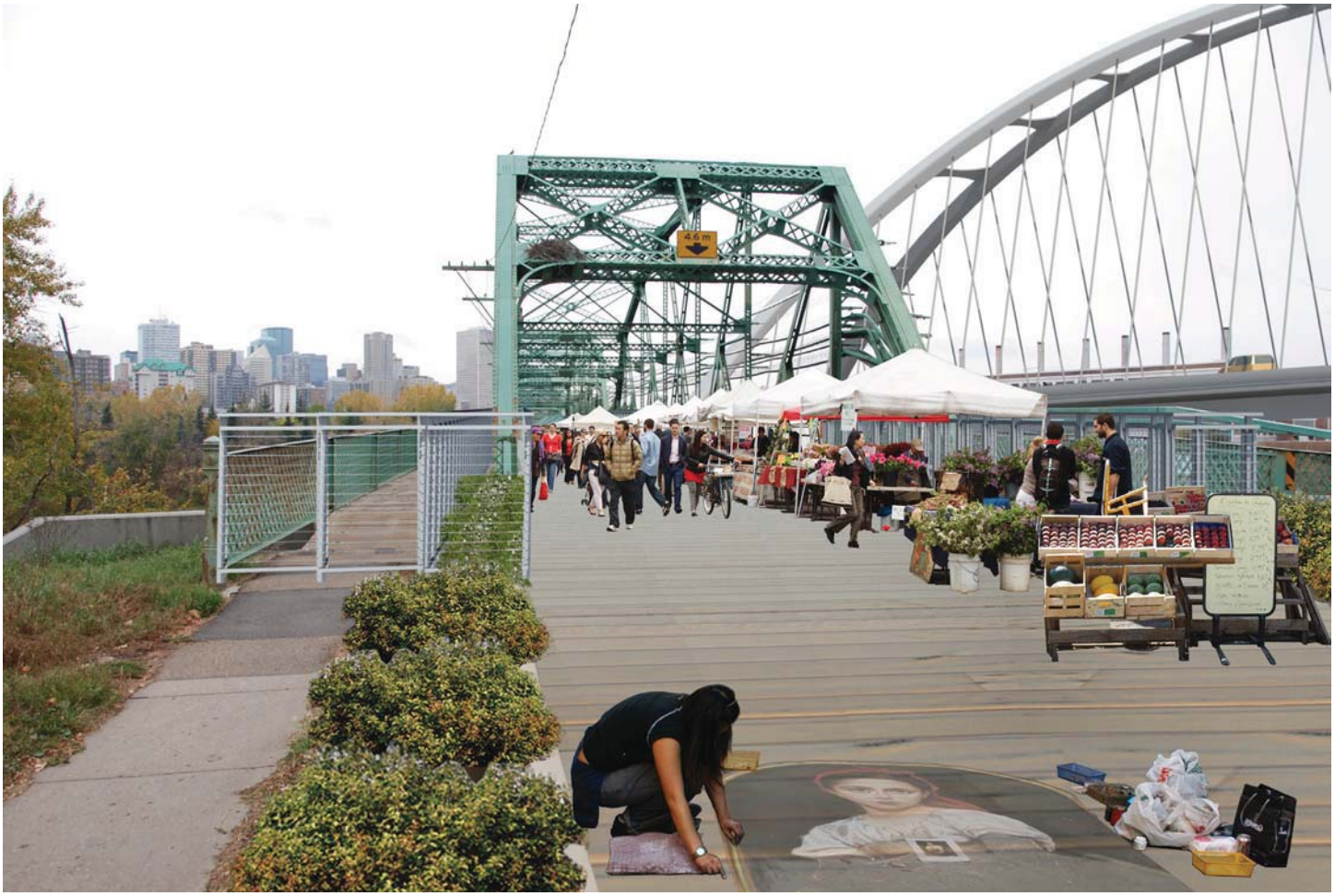
ATTACHMENT 1



WOOD DECK AND MARKET ON OLD BRIDGE

ATTACHMENT 2

PEDESTRIAN RAILING

ATTACHMENT 3

PEDESTRIAN LEVEL VIEW SHOWING TRUSS AND UTILITY OBSTRUCTIONS

ATTACHMENT 4

WALTERDALE BRIDGE - VIEW FROM WEST
MAINTAINING SOUTH SPAN OF OLD BRIDGE

ATTACHMENT 4

WALTERDALE BRIDGE - VIEW FROM EAST
MAINTAINING SOUTH SPAN OF OLD BRIDGE

ATTACHMENT 5

INTEGRATION INTO THE RIVER VALLEY TRAIL SYSTEM AND ROSSDALE AREA PLANS

REPURPOSE EXISTING BRIDGE

ADVANTAGES	DISADVANTAGES

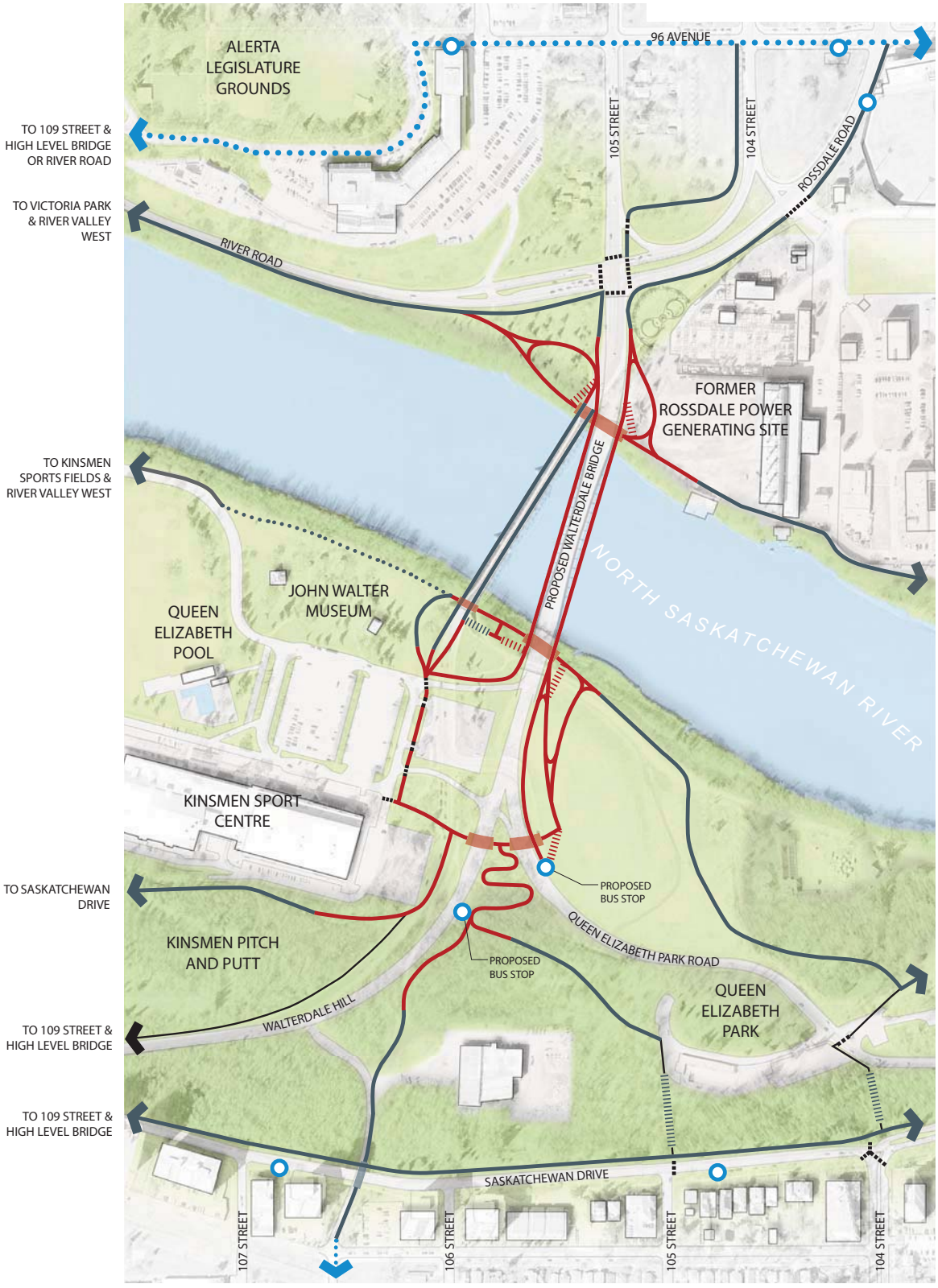
• The old bridge may be used as a pedestrian corridor for moving people across the North Saskatchewan River as well as a connection to the multi-use trail system and gathering areas on the north and south banks. *Note that the new bridge can also achieve this purpose.*
• The advantages of using the existing bridge to serve these pedestrian and multi-use needs are:
  ○ Pedestrians and cyclists have the opportunity to cross the river maintaining some distance from traffic and associated emissions.
  ○ The south end of the old bridge provides a closer approach to Kinsmen Sports Centre.
• Retaining the old bridge allows the bridge to remain on the City's Inventory of Historic Resources.
	• While both options achieve trail connectivity, the existing bridge in place presents design quality challenges and costly alternatives, in addition to operational and safety challenges.
	• The trail will be constructed within the 20 year flood zone and have limited access to light for the 40 m distance under both bridges (see Attachment 6 for rendering).
	• The cost to construct a trail under the existing bridge and connect it to the existing system is estimated to be $250,000 due to the constraints under the existing bridge structure including low clearance and abutment location relative to the river.
	• With the potential repurposing of the Rossdale Generating Station and the use of existing facilities, pedestrians and cyclists will likely want to cross the river on the east side of the new Walterdale Bridge. If a multi-use trail is not constructed on the new structure, it will be challenging and circuitous to get to the existing bridge on the west side of 105 Street, away from the activity nodes.
	• On the south bank, there will be many intersecting multi-use trails and stairs with reduced visibility around the bridge abutments. This will create a potentially hazardous zone for pedestrians and cyclists around the abutments of both the existing and proposed bridges.
	• Overall, although it is possible to maintain two bridges, the appearance of the bridges from the north bank will look cluttered and integration of the trail system into the project is challenging. When viewed together, the existing and proposed bridges will not have harmony of scale. The desired "signature" quality of the new bridge may be diminished.
	• When observed from the south river bank or from downtown, the view will be distracting as people expect adjacent bridge structures to cross rivers parallel to each other not at skew.
	• The proposed bridge alignment was defined based on the existing bridge being removed as per prior Council directive.

REMOVE EXISTING BRIDGE

ADVANTAGES	DISADVANTAGES
• The length and number of underpass structures will be minimized, translating into cost-savings and improved pedestrian experience. • Potential for trails to be closed as a result of flooding will be minimized as trails can be positioned higher up in the river banks. • Pedestrian and cyclist way-finding will be simplified with fewer trails intersecting at both the north and south river banks adjacent to the proposed bridge. • If the new bridge has a multi-use trail, the proposed bridge can be integrated into a purpose specific promenade that incorporates the north and south bank concepts.	• Existing bridge will not be available to act as additional amenities space for City events such as farmer's markets or festival events. • Loss of historical bridge feature.

NOTE: Attachments 6 and 7 illustrate trail routes (with and without old bridge) and a rendering showing a potential underpass on the north bank if the old bridge remains in place.

ATTACHMENT 6



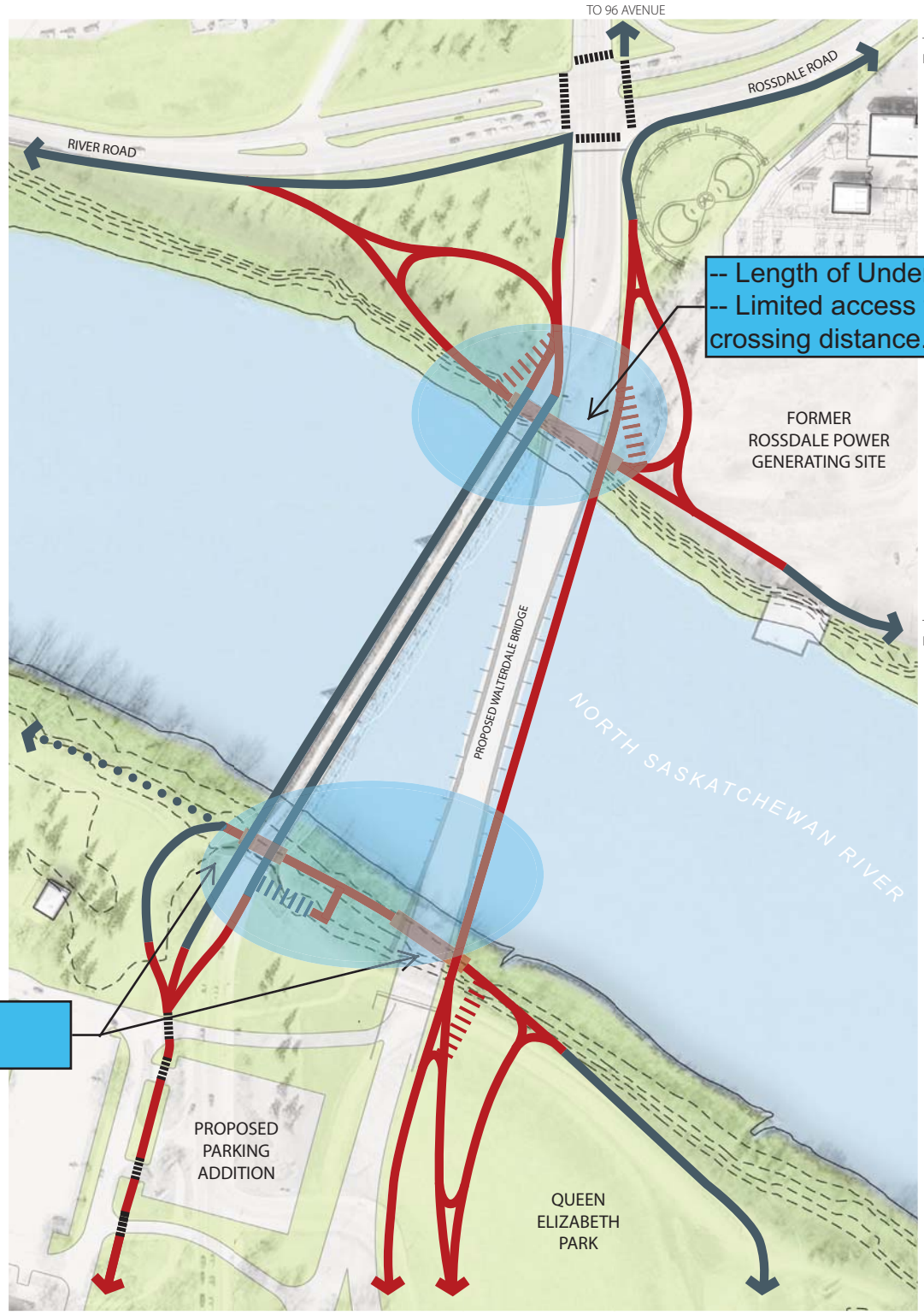
LEGEND

- PAVED MULTI-USE TRAIL (EXISTING/PROPOSED)
- GRAVEL MULTI-USE TRAIL
- PEDESTRIAN ROUTE
- STAIR (EXISTING/PROPOSED)
- BICYCLE LANE ON ROADWAY
- MARKED CROSSWALK
- BUS STOP

0 20 50 100 150 200m

MULTI-USE TRAIL INTEGRATION AND ALIGNMENTS
MAINTAINING EXISTING BRIDGE

ATTACHMENT 6



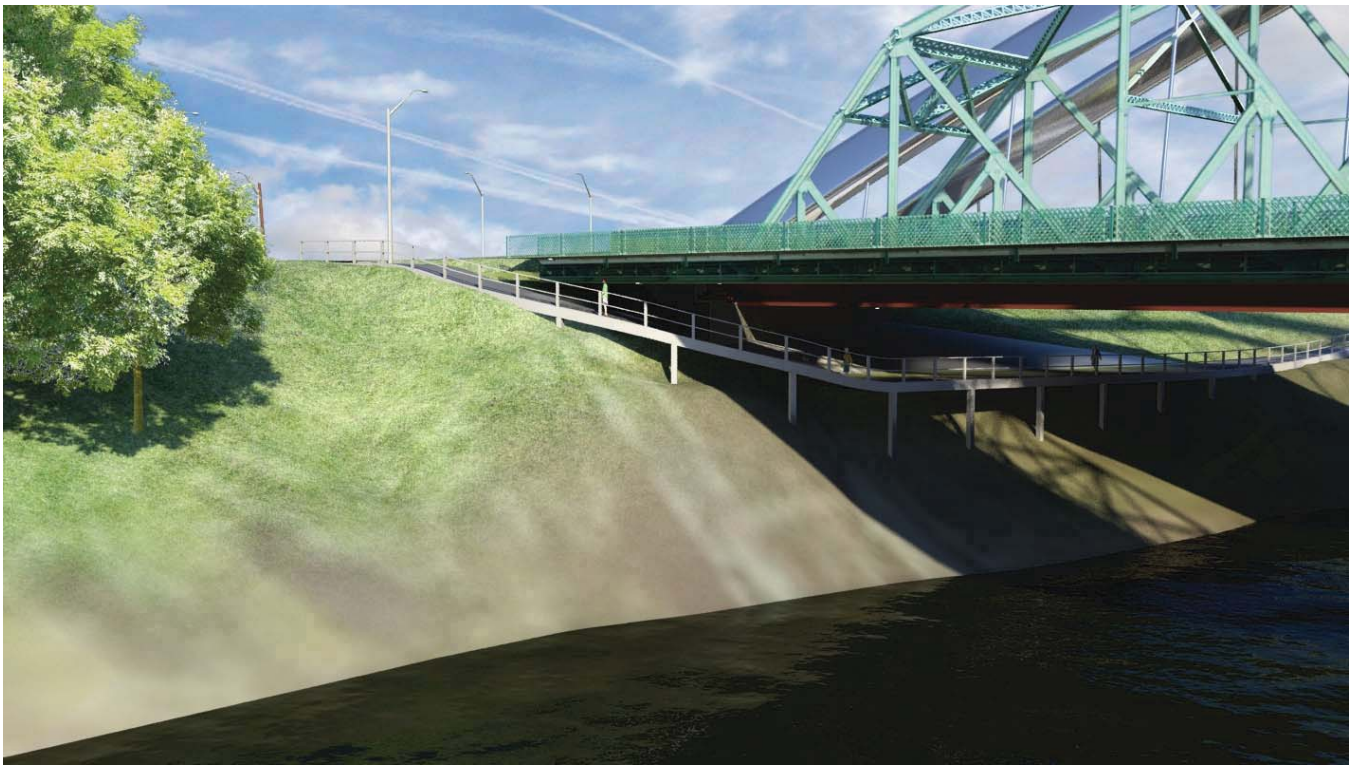
LEGEND

- PAVED MULTI-USE TRAIL (EXISTING/PROPOSED)
- GRAVEL MULTI-USE TRAIL
- STAIR (EXISTING/PROPOSED)
- MARKED CROSSWALK

0 10 25 50 75 100m

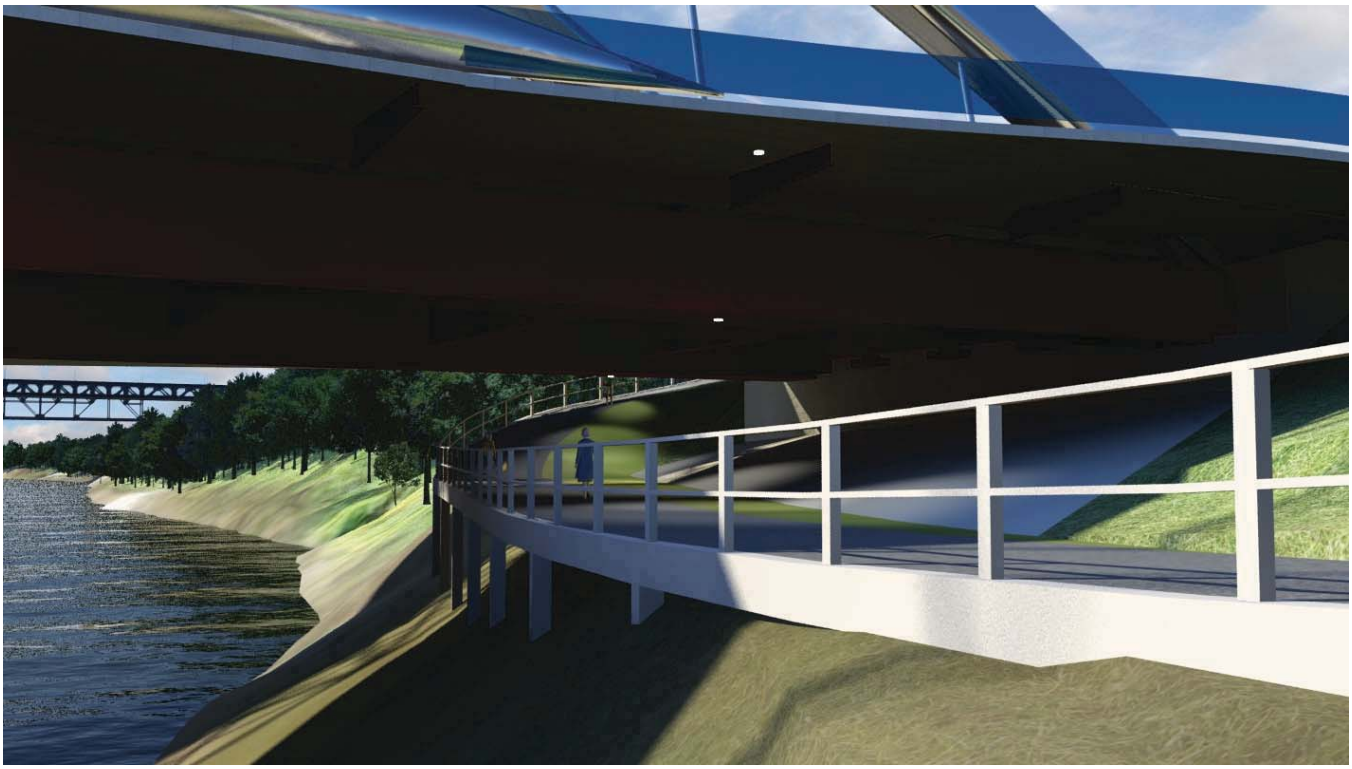
MULTI-USE TRAIL INTEGRATION AND ALIGNMENTS MAINTAINING EXISTING BRIDGE

ATTACHMENT 6



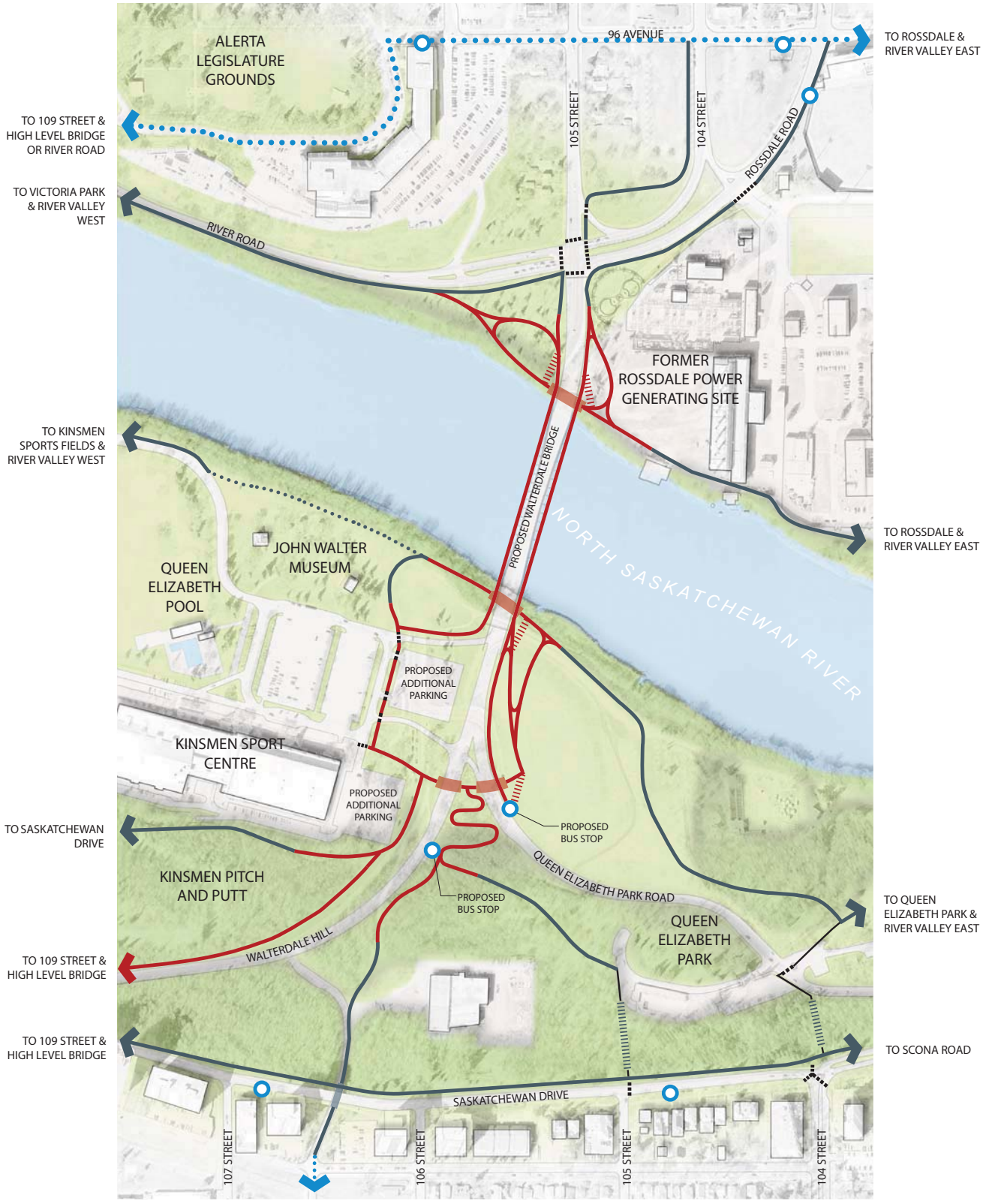
NORTHBANK TRAIL UNDERPASS - VIEW FROM WEST
MAINTAINING OLD BRIDGE

ATTACHMENT 6



NORTHBANK TRAIL UNDERPASS - VIEW FROM EAST
MAINTAINING OLD BRIDGE

ATTACHMENT 7



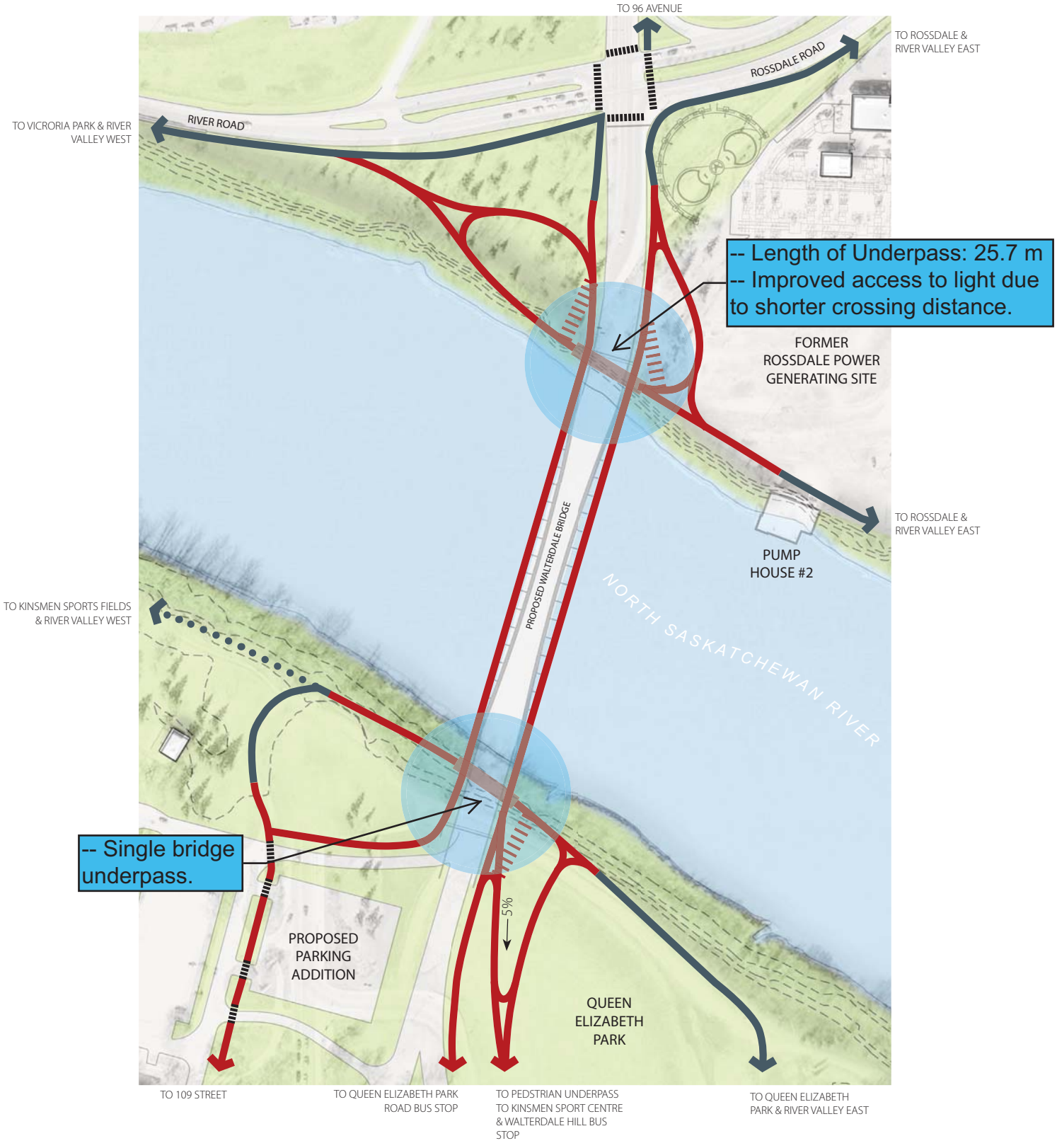
LEGEND

- PAVED MULTI-USE TRAIL (EXISTING/PROPOSED)
- GRAVEL MULTI-USE TRAIL
- PEDESTRIAN ROUTE
- STAIR (EXISTING/PROPOSED)
- BICYCLE LANE ON ROADWAY
- MARKED CROSSWALK
- BUS STOP

0 20 50 100 150 200m

MULTI-USE TRAIL INTEGRATION AND ALIGNMENTS
PROPOSED BRIDGE

ATTACHMENT 7



LEGEND

- PAVED MULTI-USE TRAIL (EXISTING/PROPOSED)
- GRAVEL MULTI-USE TRAIL
- STAIR (EXISTING/PROPOSED)
- MARKED CROSSWALK

0 10 25 50 75 100m

MULTI-USE TRAIL INTEGRATION AND ALIGNMENTS
PROPOSED BRIDGE

WALTERDALE BRIDGE REPLACEMENT COST ESTIMATE [1]				
Option		**New Bridge**	**Old Bridge**	**Total Cost**
Option 1	- Construct New Arch Bridge - Demolish Old Bridge	**$132 Million**	**N/A**	**$132 Million**
Option 2	- Construct New Bridge with No Trail - Retain Old Bridge for Pedestrians - Rehabilitate Old Bridge **(Wood Deck)**	*$132 M* *-$13 M No Trail* *+ $20 M for Future Trail [2]* *- $4 M Demolition of Old Bridge* **$135 Million**	*$10 M Rehabilitation* *+ $12 M for 50 Year Maintenance* *+ $4 M Demolition of Old Bridge* **$26 Million**	**$161 Million**
Option 3 *(Modified Option 2)*	- Construct New Bridge with No Trail - Retain Old Bridge for Pedestrians - Rehabilitate Old Bridge **(Concrete Deck)**	**$135 Million**	*$26 M Option 2* *+$10 M for Strengthening and Concrete Deck* **$36 Million**	**$171 Million**
Option 4 *(retain 1 span of old bridge)*	- New Bridge - Retain 1 Span of Old Bridge for Pedestrians - Rehabilitate Old Bridge **(Wood Deck)**	**$132 Million**	*$5 M to Retain/Rehabilitate* *+ $6 M for 50 Year Maintenance* *+ $3 M Demolition of Old Bridge* **$14 Million**	**$146 Million**

Potential Additional Costs	
Accommodate Restaurant on One Span of Old Bridge: Additional Strengthening and Providing Services	$25 Million for Options 2, 3, or 4
Maintenance on New Bridge for 50 Years *Present for All Options; Includes Yearly Minor Rehabilitation, and Major Rehabilitations at 25 and 50 Years*	$25 Million

Notes:

[1] Cost estimates are conceptual and therefore are approximate only. Estimates are in 2011 dollars and are not made using present value analysis.

[2] Future Trail: Cost for future trail on new bridge.