoining plan shows the 2003 Environmental Assessment Study's recommended scheme for the Front Street Extension and the associated rail relocation. Also shown, in red, are the existing Georgetown rail lines.

The blue shaded areas on the plan represent the available areas for structural support for the Bridge allowing for both the existing and proposed configurations of rail and road corridor.

The selected location for the Bridge accommodates four equal spans of 48 metres across the corridor. The curved shape allows for landing the Bridge in appropriate locations in the Common and Stanley Park (South) and positions all the structural supports for the bridge outside the existing and proposed rail and road allowances.



View looking South-East

**THE FORT YORK BRIDGE ACROSS THE
EXISTING RAIL CORRIDOR**



View looking East



View looking South-East

**THE FORT YORK BRIDGE ACROSS THE
RAIL CORRIDOR WITH THE FRONT
STREET EXTENSION**



View looking East



Fort York Lookout from the bridge

LANDING THE BRIDGE ON THE SOUTH SIDE

This proposed concept for the Fort York Bridge includes quite different ways of landing the bridge on the north and south sides of the rail/road corridor.

On the south side, the intention is to touch the ground lightly to maintain The Common as a flat, relatively open terrain, which reflects its role in the defence of the fort. It also propose that once the Tree Nursery is removed, the line of the banks of the Garrison Creek and the edge of the rail corridor be reforested in order to screen the corridor and to recapture some of the qualities of the fort in a forest clearing.

The landing of the proposed bridge emerges from this “forest” edge and the connecting ramps and stairs are intended to sit lightly on the ground plane. The ramp is aligned to give descending pedestrians a long, clear view across the Common to the Fort buildings “hunkered down” behind the defensive earthen ramparts.



Access Ramp - South bridge access



Access Ramp and stairs - South bridge access



Northern landing of the Fort York Bridge in the regraded Stanley Park (South).

LANDING THE BRIDGE ON THE NORTH SIDE

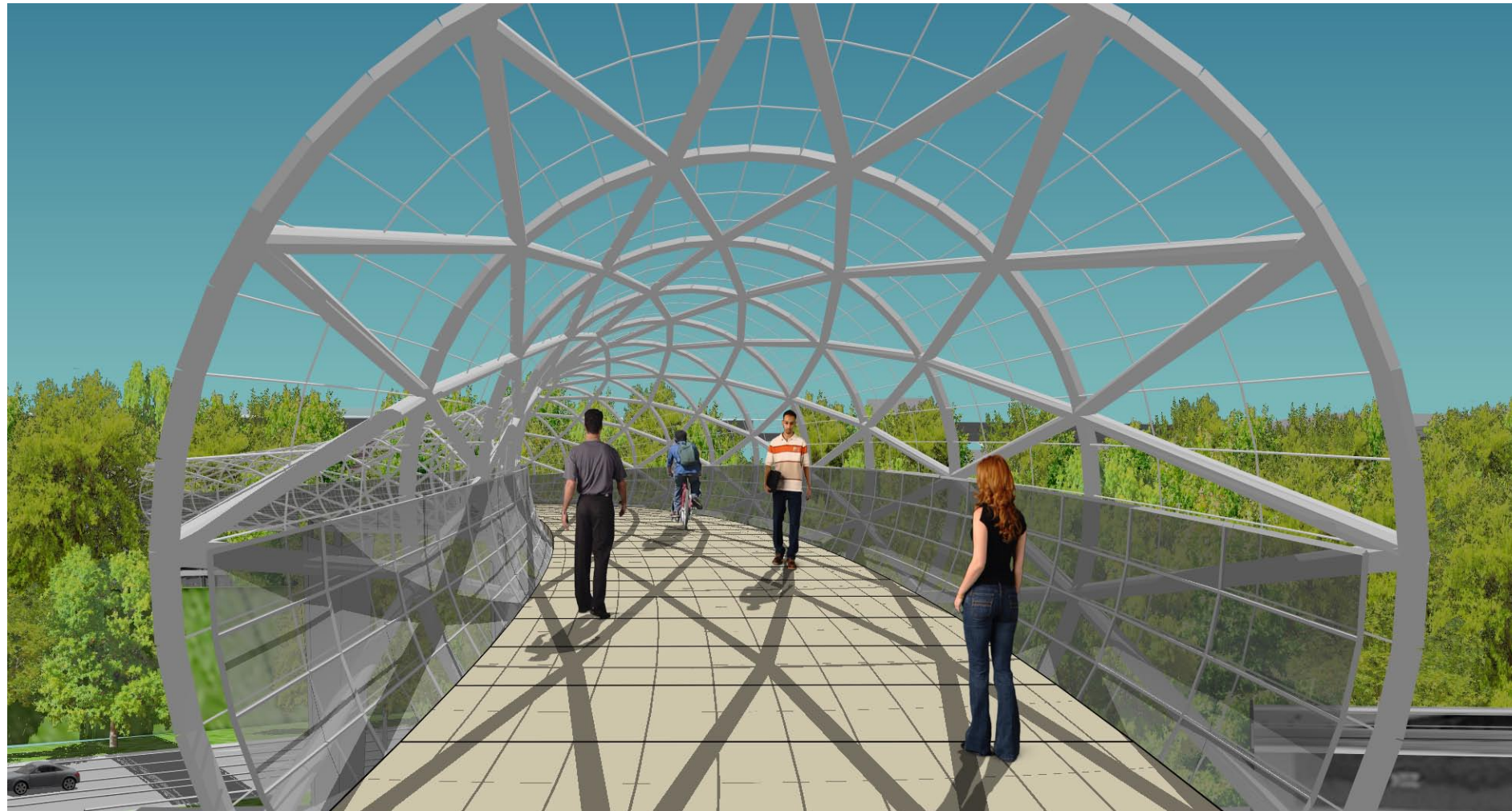
On the north side of the rail corridor, the design concept is to reshape the land of the new Stanley Park (South) to integrate it with the Fort York Bridge.

The north-south cross-section through the park (left) illustrates the filling and regrading of the site. The grade closest to the rail corridor, where the Bridge lands, is raised approximately five and a half metres and is sloped back to Wellington Street on an even 5% slope.

In this way, the pedestrian and cycling pathway from Wellington Street connects seamlessly with the Bridge, on a gentle slope which is fully wheelchair accessible. In addition, the regrading of Stanley Park (South) begins to establish a bermed edge to the north side of the rail corridor. This can be extended to the east and west as further redevelopment of the area proceeds, to provide some visual and audio screening of the railway from the Niagara Neighbourhood and could incorporate an east-west pedestrian/ cycle route connecting Strachan Avenue, the Fort York Bridge, Tecumseth Street and Bathurst Street.



North-South section through Stanley Park (South).



View looking south across the Fort York Bridge.

THE DESIGN CONCEPT FOR THE BRIDGE

The almost 200 metre long bridge is intended to have a strong horizontal profile which, along with new tree plantings, will help to visually re-connect the parts of the former valley of the Garrison Creek. (A series of vertical landmark arches or pylons supporting a suspended pedestrian deck, for example, is not considered to be appropriate in this situation).

Cost efficiency is targeted through efficient engineering design, the use of dimensionally standardized structural modules, repetitive components and a high proportion of factory pre-fabrication.

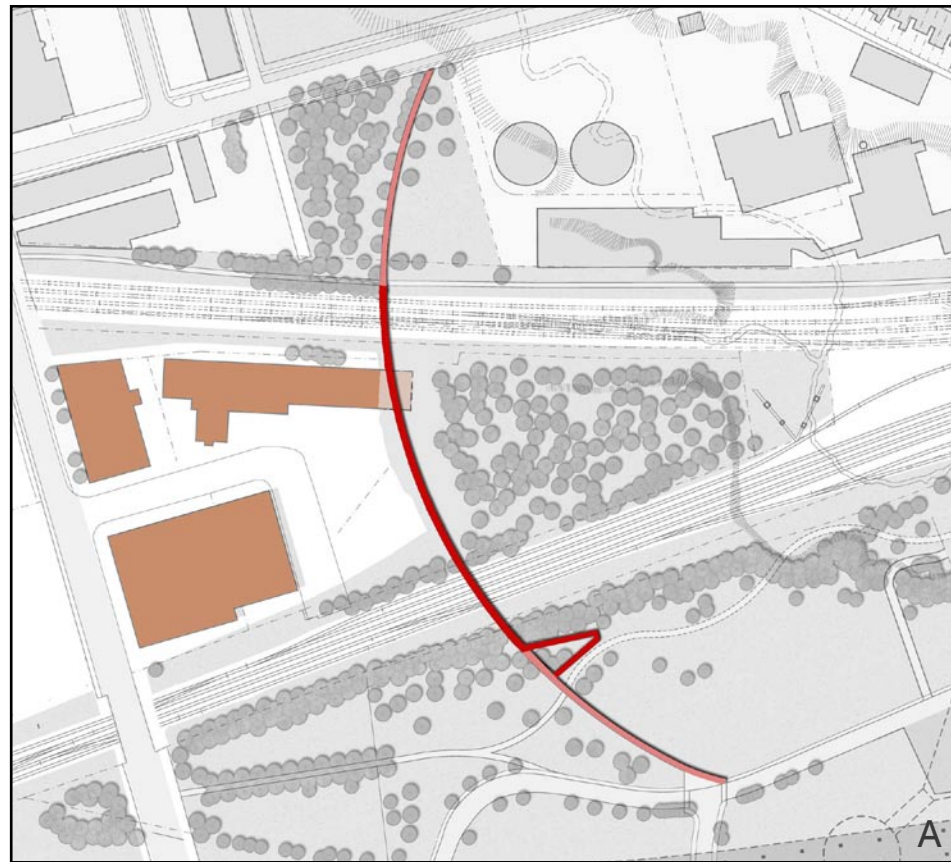
The design concept provides for the construction of the bridge with pre-fabricated sections that are sized for transportation by road or rail and can be assembled over the operational rail tracks. The bridge has four equal clear spans of 48 metre assembled from 6 metre long prefabricated steel spiral-framed tubes, 5 metres in diameter. The 4 metre wide pedestrian/cycle deck is located inside the structure in order to minimize the additional height of the deck above the required 7.5 metres clearance over rail tracks.



Fort York Bridge structure.



A similar structure, designed for a rail viaduct as a part of the urban rail network in The Hague, Netherlands (Zwarts and Jansma Architects, Amsterdam).

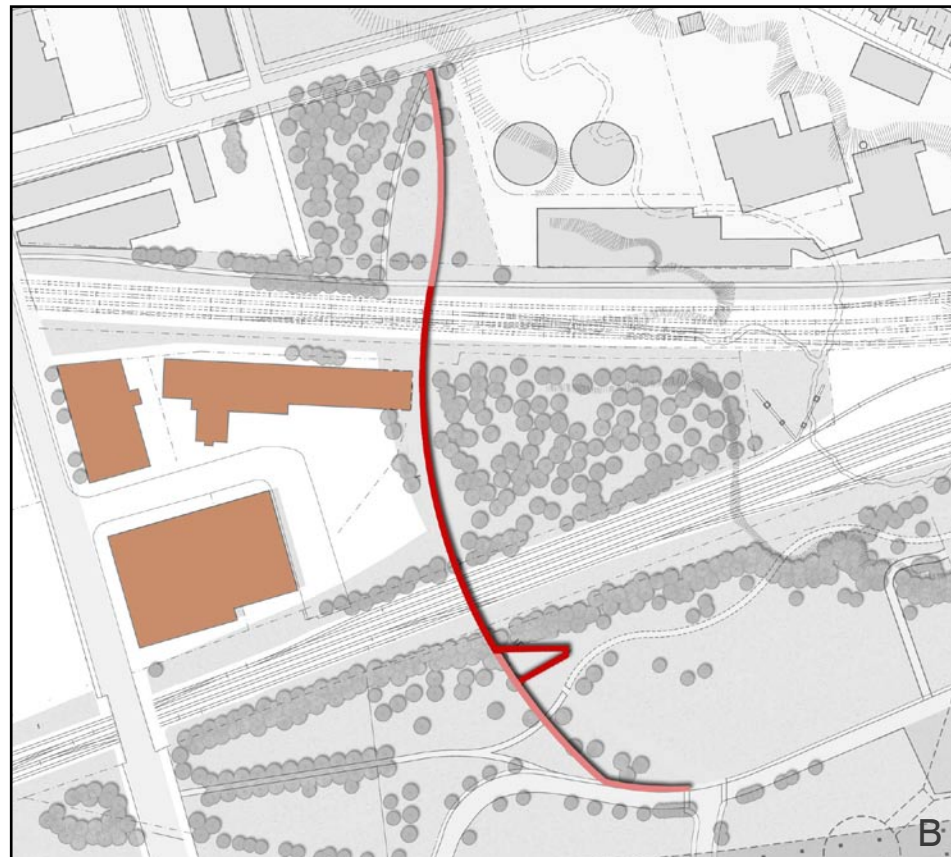


THE BRIDGE ALIGNMENT ACROSS THE ORDNANCE STREET TRIANGLE

There are three buildings in the triangular land parcel bounded by Strachan Avenue and the two rail corridors. Two of these are slated for removal to make way for the Front Street Extension – the Metropolitan Toronto Police Services Building on the south side of Ordnance Street and a single storey industrial building on the north side.

If the Fort York Bridge, as illustrated throughout this document, is constructed in advance of the Front Street Extension it will require the demolition of the eastern end of the industrial building as shown in diagram A. A brief inspection of the building exterior suggests that the removal of part of the building and the replacement of its east wall will not present a major cost.

Diagram B illustrates an alternative alignment for the Fort York Bridge, which does not interfere with the existing industrial building. It has many of the same attributes as the first alignment but introduces some complexity to the dimensions of the bridge spans in order to accommodate the modified rail/road corridor.





Fort York Bridge with existing rail corridor.



Fort York Bridge with Front Street Extension and modified rail corridor.