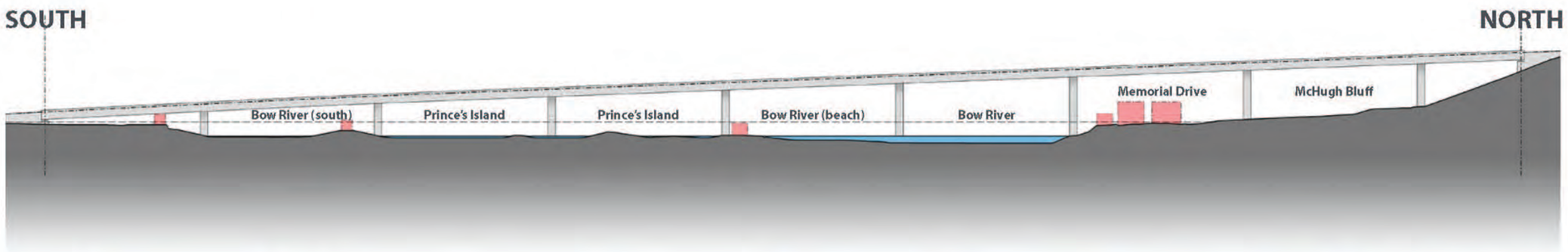
Bow River Crossing

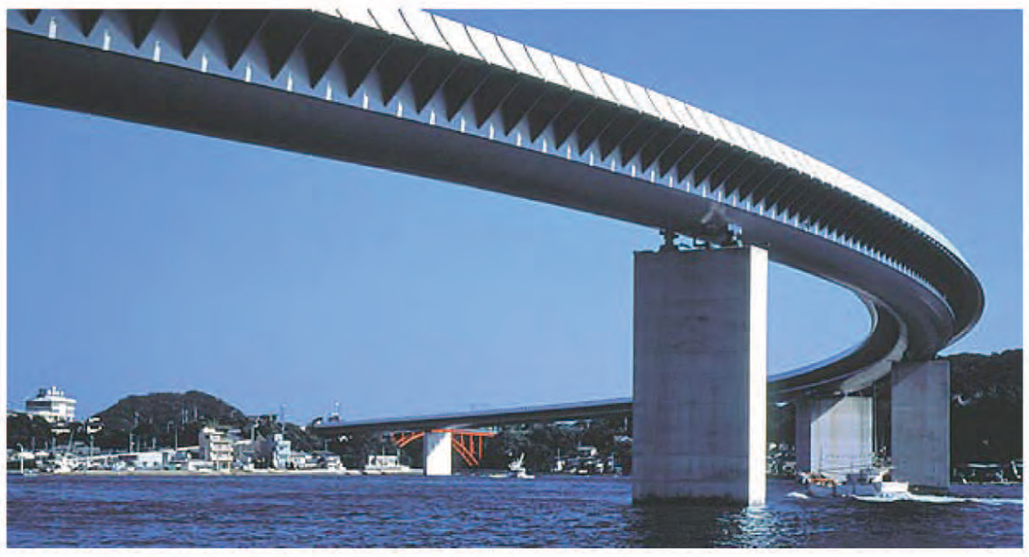
Potential bridge types

There are different bridge types that can be considered for the crossing of the Bow River. Some bridge types would have more prominent architectural features and other types would have simpler structures to blend in.

This board and the next show a range of possible bridge types, along with photos showing examples of where they exist elsewhere in the world. These are only a few examples of potential bridge types, however, no formal bridge design has been completed.

Constant depth viaduct

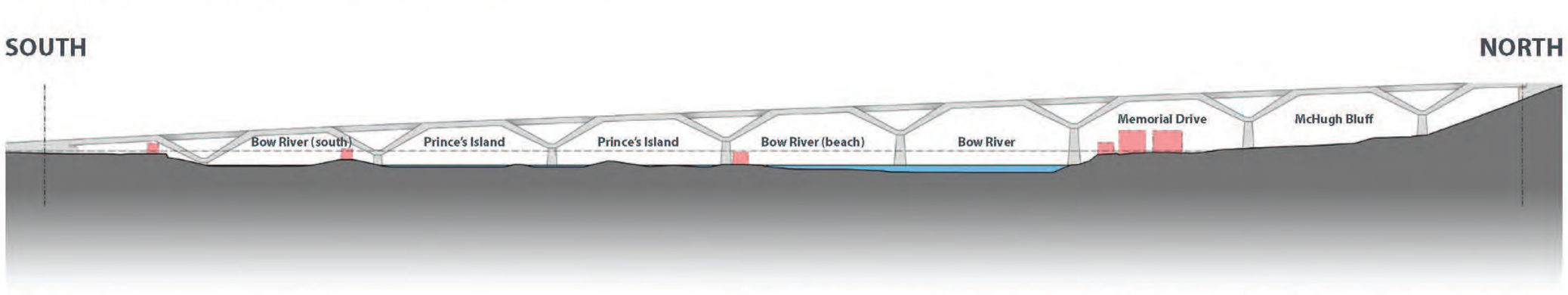




Ushibuka Bridge, Kumamoto, Japan

Clackmanninshire Bridge, Kincardine, Scotland

Trestle structure viaduct

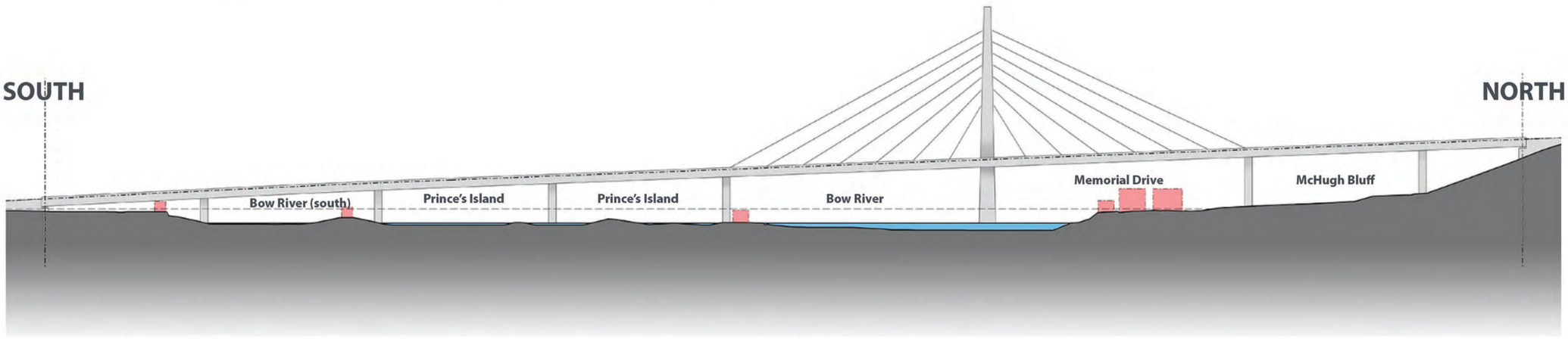


Viaduc de la Savoureuse, Bermont, France

Bow River Crossing

Potential bridge types

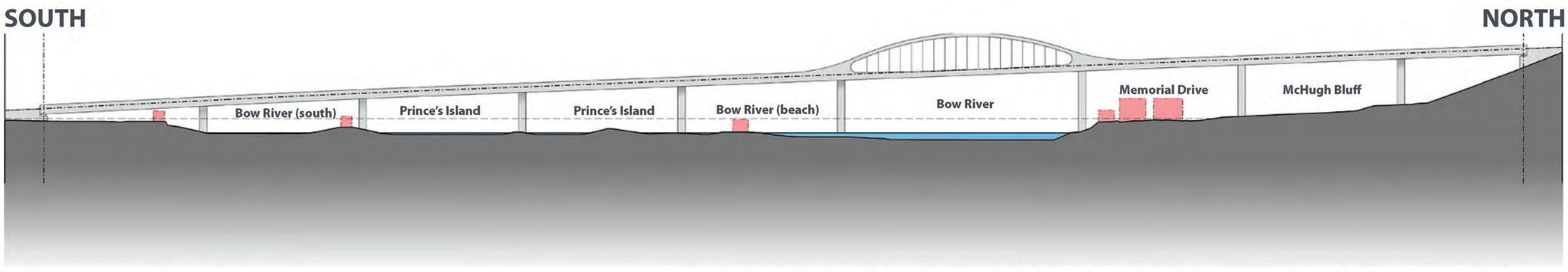
Cable stayed main span bridge



Northern Spire, Sunderland, England

Fitzroy River Crossing, Rockhampton, Australia

Arched truss bridge



Kienlesbergbrücke, Ulm, Germany

Dvorecky Bridge, Prague, Czech Republic

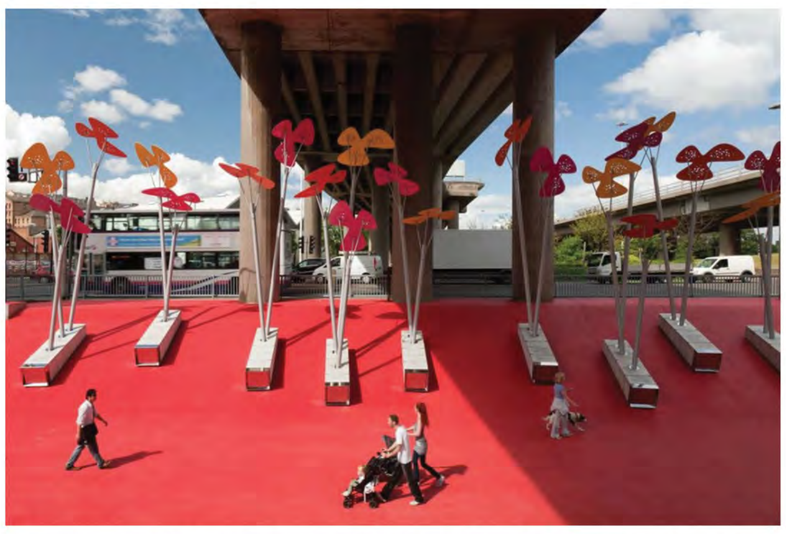
Bow River Crossing

How might the bridge land?

How the bridge lands on both the north and south side of the crossing will be crucial for the successful integration with the surrounding parks, pathways, homes, and natural areas.

This board shows photo examples of bridge landings in other cities, and preliminary ideas for how the bridge might land at both ends.

Photo examples



Garscube Landscape Link, Glasgow, Scotland

The Tide, Greenwich, London, England

Congress Ave Bridge Boardwalk, Austin, Texas

Preliminary ideas

South side (Eau Claire Promenade)

Looking east towards the LRT Bridge and a new pedestrian crossing onto Prince's Island Park

Looking southwest from Prince's Island towards the LRT Bridge and south channel lagoon

North side (McHugh Bluffs)

Bow River Crossing

Environmental considerations

Initial environmental reviews have been completed for the proposed bridge crossing to identify potential environmental impacts and mitigation measures. As part of the design process, detailed environmental assessments will be undertaken to inform the bridge design and construction methodology, as well as to support completion of required regulatory approvals.

Key considerations

- **Wildlife and wildlife habitat**
  - Bridge design will consider how wildlife may move over, under and along the bridge.
  - Habitat for a variety of wildlife may be impacted during construction, particularly around piers. The impacts can be reduced by scheduling work with direct impacts to wildlife and habitat outside of key seasonal windows.
- **Fish and fish habitat**
  - How fish and fish habitat may be impacted will depend on the bridge design, and specifically the pier locations.
  - If the project does impact fish and fish habitat, The City will abide by the regulatory requirements to reduce impacts through construction planning and management, and habitat replacement if fish habitat is permanently impacted.
- **Prince's Island Park natural areas and park spaces**
  - The bridge may add a unique viewpoint to showcase the park and Bow River valley.
  - How Prince's Island Park may be impacted will vary depending on the bridge design. Impacted natural areas and park spaces would be restored to blend with surroundings.
- **Bow River users**
  - Depending on the bridge design, there may be impacts to those that use the Bow River for recreation.
  - There are requirements to provide safe detours for river users during construction and the bridge design will carefully consider potential impacts on navigation of the river.

Environmental regulatory framework

The bridge work will be required to adhere to municipal, provincial, and federal environmental requirements and regulations, including:

- **Municipal Requirements:** The City has several environmental policies and regulations to ensure projects are responsibility managed and any impacts acceptably restored (e.g., Biophysical Impact Assessment Framework and Tree Protection Plan requirements).
- **Provincial Regulations:** Water Act, Public Lands Act, Environmental Protection and Enhancement Act, Historical Resources Act, Alberta Wildlife Act
- **Federal Regulations:** Fisheries Act, Canadian Navigable Waters Act, Species at Risk Act, Migratory Birds Convention Act

Bow River Crossing

What might construction look like?

Planning for the bridge is at a very early stage, and the construction requirements will vary depending on the bridge type selected. This board provides a preliminary summary of what typical construction activities, construction schedule, and potential construction impacts.

Typical construction activities

Some of the high-level construction activities that can be expected during construction of the bridge structure are as follows:

- Establishing a construction laydown and material storage space
- In-river works (eg. access berms, cofferdams, and dikes)
- Geotechnical investigation (including in-river investigation)
- Piling activities
- Erection and removal of formwork and falsework for cast in place concrete
- Trucking and hauling of construction materials
- Placing and handling of concrete
- Assembly of bridge components on site
- Lifting and installation of girders and bridge segments
- Excavation, backfill, trimming, and shaping of slopes
- Installation of rock riprap in the river
- Restoration of all existing environmental conditions

Construction schedule

The construction timeline for the bridge will be dependent on the preferred design and associated construction complexity. However, at this stage, we anticipate that it would take 2-3 years to construct, after all necessary permits have been received.

Typical construction impacts

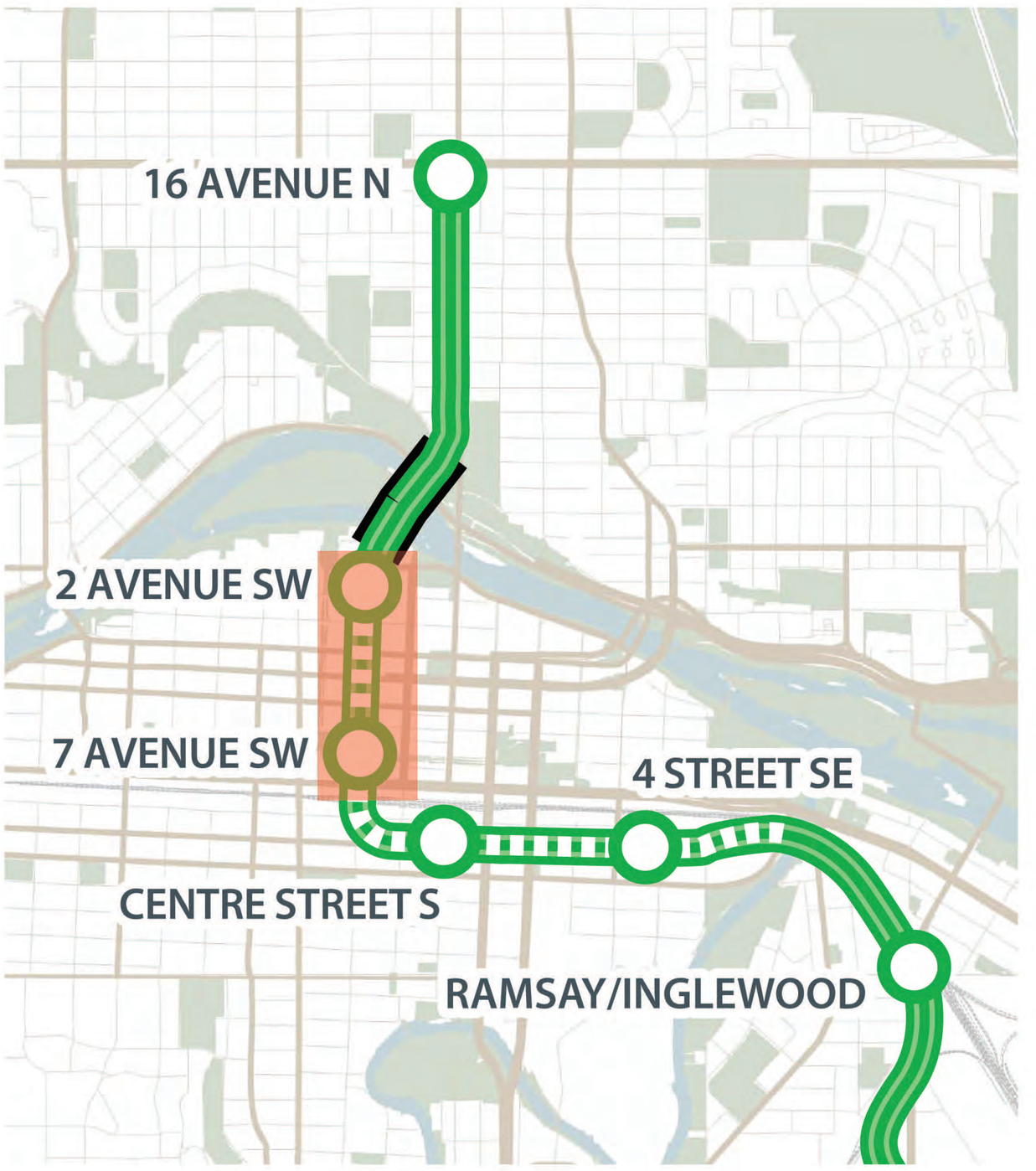
Although we will take every effort to minimize unnecessary disruption, we know there will be construction impacts in order to build the bridge. Some of the key impacts that are likely to occur are summarized as follows:

- Increased noise, dust, and nighttime lighting
- Pathway disruptions, detours, and temporary closures due to construction work
- Navigability of the river during select phases of construction
- Temporary closures to select areas of east side of Prince's Island Park

Downtown

Stakeholder interests we've heard

- Provide great public realm
- Preserve river pathway connectivity
- Do not impact connectivity of east-west avenues and overall mobility network
- Preserve redevelopment opportunities
- Minimize impacts to existing developments
- Do not negatively impact property values and leasing appeal



Planning & design objectives

- Integrate LRT infrastructure with adjacent development and the public realm
- Provide continued functionality and experience of the river pathway
- Support continued vibrancy of cultural, social and community activities in the area
- Minimize impacts to existing residential and commercial properties
- Enable future development potential
- Minimize impacts to the mobility network