

Conceptual Design of the Island Park Bridge Replacement

Presentation of Alternatives to City Council



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AECOM

OUTLINE OF PRESENTATION

- Alternative 1 – New Bridge
- Alternative 2 – New 3 Lane Causeway
- Alternative 3 – Tupper Alignment
- Traffic Analysis
- Evaluation Matrix
- Bridge / Culvert Options

EXISTING BRIDGE AND CAUSEWAY



ALTERNATIVE 1 – NEW BRIDGE

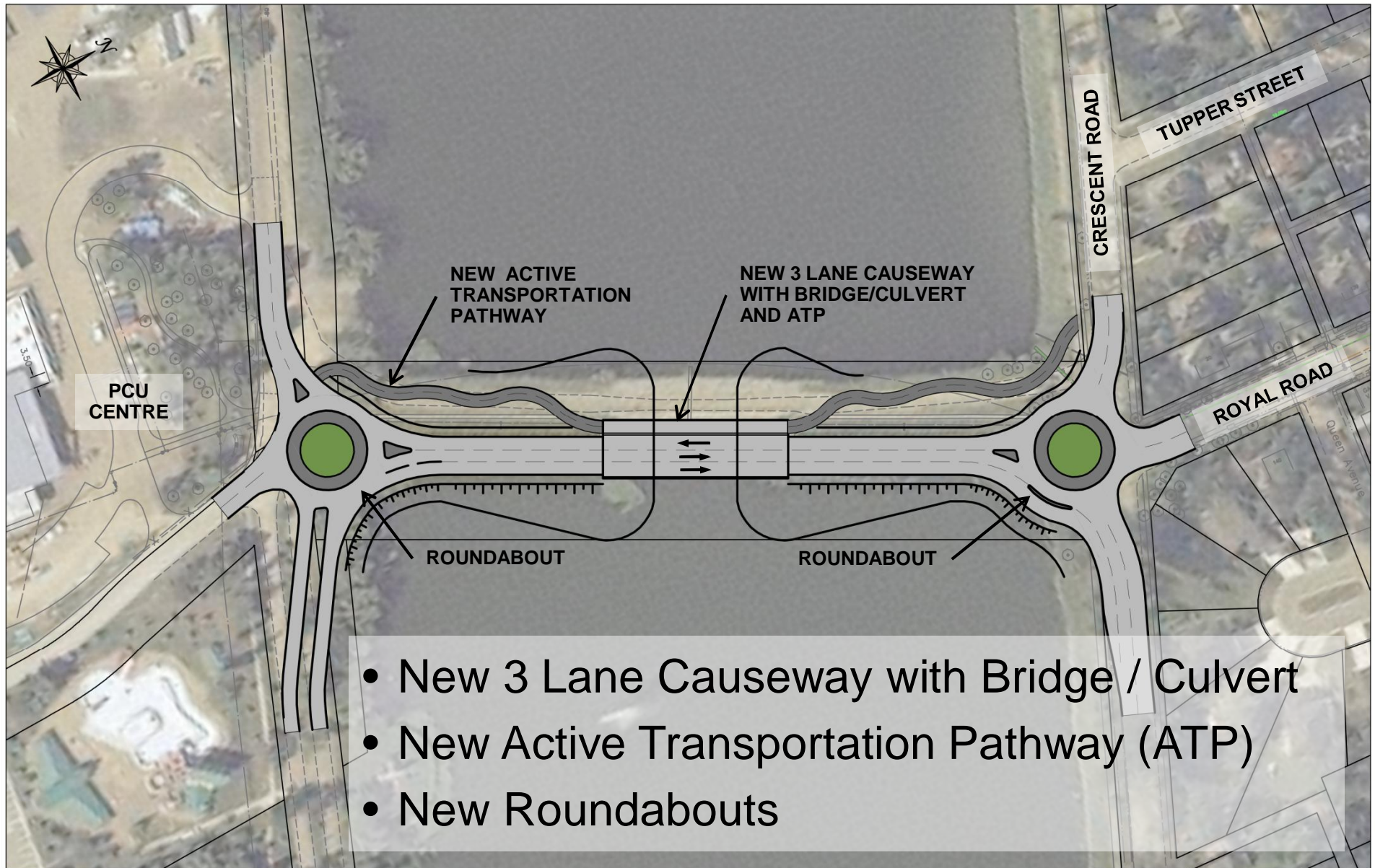


ALTERNATIVE 1 – NEW BRIDGE

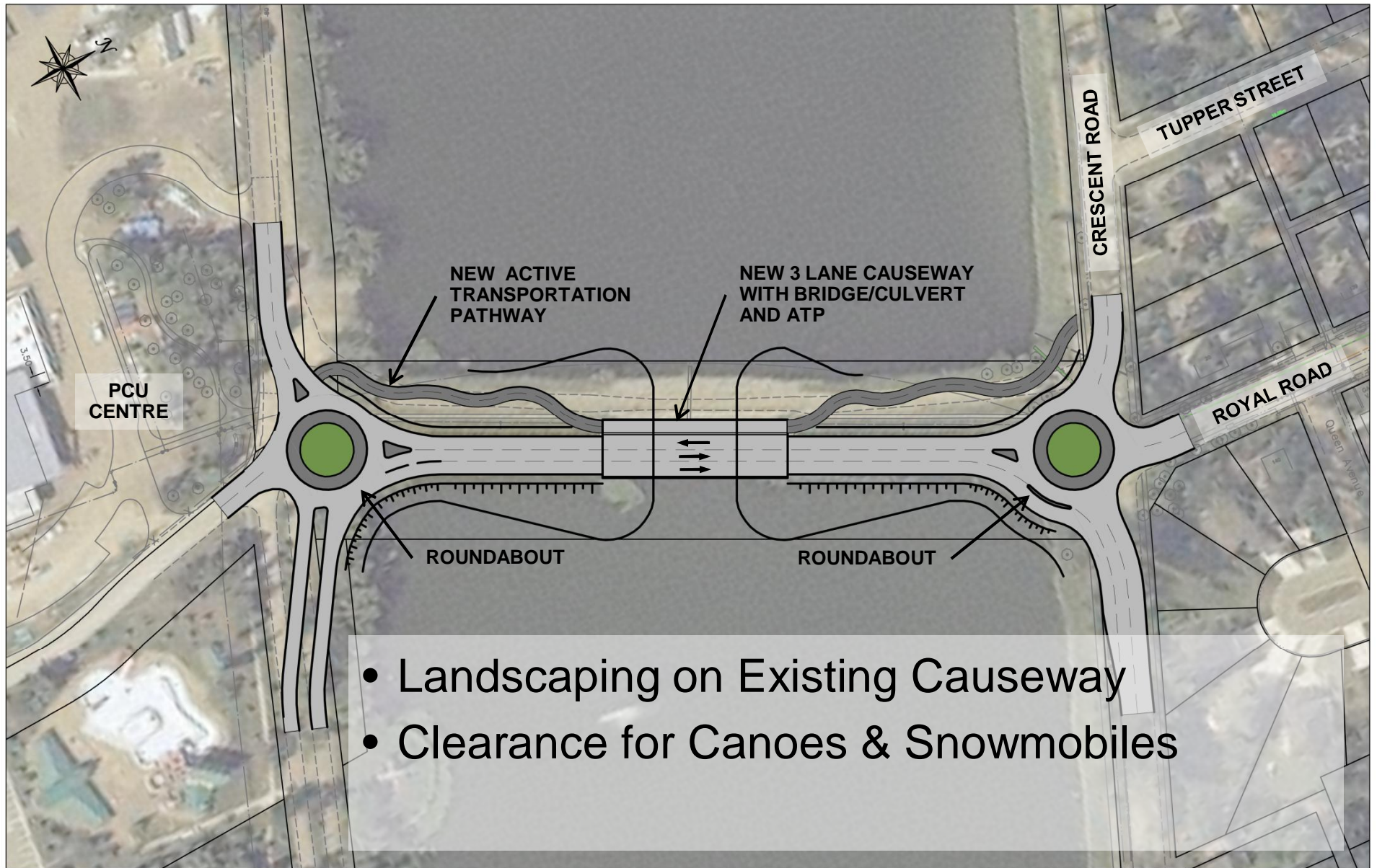


- New Roundabouts
- Landscaping on Existing Causeway
- Clearance for Canoes & Snowmobiles

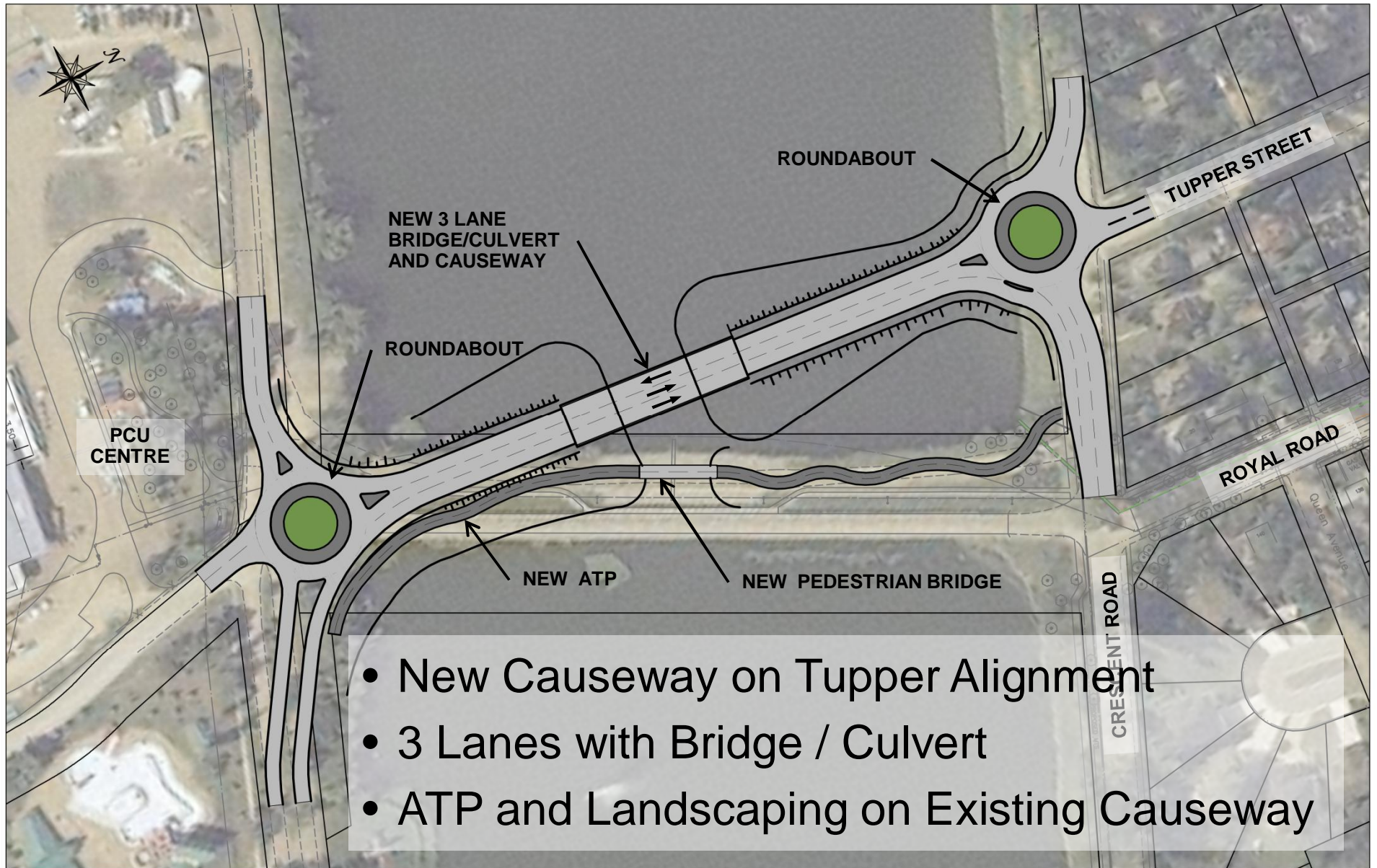
ALTERNATIVE 2 – NEW 3 LANE CAUSEWAY



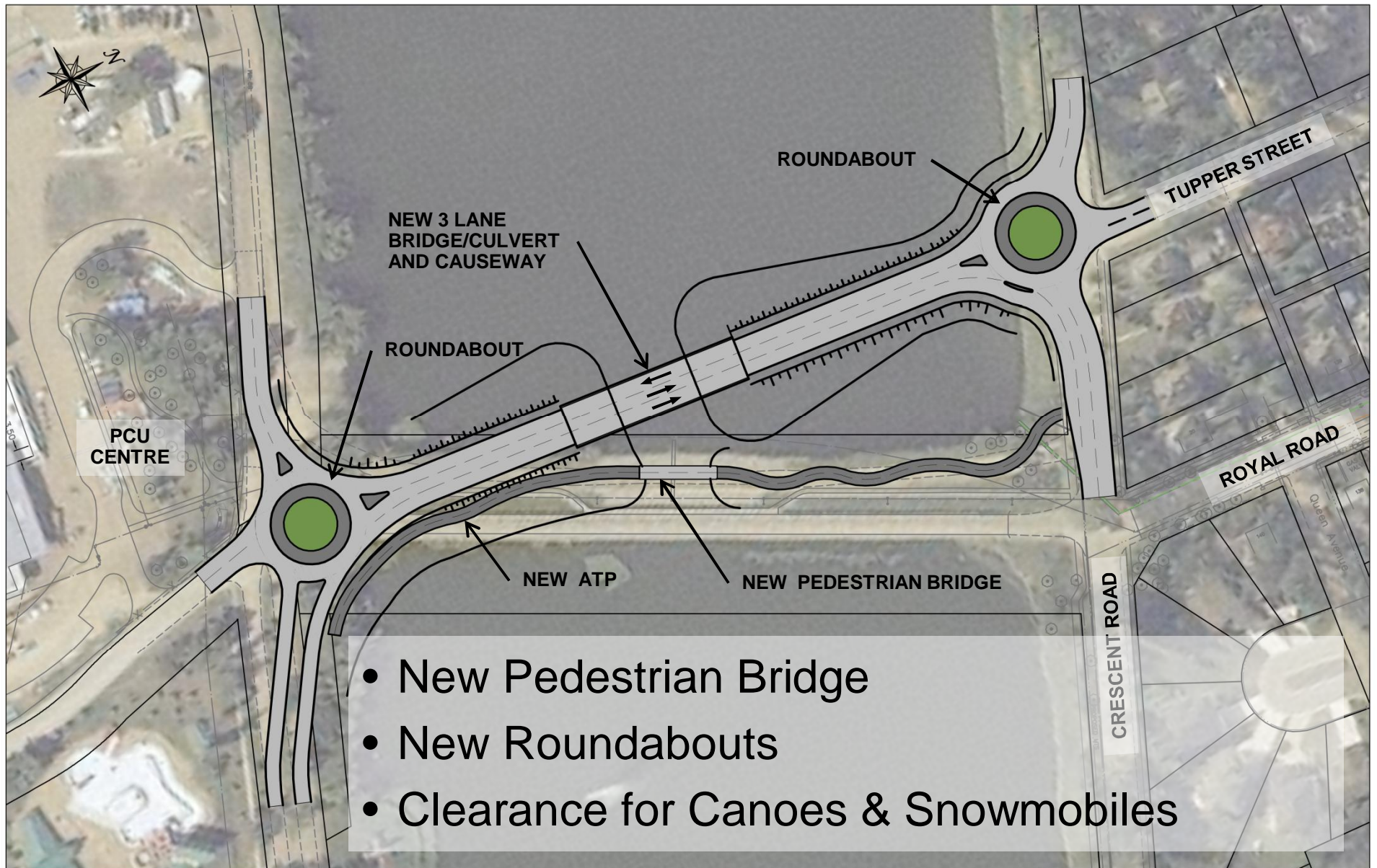
ALTERNATIVE 2 – NEW 3 LANE CAUSEWAY



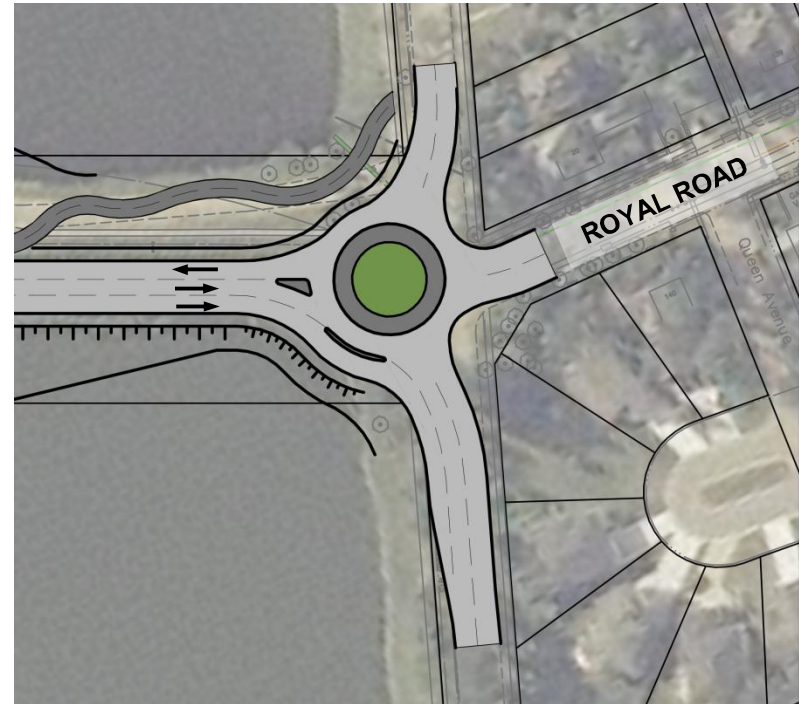
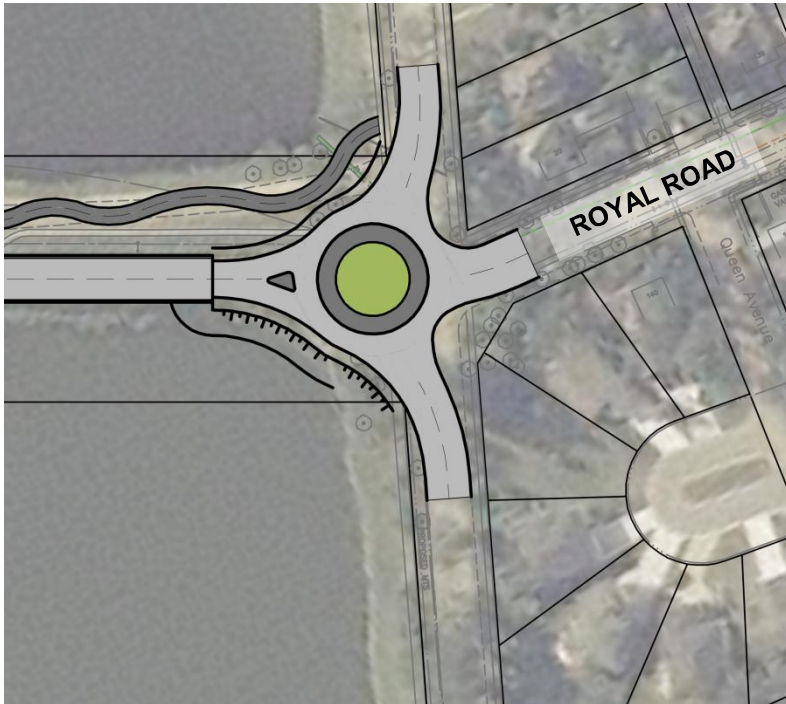
ALTERNATIVE 3 – TUPPER ALIGNMENT



ALTERNATIVE 3 – TUPPER ALIGNMENT



TRAFFIC ANALYSIS – Intersection vs Roundabouts



- 2 Lanes with 4-Way Intersection
- 3 Lanes with 4-Way Intersection
- 2 Lanes with Roundabout
- 3 Lanes with Roundabout

Evaluation Matrix - Preliminary

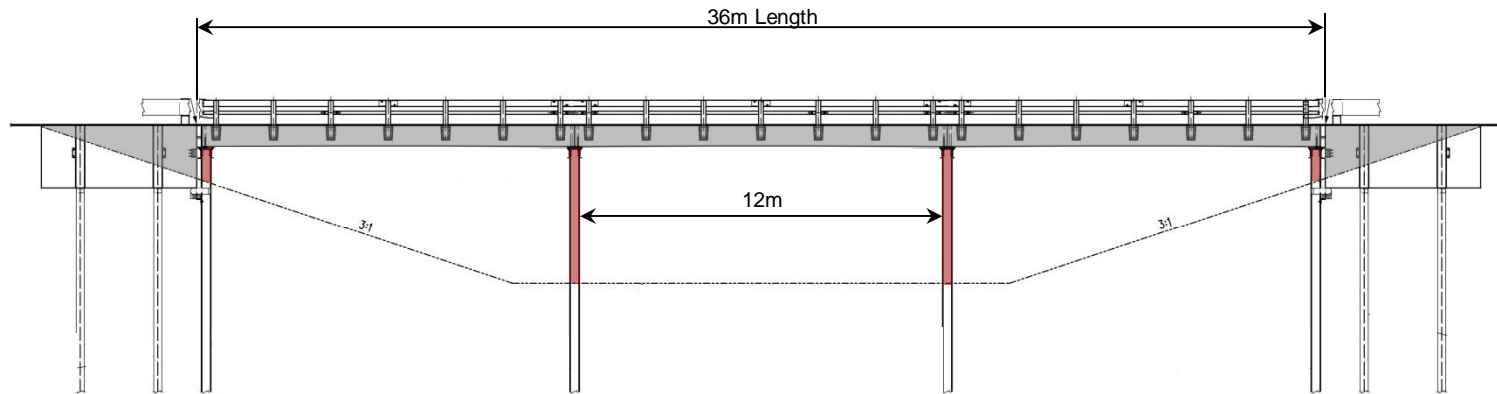
Island Park Bridge Replacement			New Bridge		3 Lane Causeway		Tupper Alignment	
Performance Evaluation Criteria		Importance Factor	Rating (out of 5)	Weighted Rating	Rating (out of 5)	Weighted Rating	Rating (out of 5)	Weighted Rating
	Right-of-Way & Property	5	4	4	4	4	2	2
	Utilities	5	4	4	4	4	3	3
	Environmental	10	4	8	3	6	3	6
	Historic & Archaeological	5	5	5	3	3	2	2
	Level of Service / Traffic Flow / Pedestrians and Cyclists	25	3	15	4	20	5	25
	Construction Staging / Schedule	15	3	9	4	12	1	3
	Public Perception / Aesthetics	25	3	15	5	25	4	20
	Maintenance	10	3	6	5	10	4	8
Total		100		66		84		69
Performance Comparison			79%		100%		82%	

Cost Evaluation		\$	\$	\$
	Construction Costs	Highest	Lowest	Medium
	Maintenance Costs	Highest	Lowest	Medium

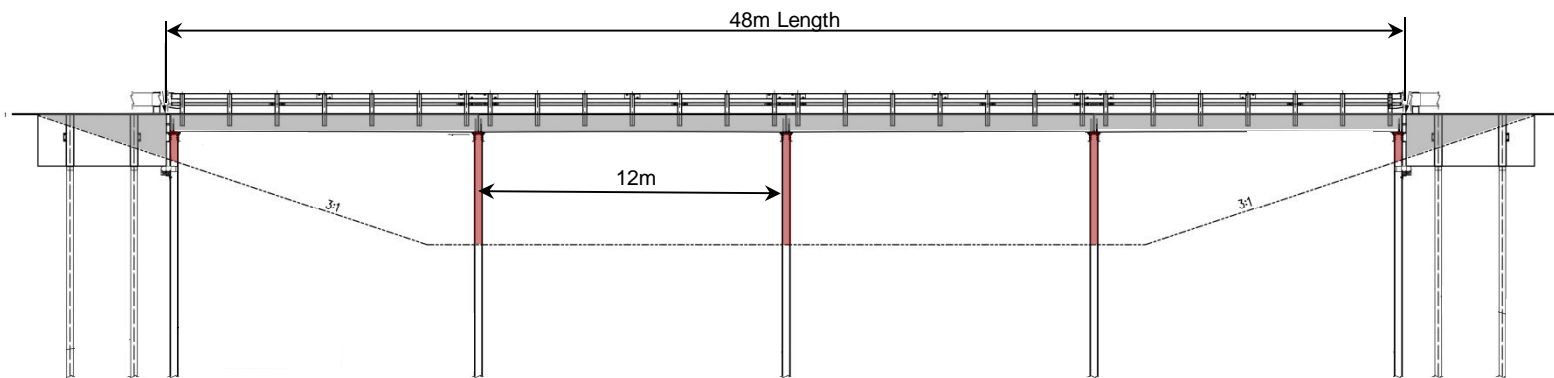
Bridge and Culvert Options

- Multi-Span Bridge to meet MIT Standards
- Steel or Concrete Arch Culverts with Retaining Walls
- Reinforced Concrete Box Culvert

Multi-Span Bridge to meet MIT Standards

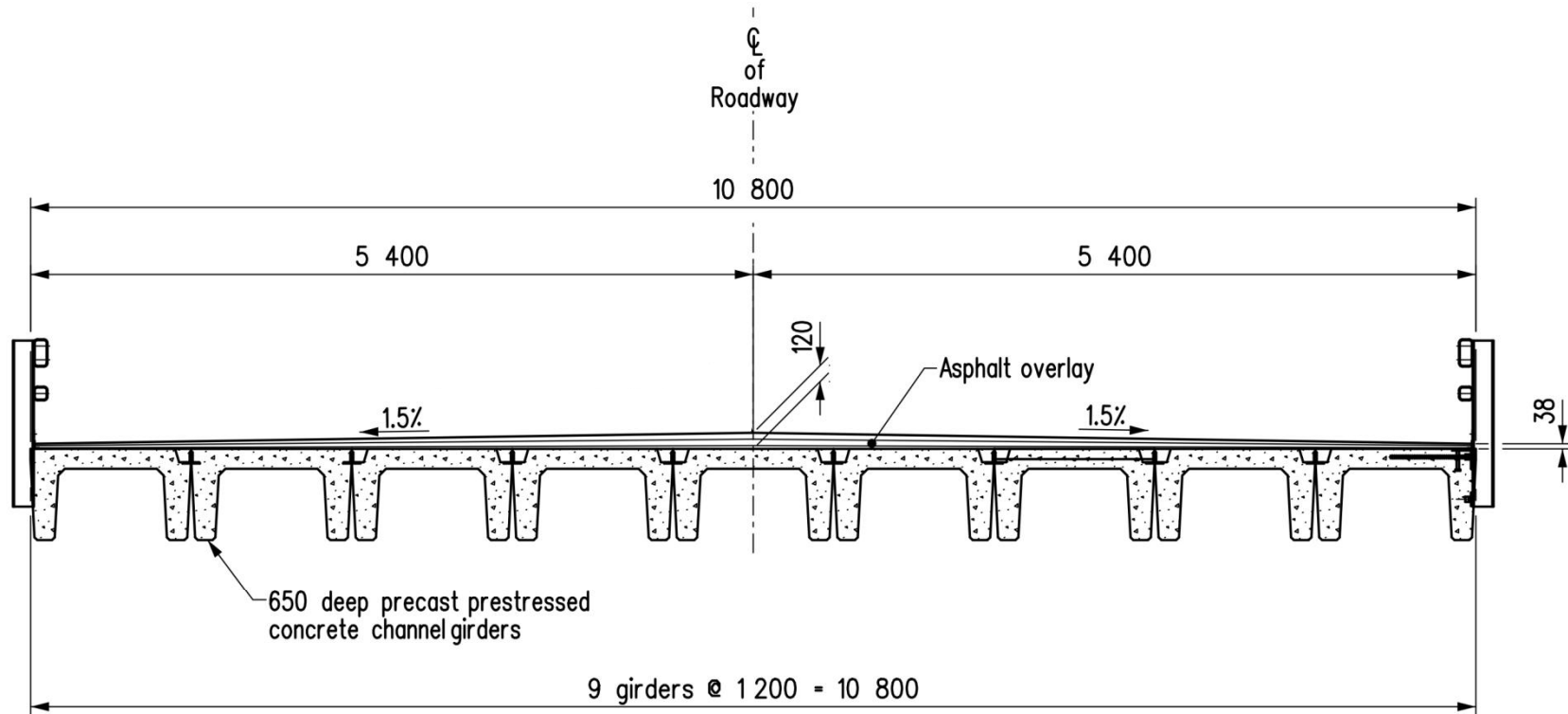


Three Span Bridge



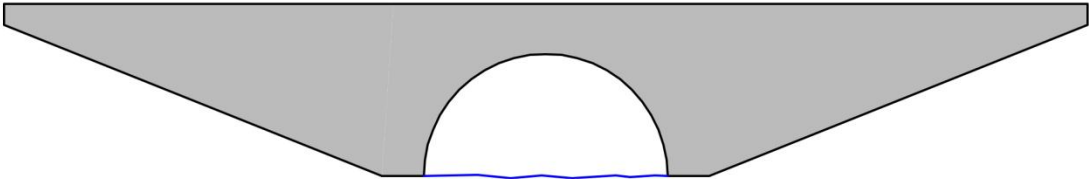
Four Span Bridge

Multi-Span Bridge to meet MIT Standards

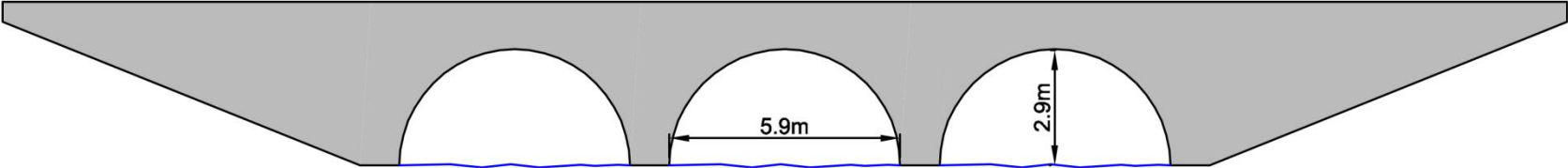


Cross Section

Steel or Concrete Arch Culverts with Retaining Walls

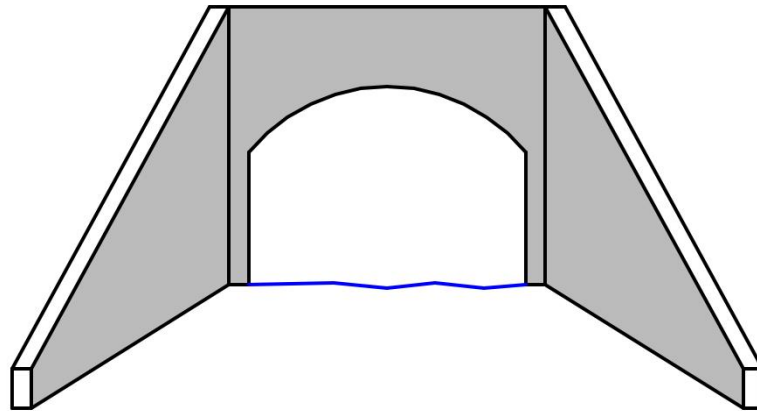


Single Steel or Concrete Arch with Retaining Walls

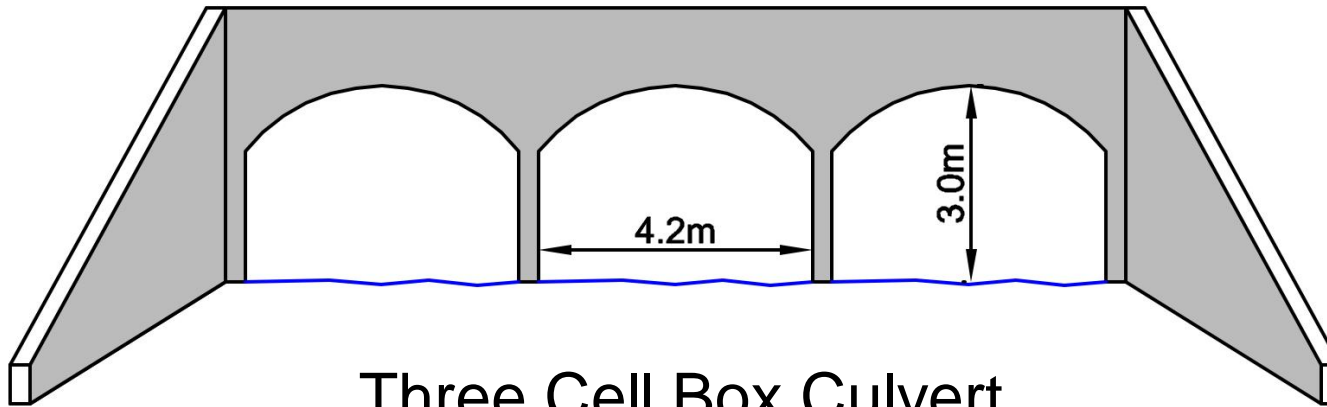


Three Arch Culvert with Retaining Walls

Reinforced Concrete Box Culvert



Reinforced Concrete Box Culvert with Arch Shape



Three Cell Box Culvert

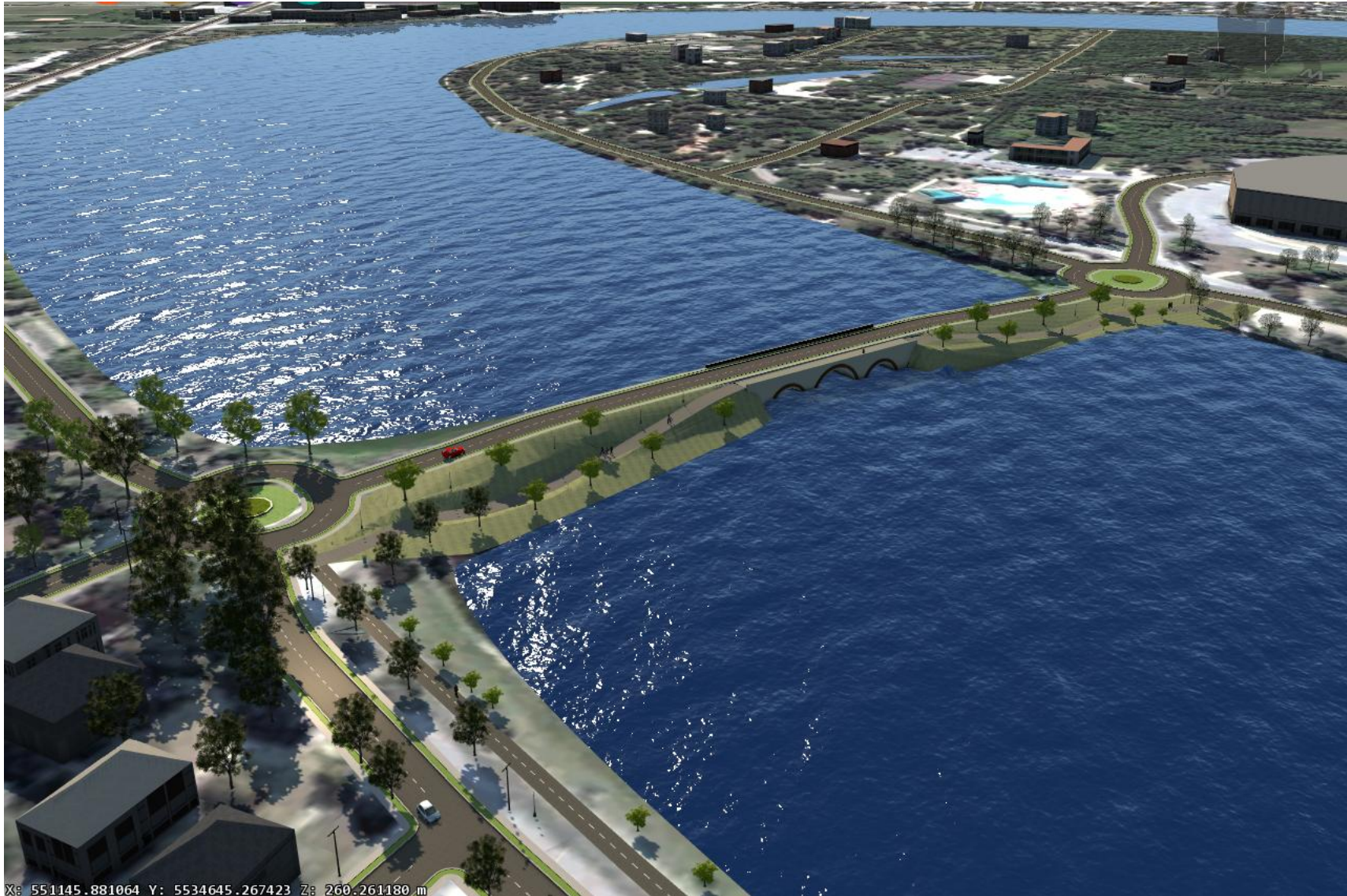
Culvert Options



Culvert Options



Causeway with Culvert and Retaining Walls



Thank You

