

WALTERDALE BRIDGE REPLACEMENT

2013 YEARBOOK



After more than 100 years, the Walterdale Bridge has reached the end of its service life and needs to be replaced.

Construction on the \$155 million Walterdale Bridge replacement project began in 2013. The new bridge will feature three northbound traffic lanes and enhanced pedestrian and cyclist crossings, with a walkway on the west side and a separated shared-use path on the east side. Roadway and trail links north and south of the river will also be enhanced.

DESIGN

This signature bridge will be first of its kind in Edmonton, featuring two 56 m tall arches that will span the river just east of the current bridge. The new bridge arches will be supported by thrust blocks on both river banks, eliminating the need for permanent river piers. This means minimal in-stream work and a significantly smaller environmental impact than a truss-type bridge with piers, such as the existing Walterdale Bridge.

2013 CONSTRUCTION TIMELINE

JANUARY

- Alberta Culture grants Historical Resources Act clearance for the project.
- Construction begins with tree removal, followed by construction of temporary access roads and in-river berms.

FEBRUARY

- Final pre-construction public meeting is held Feb 7.
- Aboriginal communities participating in the consultation process are invited to conduct ceremony, as well as monitor pertinent excavation and in-river construction activities for the project.

MARCH

- Crews complete in-river berms.

MAY

- The Province amends the Traditional Burial Grounds/Fort Edmonton Cemetery boundary. This does not impact the historic period cemetery; however it does require relocation of the interpretive belvedere that explains the historical and cultural features of the site.
- The bridge construction contract is awarded to Acciona/Pacer Joint Venture.

JUNE

- Berm maintenance is required due to spring runoff and flooding.
- Further tree removal takes place within the now fenced-off construction area.

JULY

- Queen Elizabeth (QE) Park Road closes Jul 15 for re-grading and realignment.
- Crews begin excavating and installing temporary sheet piling 20 m below the surface on the south side. Pilings will support deep excavation on the river bank needed to build thrust blocks—large underground foundations that support the bridge arches. South side work also includes new underground drainage pipes and utility relocations.
- Excavation moves more slowly on the north side due to archaeological sorting of industrial fill removed west of the EPCOR site. This is overseen by Aboriginal monitors.



ROSSDALE REDEVELOPMENT

The bridge is the first of a number of projects planned for the Rosedale area. Future projects include changes to Queen Elizabeth Park, West Rosedale Urban Revitalization, West Rosedale Arterial Roadway Improvements, and repurposing of the decommissioned EPCOR power plant.

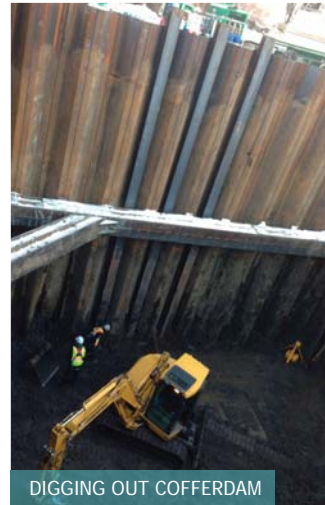


PEDESTRIAN BRIDGE & TRAIL LINKS

These include a new trail below the north side of the new bridge. The walkway and shared-use path on the new bridge will complement the overall River Valley trail system.

AUGUST

- Major grading work on QE Park Road is completed. Base asphalt paving and curb and gutter work takes place.
- The interpretive belvedere is removed from the Traditional Burial Grounds/Fort Edmonton Cemetery site to accommodate excavation for the future north side bridge alignment. A temporary relocation site is chosen based on consultation with Aboriginal communities.



SEPTEMBER

- Remaining concrete and paving work on QE Park Road is completed. Signs, pavement markings and temporary traffic signals are installed.
- Soil sorting on the north side is completed.
- Drainage work on the south side along QE Park Road is completed.

OCTOBER

- QE Park Road reopens to traffic Oct 1, a full month ahead of schedule.



NOVEMBER

- Sheet piling continues to be installed on both river banks. Because a dry environment is needed for construction, pilings are joined together, then the soil within is removed to create watertight temporary enclosures called cofferdams. These are needed in order to install concrete thrust blocks on both sides of the river. The cofferdams will be dismantled and the pilings removed after construction is complete.

DECEMBER

- Pile driving continues until the end of 2013. Thrust block construction is expected to begin in late 2013/early 2014.



HISTORICAL SIGNIFICANCE

Rossdale has significant historic and cultural importance. On the north side is the Traditional Burial Grounds/Fort Edmonton Cemetery, which includes a memory circle, re-interment area, historic period graveyard and interpretive belvedere. Prior to bridge construction, the site required Historical Resources Act clearance from Alberta Culture, as well as realignment of the legal cemetery boundary and temporary relocation of the interpretive belvedere. The cemetery boundary amendment did not impact the historic period cemetery.

The new bridge is being built adjacent to the old bridge over an area that has been frequently disturbed throughout Rossdale's development. This area presents the lowest possibility of encountering historic cultural resources during construction.





INTERPRETIVE BELVEDERE

ABORIGINAL ENGAGEMENT

Consultation with various Aboriginal communities is ongoing throughout the project:

- Prior to construction, communities were invited to carry out ceremony.
- Aboriginal observers have been on site monitoring pertinent excavation and in-river construction.
- Aboriginal communities were consulted to determine the temporary location for the interpretive belvedere and will be consulted further to determine its permanent location.

ARCHAEOLOGY

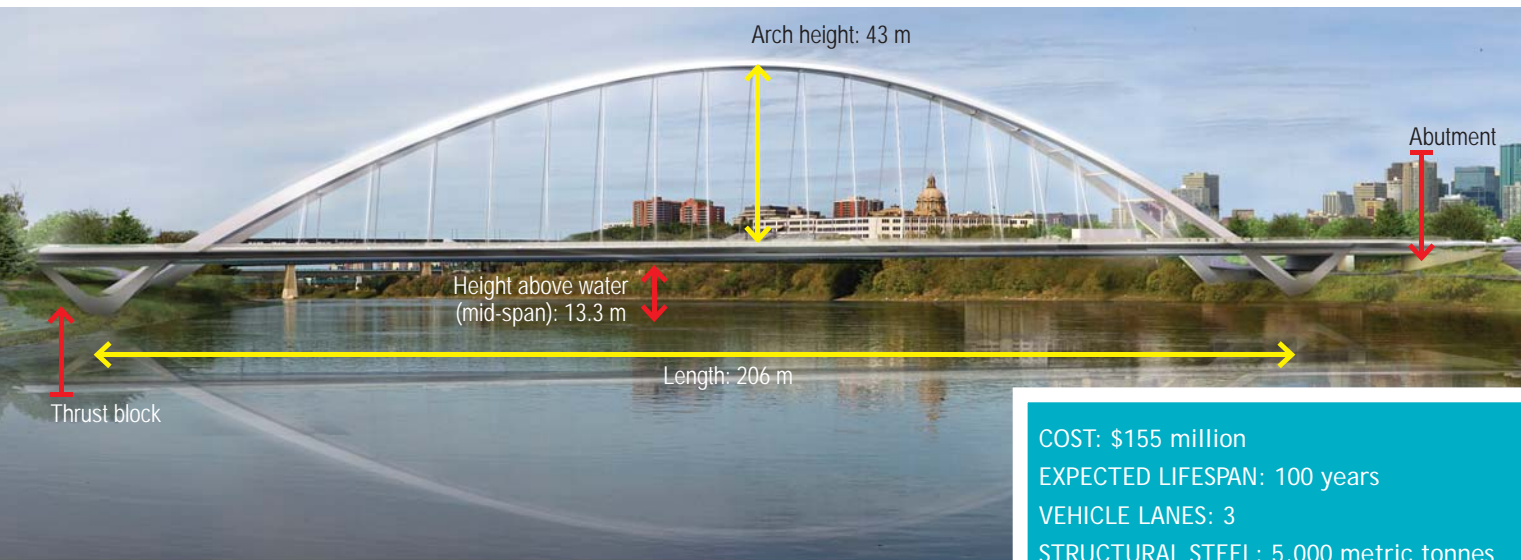
2012: Work on both sides of the river included mitigation at a previously unrecorded, 1,500-year old prehistoric campsite. The archaeology team recovered over 3,900 artifacts, including the remains of a hearth, stone tool-making debris and butchered animal bones.

2013: North side construction involved soil sorting. Recovered items included industrial debris, animal bones, and shards of glass and pottery. The entire area of the north bridge abutment was found to have been disturbed to a depth of over 6 m.



PREHISTORIC SITE ON SOUTH SIDE

NEW WALTERDALE BRIDGE FACTS



COST: \$155 million
EXPECTED LIFESPAN: 100 years
VEHICLE LANES: 3
STRUCTURAL STEEL: 5,000 metric tonnes
REINFORCING STEEL: 900 metric tonnes
CONCRETE: 7,000 cubic metres

BRIDGE ELEMENTS

ARCHES: 206 m long, these will rise 56 m above the thrust blocks, reaching as high as the High Level Bridge. They will angle in towards each other and be secured with steel deck cables.

THRUST BLOCKS: Foundation anchors for the arches that carry the bridge load. They are composed of concrete blocks measuring 10 m² that are founded 20 m below the road elevation.

ABUTMENTS: Foundations at each end of the bridge that connect the roadway. They are composed of drilled concrete piles and retaining walls.

DECK: A steel supported, cast-in-place concrete complete with an asphalt wearing surface.