



Markham Multi-use Pathway (MUP) (16th Avenue to Bob Hunter Memorial Park)



April 21, 2015
MUP Design and Phasing Plan Update
Development Services Committee
Mark Schollen
Schollen & Company Inc.

Purpose of Presentation

- To follow up on issues raised at the January 27 DSC and February 23rd, 2015 CLC/ MWG update meetings.
- To evaluate the MUP optional routes at Drakefield Road & Willowgate Drive.
- To provide trail configuration confirmation.
- To provide an update on phasing of construction.
- To obtain approval to sole source a portion of the MUP.
- To set out a schedule for implementation of the MUP.
- To obtain approval to enter into an agreement with MTO/407 ETR to construct the MUP in their Hwy 407 corridor.



Drakefield Road / Willowgate Drive Options:

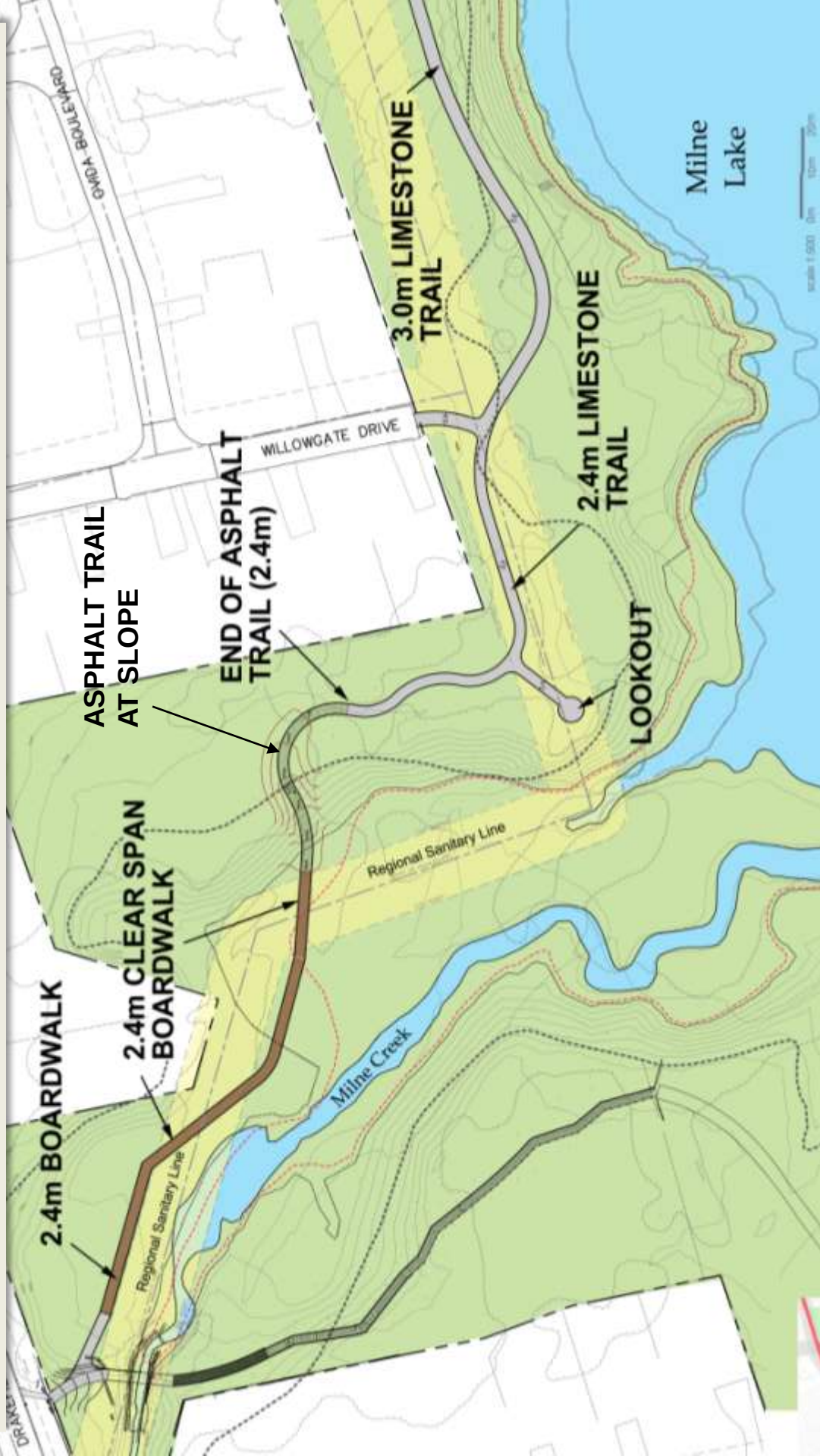
From Approved Environmental Assessment (EA)



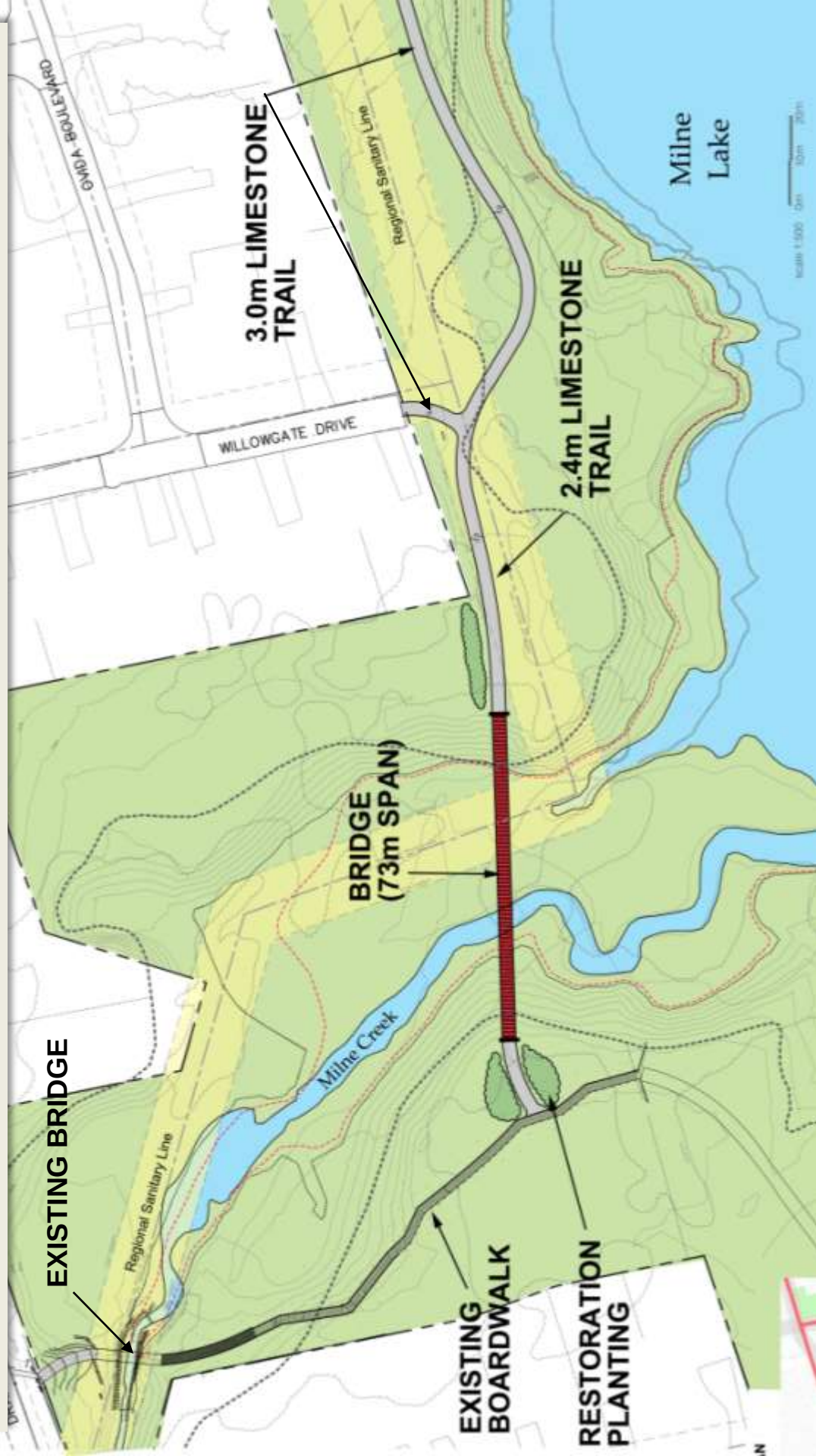
1. EA approved both options 4S & 4T
2. Option 4S was recommended in EA study to be implemented while Option 4T could be considered again in the future
3. Option 4U was proposed by the CLC/MWG as an alternative to 4T



Drakefield Road / Willowgate Drive Options: Option 4U



Drakefield Road / Willowgate Drive Options: **Option 4T**



Drakefield Road/Willowgate Drive Options:

Option 4U

■ Advantages

- Satisfies the goal to have the pathway remain in the park;
- Lower cost for design and construction (approximately \$400K);
- Construction access will be limited to small to medium-sized equipment; and
- Provides access to sanitary sewers for Region of York maintenance and inspection crews.

■ Disadvantages

- Pathway remains close to the rear yards of 5 or 6 properties along Willowgate Drive and Drakefield Road;
- Greater environmental impacts from construction than option 4T;
- Does not eliminate short-cutting across the mouth of Milne Creek and soil compaction and erosion associated with this informal footpath;
- 2 segments of clear span boardwalk required to span the Region's sanitary easement; and
- Amendment to the Class EA is required.
- Higher operation and maintenance costs.

Drakefield Road/Willowgate Drive Options:

Option 4T

■ Advantages

- Follows the shortest route, provides a direct pathway connection and satisfies the goal to have the pathway remain in the park;
- Allows for closure of existing ad-hoc trail in Milne Creek valley;
- Enables restoration of the compacted and eroded slopes on valley banks on both sides of the Milne Creek;
- Reduces pedestrian traffic behind homes on Drakefield Road and Willowgate Drive ;
- Less environmental impact from construction; and
- Option was included in the EA document as an alternate option – no amendment to EA required.

■ Disadvantages

- Higher cost for design and construction (approximately \$600K); and
- Access for large bridge installation equipment required.

Drakefield Road/Willowgate Drive Options:

EVALUATION OF OPTIONS 4T & 4U AND CONSULTANTS RECOMMENDATION

	Option 4T	Option 4U
1 Footprint of Disturbance	± 800m ²	± 2000m ²
2 Encroachment within Regional Floodplain	No	Yes
3 Encroachment within 2 year Floodplain	No	Yes
4 Requirement for Tree Removal Over Total Length of Trail/Bridge	115m ²	285m ²
5 Ease of Access for Construction	Good	Fair
6 Requirement for EA Amendment	No	Yes
7 Construction Cost	± \$600,000	± \$400,000
8 Timeline for Implementation	2016	2016/2017
9 Operations / Maintenance Costs (approx. annual cost)	\$1500	\$3000
10 Consultant Recommendation	✓	

Drakefield Road/Willowgate Drive Options:

- **Consultant team recommendations – Option 4T**
 - Least environment impact
 - Reduced degree of disturbance within the Flood Plain
 - Reduced extent of tree removal
 - Ease of construction
 - Increased potential for restoration within the Milne Creek corridor
 - Expedited process – no requirement to amend the EA (6 to 8 months)
 - Additional costs ± \$200K
- **TRCA position:**
 - Support for Option 4T subject to detailed design studies that demonstrates that all hazards can be managed and ecological sensitivities can be mitigated , including geomorphology and slope stability concerns

Drakefield Road/Willowgate Drive Options contd.:

- **CLC/MWVG/CPAC position:**
 - CPAC indorsed Option 4T
 - Staff will update the committee on further responses
- **Next steps**
 - Council endorsement
 - Retain consultant to undertake detailed design
 - Apply for TRCA permits
 - Tender late 2015
 - Construction early 2016 to late 2016

Accessibility Levels

- **Level A**
 - Accessibility for Ontarians with Disabilities Act (O.A.D.A.) minimum requirements:
 - A recreational trail must have a minimum clear width of 1.0m.
 - A recreational trail must have a clear height that provides a minimum head room clearance of 2.1 mm above the trail.
 - The surface of the recreational trail must be firm and stable.
 - Accessible trail locations (i.e. Toogood Pond & Milne Conservation Park)
- **Level B**
 - Minimize excessive slopes & stairs so that trail can be used by children, strollers and bikes.
 - MUP design is largely to target Level B.

Trail Cross-Section

• Background

1- EA Basic Principles and Objectives:

To complete the vision and direction established in the 2010 Cycling and Pathways and Trails Master Plans, which;

- Accommodates a wide variety of users;
- Provides a diversity of expenses which allow greater appreciation and enjoyment of the natural, cultural and heritage environments;
- Encourages residents to walk, run and cycle for fitness, fun and transportation;
- Connects neighbourhoods to key destinations and provides recommended crossing points of significant physical barriers such as river valleys and highways;
- Considers the natural features, species and habitats; and,
- Provides improved connections to other existing and planned pedestrian and cycling infrastructure

2- Public Consultation – 8 Community Liaison Committee (CLC) meetings and 1 Public Information Centre (PIC) meeting:

- Public, MWG and CPAC involvement during the EA process – Endorsement of typical 3.0m crushed limestone trail, except in sensitive areas

Project Overview

3.0 MUP Standard – 3.0m Granular Surface

- **Where environmental sensitivity is an issue, modify trail configuration as follows:**
 - Reduce width to minimum 1.5m
 - Implement boardwalks
 - Where slopes exceed 10%, asphalt surface is recommended
 - Woodchip and/or natural surface trails are not recommended due to practical constraints related to:
 - durability
 - erosion
 - impact on roots/ soil compaction
 - longevity
 - maintenance requirements
 - ease of access
- **TRCA/Schollen**
 - Ecologist site walk & investigations
- **MUP Design – Preferred configuration to meet EA objectives:**
 - Limestone screenings – generally 3.0m
 - Reduced in environmentally sensitive areas
 - 1.5 Km of 2.4m limestone screening pathway
 - Boardwalk – 100m of 2.4m width and 230m of 3.0m width

Project Overview (2.4 to 3.0m trail)

Trail Configuration – Area 4



Project Overview (2.4m to 3.0m trail)

Trail Configuration – Area 5



LEGEND

—	PROPOSED LIMESTONE TRAIL (3m)	—	PROPOSED BRIDGE	●	BOREHOLES FOR BRIDGES	●	- 9 m DEPTH
—	PROPOSED LIMESTONE TRAIL (2.4 m)	—	PROPOSED BOARDWALK	●	BOREHOLES FOR BOARDWALKS	●	- 3 m DEPTH
		—	EXISTING TRAIL		BOREHOLES FOR LIMESTONE TRAIL		- 1.5 m DEPTH

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SCALE
 0 50 100 200 Metres

March, 2014

Project Overview (2.4m to 3.0m trail) Trail Configuration – Area 6



LEGEND

PROPOSED LIMESTONE TRAIL (3m)
PROPOSED ASPHALT TRAIL (2.4m)

PROPOSED BRIDGE
EXISTING TRAIL (2.4m to 3.0m)

BOREHOLES FOR BRIDGES
BOREHOLES FOR BOARDWALKS
BOREHOLES FOR LIMESTONE TRAIL - 9 m DEPTH
BOREHOLES FOR LIMESTONE TRAIL - 3 m DEPTH
BOREHOLES FOR LIMESTONE TRAIL - 1.5 m DEPTH



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March, 2014

Project Overview (2.4m to 3.0m trail) Trail Configuration – Area 6



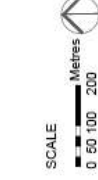
Project Overview (2.4m to 3.0m trail)

Trail Configuration – Area 7



LEGEND

- PROPOSED LIMESTONE TRAIL (3m)
- PROPOSED ASPHALT TRAIL (2.4m)
- EXISTING TRAIL
- PROPOSED BRIDGE
- BOREHOLES FOR BRIDGES
- BOREHOLES FOR BOARDWALKS
- BOREHOLES FOR LIMESTONE TRAIL
- 9 m DEPTH
- 3 m DEPTH
- 1.5 m DEPTH



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Project Overview

Trail Standards – Other Municipalities

- **Toronto** – Multi-Use Pathway (3.0m width, asphalt)
- **Pickering** – Multi-Use Pathway (3.0m width, asphalt)
- **Ajax** – Multi-Use Pathway (3.0m width, asphalt)
- **Oshawa** – Multi-Use Pathway (3.0m width, asphalt)
- **London**
 - Level 1 – Hiking (0.5-1.5m width)
 - Level 2 – Pedestrian (1.0-2.0m width)
 - Level 3 – Multi-Use Pathway (3.0m or greater asphalt surface)

Project Overview

Successful Trail Projects Recently Constructed in Sensitive Environments

**Sherwood Park,
Toronto**

- Old Growth Forest
- Erosion Sensitive Slopes
- High Level of Use



Project Overview

Successful Trail Projects Recently Constructed in Sensitive Environments

Meadowvale Conservation Area, Mississauga

- Unstable Slopes
- Vulnerable Floodplain
- Sensitive Habitats



Project Overview

Successful Trail Projects Recently Constructed in Sensitive Environments

Sunnybrook Trail, Toronto

- Wooded Area
- Erosion Sensitive Slopes
- Flood Prone Areas
- High Level of Use
(York University)



BEFORE



AFTER



BEFORE



AFTER

Project Overview

Successful Trail Projects Recently Constructed in Sensitive Environments

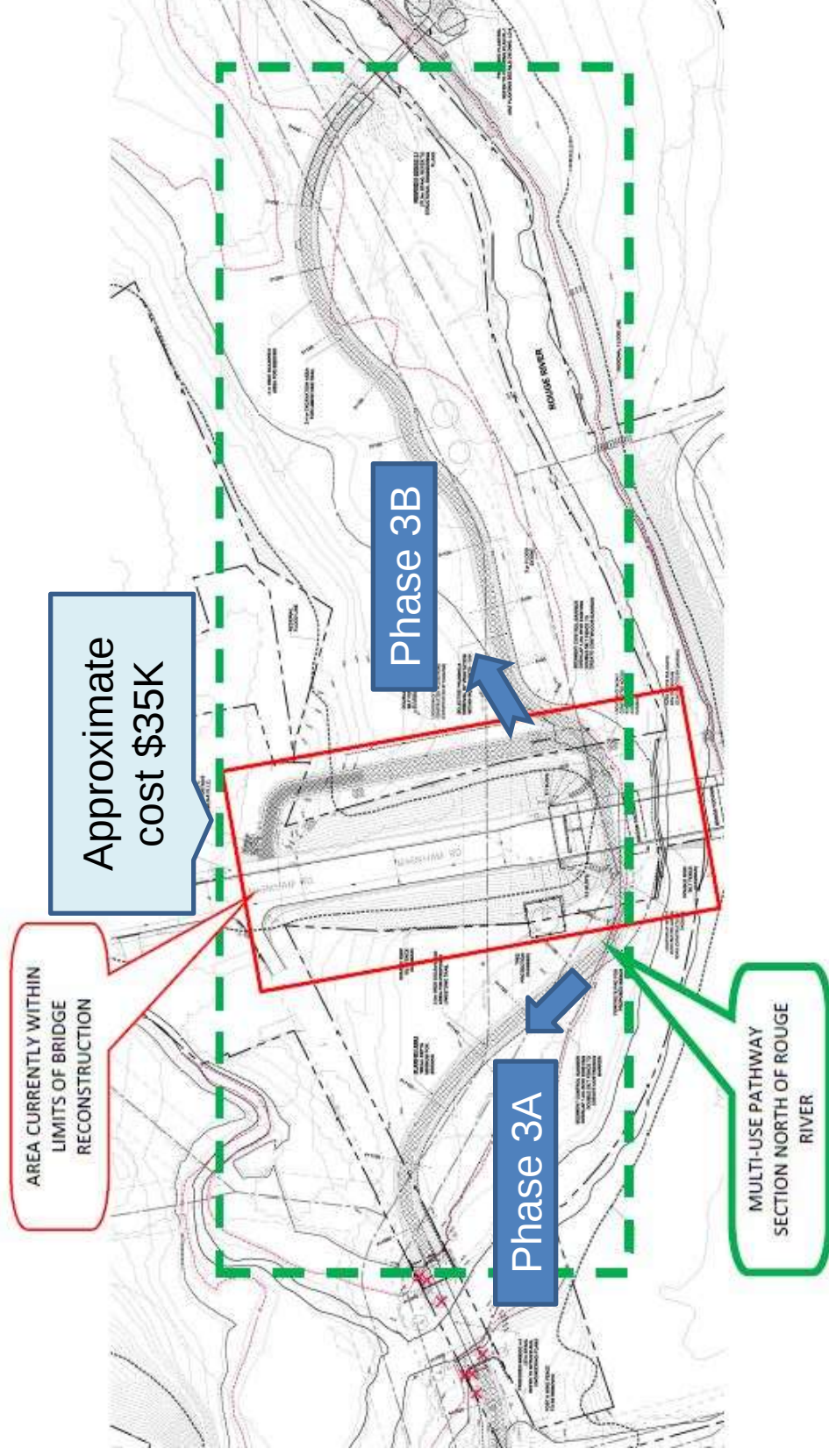
Phase 1, Markham MUP

- Unstable Soils
- Sensitive Habitats
- Existing Wooded Areas

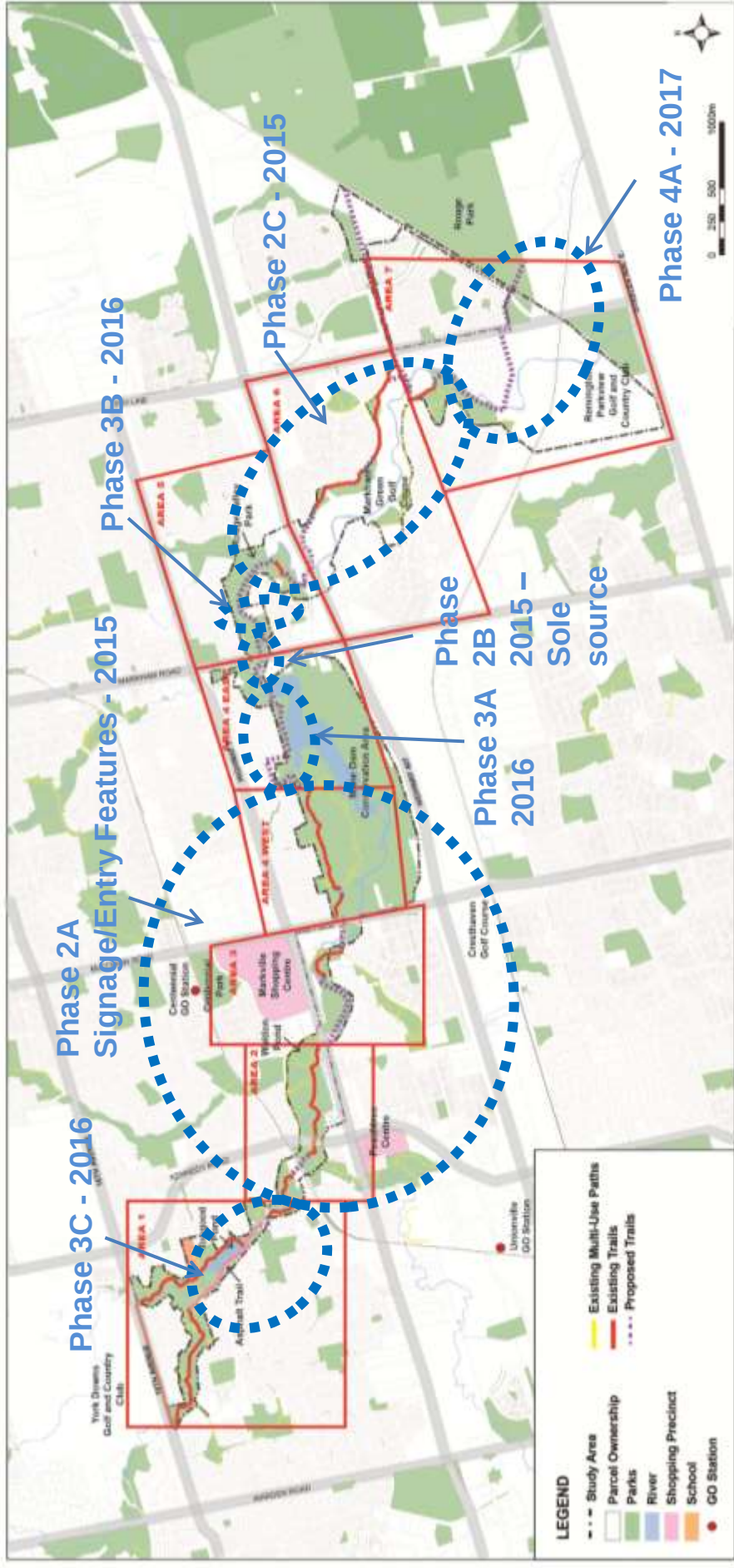


Project Overview – (3.0m trail)

Trail Configuration – Area 4 (within the limits of Dagmar Construction)



Key Map



Schedule

2015

- Property Acquisition \$0.40 M (estimate)
- Tender “2A” –Signage & Entry Nodes \$0.50 M (estimate)
- Tender “2B” – Main St. Markham Segment \$0.035 M, Sole Source(estimate)
- Tender “2C” – Sherwood Estates to 14th Ave. \$2.96M (estimate)
- Tender “3B” – East of Main St. Markham to Sherwood Estates \$1.0 M (estimate)

(tender in 2015 with construction in 2016)

Total \$4.9M

2016

- Tender “3A” – Drakefield Rd. to Main St Markham \$2.76 M (estimate)
- Tender “3C”- Toogood Pond to Main St. Unionville \$1.3 M (estimate)

Total \$4.1 M

2017

- Tender “4A” – 14th Ave. to Donald Cousens Pkwy **Total \$4.4 Million (estimate)**

Total Estimated Project Cost - \$13.4 Million

MTO/407ETR

- MUP Underpass under the MTO /407 ETR bridge
- Agreement with MTO/407 ETR for construction of MUP in their corridor is required

407ETR Transitway



Next Steps:

Report

- A. Tender Phase 2C, 2A & 3B
 - 1. Tender Close –May 2015
 - 2. Tender Award – June 16, 2015
 - 3. Construction Start – Summer 2015 – 2C & 2A
 - Spring 2016 – 3B
 - 4. Construction Completion – Fall 2016
- B. MUP Naming – Report Back to Council with Options - June 16, 2015
- C. O & M – Report Back at Tender Award – June 16, 2015



Markham MUP Update



Discussion and Questions

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