

Welcome to the Public Open House for The City Of Vaughan Villa Park Pond Retrofit Schedule “B” Class Environmental Assessment



Public Information Centre #1

March 30, 2022
7:00 pm to 8:00 pm



Project Objective

- City applied for partial funding from the federal Disaster Mitigation Adaption Fund (DMAF) in 2019
- Retrofit **Villa Park Pond (Site 3)** from a dry pond to wet pond.



Environmental Assessment

EA Objective

To identify and evaluate the alternative solutions to permit the retrofit of the Villa Park Pond, including modifications to the existing creek channel.

Purpose of Tonight's Meeting

An opportunity for participants to review and provide comments on the alternatives and evaluation criteria.



Study Area

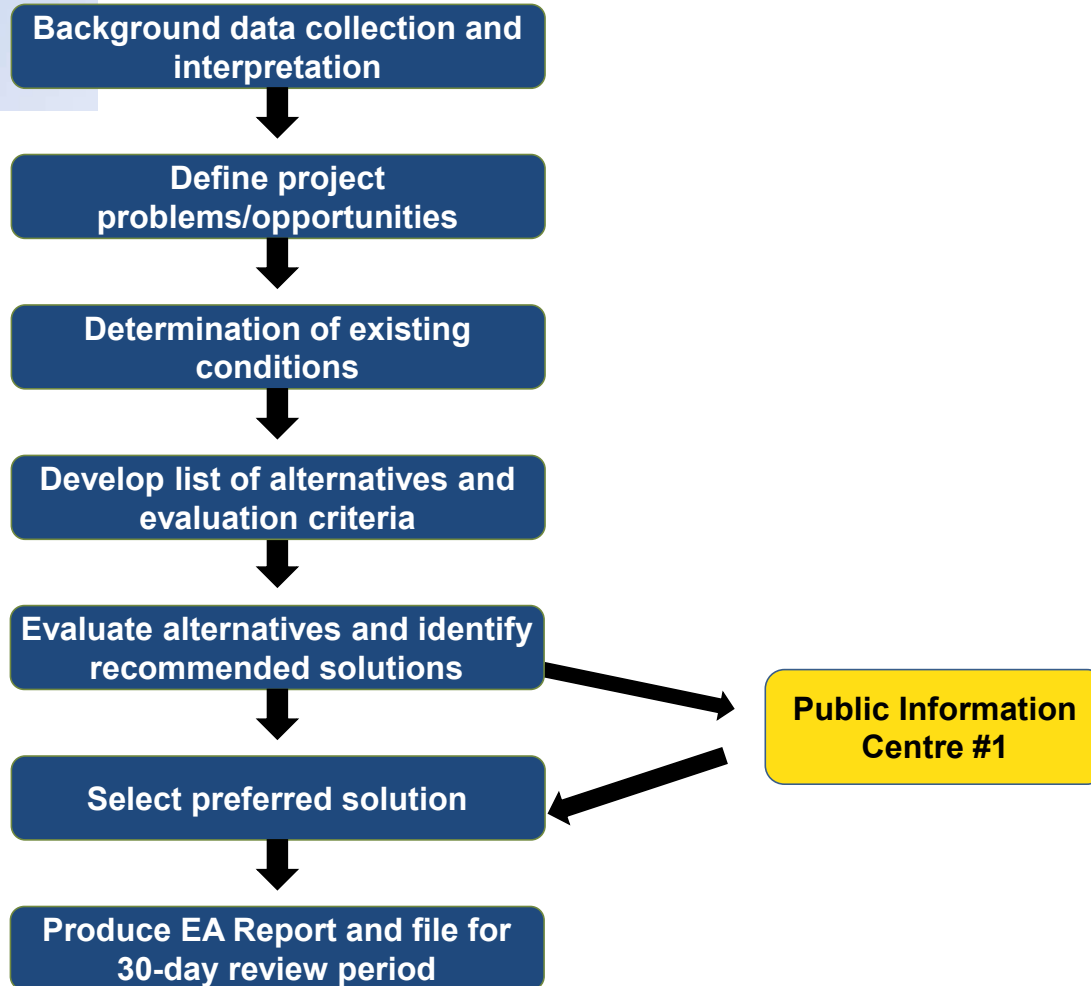
Villa Park Pond, located in the north-west quadrant of the Intersection of Pine Valley Drive and Villa Park Drive.

The Study Area incorporates Jersey Creek, a tributary to the East Humber River.



Municipal Class Environmental Assessment Process

This study is being undertaken as a Schedule B project under the Municipal Class Environmental Assessment (EA) Process. The flow chart illustrates the key steps to be undertaken as part of the Class EA process.



Problem and Opportunity

The Project will Assess Alternatives to:

- Naturalize the existing stream to improve environmental habitat
- Retrofit the existing stormwater facility to provide **Water Quality** and **Erosion Control**

Typical Dry Pond Facility



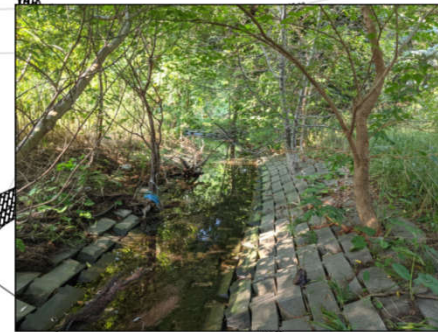
Typical Wet Pond Facility



Existing Villa Park Pond Facility

Existing Infrastructure and Pond Features

- Creek Inlet Structure: 1350mm diameter CSP pipe and headwall
- Subdivision Inlet Structure: 1050mm diameter Concrete pipe and headwall
- Outlet Structure: 750mm diameter Concrete pipe and headwall
- Channel lined with concrete blocks interlocked
- Gabion stone basket retaining walls for stabilizing steep slopes

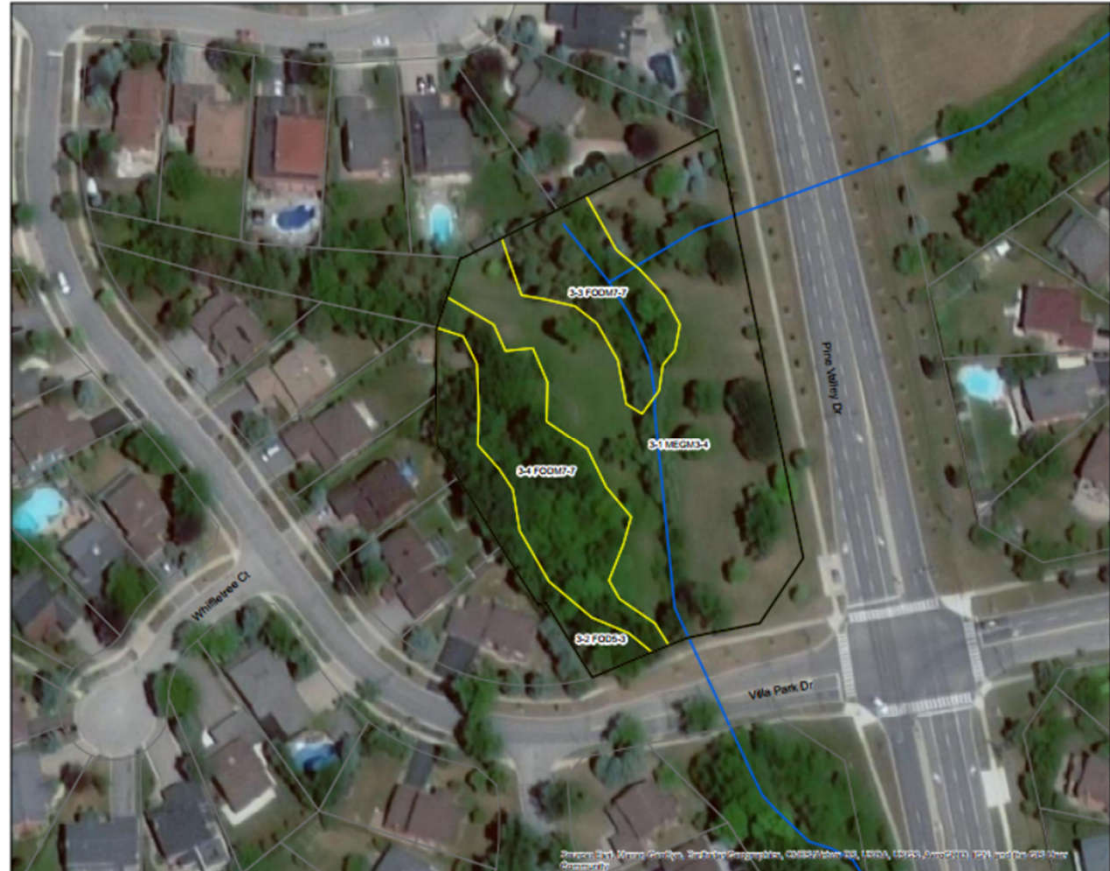


Existing Environmental Conditions

Key Findings

Biophysical Surveys

- 245 trees inventoried, 17 species were recorded as native and 7 as non-native species
- No noteworthy or significant habitat features
- Low number of very common species (American Robin, Common Raccoon, Eastern Cottontail, Eastern Grey Squirrel) were noted
- The channelized and confined nature of the tributary offer little to no riparian habitat
- Fish habitat present in the immediate study area was highly fragmented and of low quality
- No SAR or Species of Conservation Concern (SOCC) were observed



Class EA

The preferred option under the EA will take into consideration the natural environmental features and functions of the surrounding area and will seek to avoid, minimize, and mitigate potential impacts to the ecological form and function of natural heritage features.

Evaluation Criteria

The following criteria will be used to evaluate each alternative. It will help determine which alternative should be selected as the Preliminary Preferred Alternative. The Final Preferred Alternative will be selected based on agency and public input.

Natural Environment

- Impact on existing terrestrial systems
- Impact on aquatic life and habitat (fish passage)
- Impact on aquatic life and habitat (temperature)
- Water quality benefit
- Potential to reduce downstream erosion and flooding

Social/Cultural

- Potential to provide health safety objectives
- Aesthetic/recreation benefits
- Compatibility with existing land-use
- Potential community disruption

Economic/Financial

- Capital construction costs
- Operation/Maintenance costs
- Protection of new/existing infrastructure

Technical

- Ease of implementation
- Agency acceptance
- Meets policy/by-law requirements
- Technical feasibility
- Ease of maintenance

Alternative #1 – Existing Pond Remains Unchanged

Description:

This alternative is traditionally carried forward as a benchmark in the Environmental Assessment process. This would essentially equate to maintaining the existing Villa Park Pond facility as a dry pond. The facility would continue to receive runoff from the north inlet (29 hectare contributing area) as well as the northeast inlet (205 hectare area).



Approximate Capital Cost: No Cost
Maintenance/Operation Cost: Low

Opportunities

- Low risk to public health and safety
- Minimal disruptions
- Least costly to implement
- Easy/inexpensive to maintain

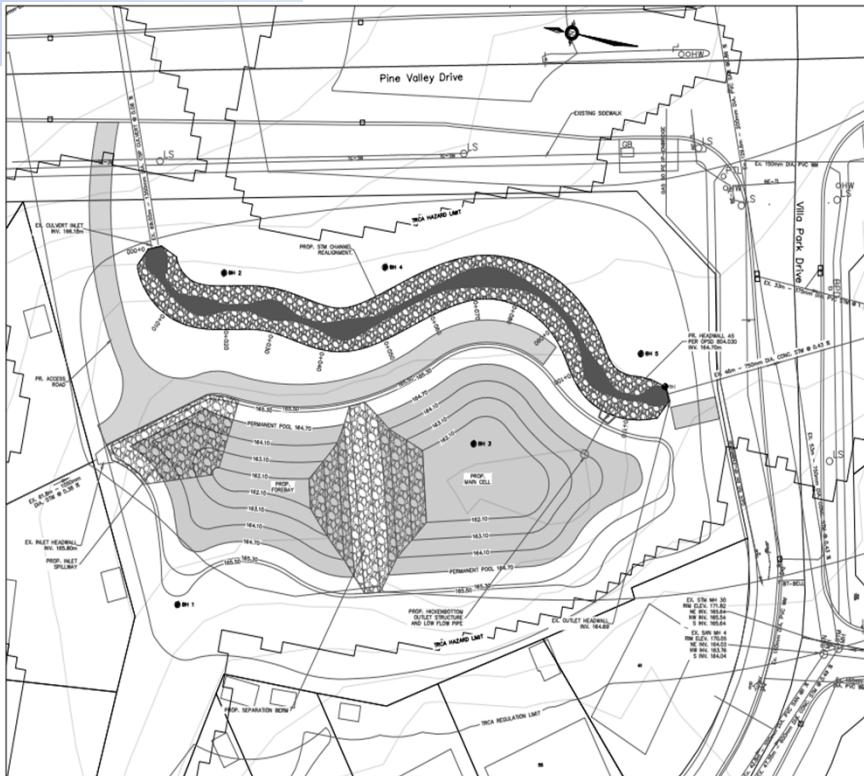
Drawbacks

- No Water Quality Benefit
- Inhibits fish passage
- Negative effects on water temperatures
- Not supportive of terrestrial systems
- Does not meet planning policy
- Will not receive DMAF funding
- Does not protect existing infrastructure (sedimentation)

Alternative #2 – Off-Line Wet Pond and Creek Naturalization

Description:

The Villa Park Pond will be upgraded to include a wet pond with a separation berm installed between the proposed pond and the adjacent creek channel to disconnect inflows from the northeast inlet. The pond will remain off-line, with contributing flows from the north inlet receiving water quality benefits. The creek will be designed with substrate, riffles, pools, and vegetative buttresses to enhance the naturalization of the channel.



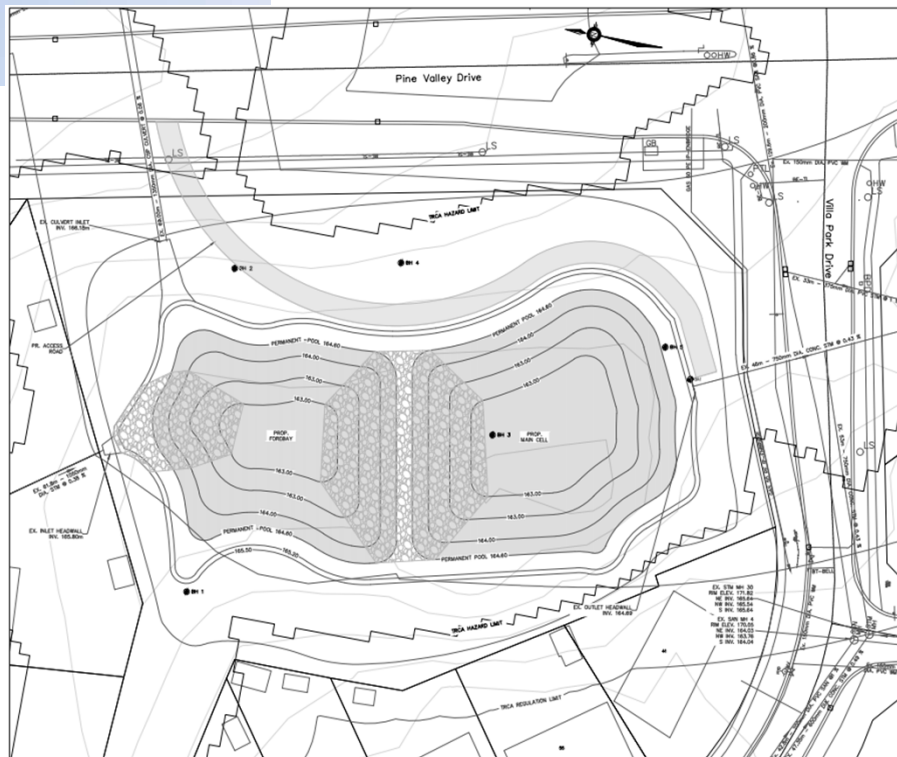
Approximate Cost: \$3.2 million
Operation/Maintenance Costs: Moderate

Opportunities	Drawbacks
<ul style="list-style-type: none"> • Enhances water quality • Reduces downstream flooding and erosion • Supportive of aquatic habitat 	<ul style="list-style-type: none"> • Community/ Environmental disruptions during construction
<ul style="list-style-type: none"> • Applicable for DMAF funding • Improved protection for new/existing infrastructure • High acceptance from agencies • Meets planning policy 	<ul style="list-style-type: none"> • Higher Capital Costs • Additional maintenance efforts/costs

Alternative #3 – On-line Facility Configuration

Description:

This alternative involves upgrading the existing Villa Park Pond to include the design of a wet pond where the existing channel will be allowed to flow through the facility. The pond would therefore remain on-line, with flows from both the north and northeast outlets continuing to contribute to the facility.



Approximate Cost: \$4.3 million
Operation/Maintenance Costs: High

Opportunities	Drawbacks
<ul style="list-style-type: none"> • Reduces downstream flooding and erosion 	<ul style="list-style-type: none"> • Limited water quality improvement • Limited to no improvement on water temperatures • Most disruptive to the environment/ community • Restricts fish habitat
<ul style="list-style-type: none"> • Applicable for DMAF funding 	<ul style="list-style-type: none"> • Highest capital costs • Highest maintenance costs • Does not protect new/existing infrastructure (sedimentation)

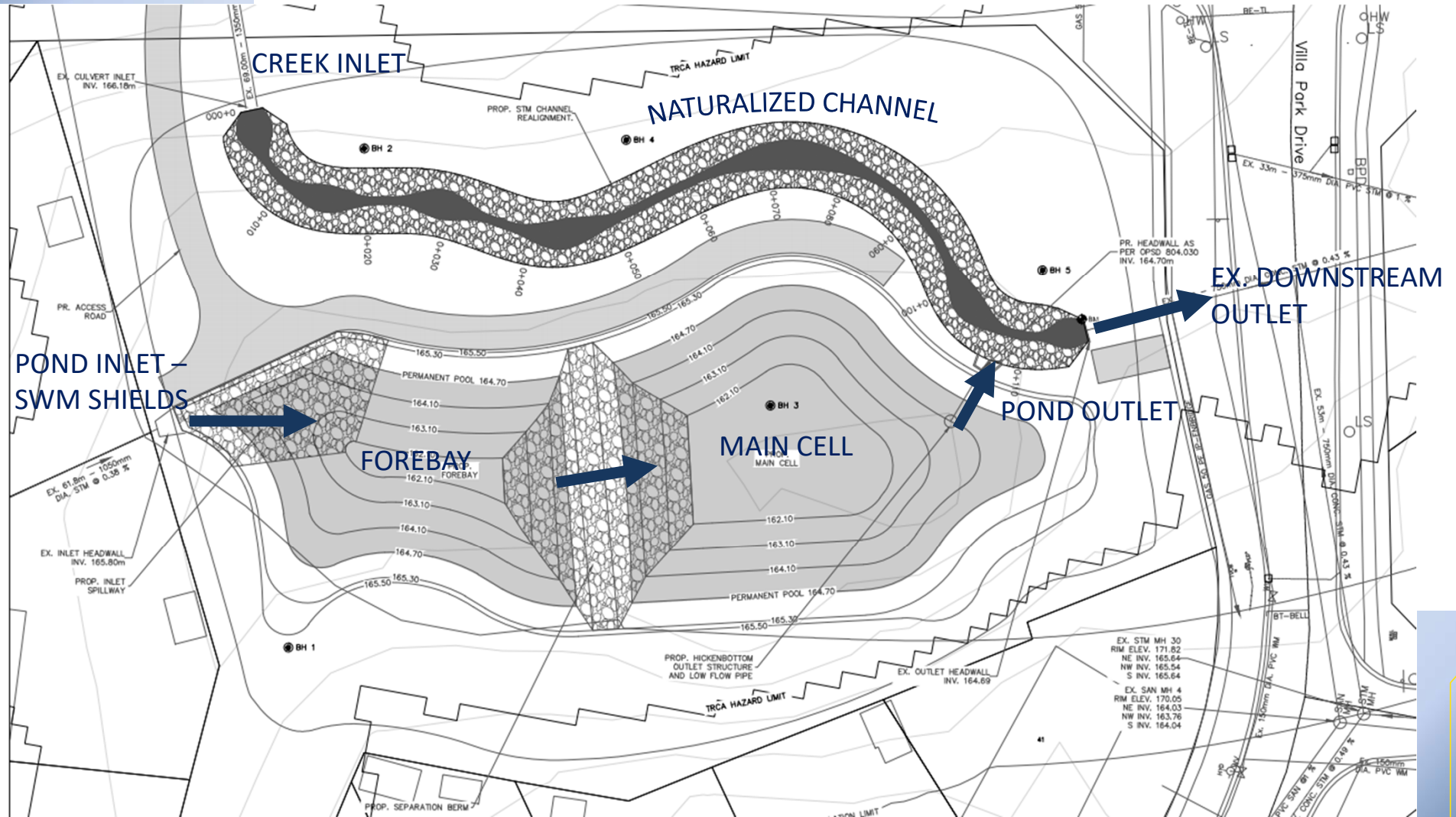
Evaluation of Alternative

<u>Evaluation Criteria</u>	<u>ALTERNATIVE #1</u>	<u>ALTERNATIVE #2</u>	<u>ALTERNATIVE #3</u>
<u>Physical/Natural Environment</u>			
Potential Impact/Benefit on Existing Terrestrial Systems	2	4	3
Potential Aquatic Habitat Impact/Benefit (Fish Passage)	1	3	1
Potential Aquatic Habitat Impact/ Benefit (Temperature)	1	3	1
Potential Water Quality Benefit	1	4	1
Potential to Reduce Downstream Flooding and Erosion	1	4	4
<u>Social/Cultural Environment</u>			
Potential to Provide Public Health and Safety Objectives	4	3	1
Aesthetic / Recreation Benefits	1	4	1
Compatibility with Adjacent Land Use	4	4	1
Potential Community Disruption	4	3	1
<u>Economic Environment</u>			
Capital Construction Costs	4	2	1
Operation/Maintenance Costs	4	2	1
Protection of New/Existing Infrastructure	2	4	1
<u>Technical/Engineering Considerations</u>			
Ease of Implementation	4	3	1
Agency Acceptance	1	4	1
Meets Policy/Bylaw Requirements	1	4	2
Technical Feasibility	4	3	3
Ease of Maintenance	4	1	1
Total Score	43	55	24

4 = indicated that the retrofit design alternative score high in satisfying the respective design criteria

1 = indicated the retrofit design option scored low in relation to the criteria

Preferred Alternative: Off-line Pond and Creek Naturalization



Preferred Alternative: Design Elements

Basic Design Elements

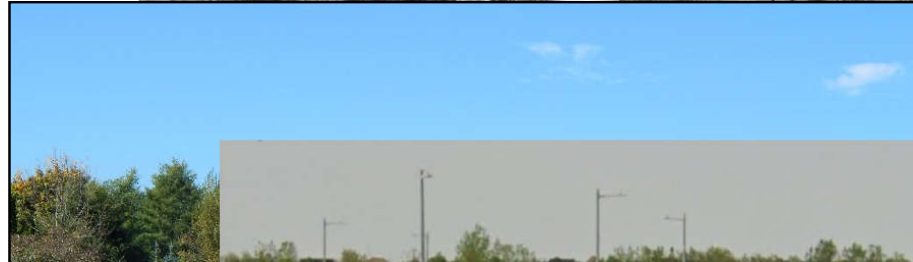
- Creek Realignment
- Vegetated Buttress
- Pond Excavation (Forebay and Main cell)
- Installation of Headwalls/Retaining Structures



Preferred Alternative: Design Elements

Basic Design Elements

- SWM Shields
- Enhanced Landscaping/Plantings
- Hickenbottom/Bottom Draw Outlet Structure
- Maintenance Access



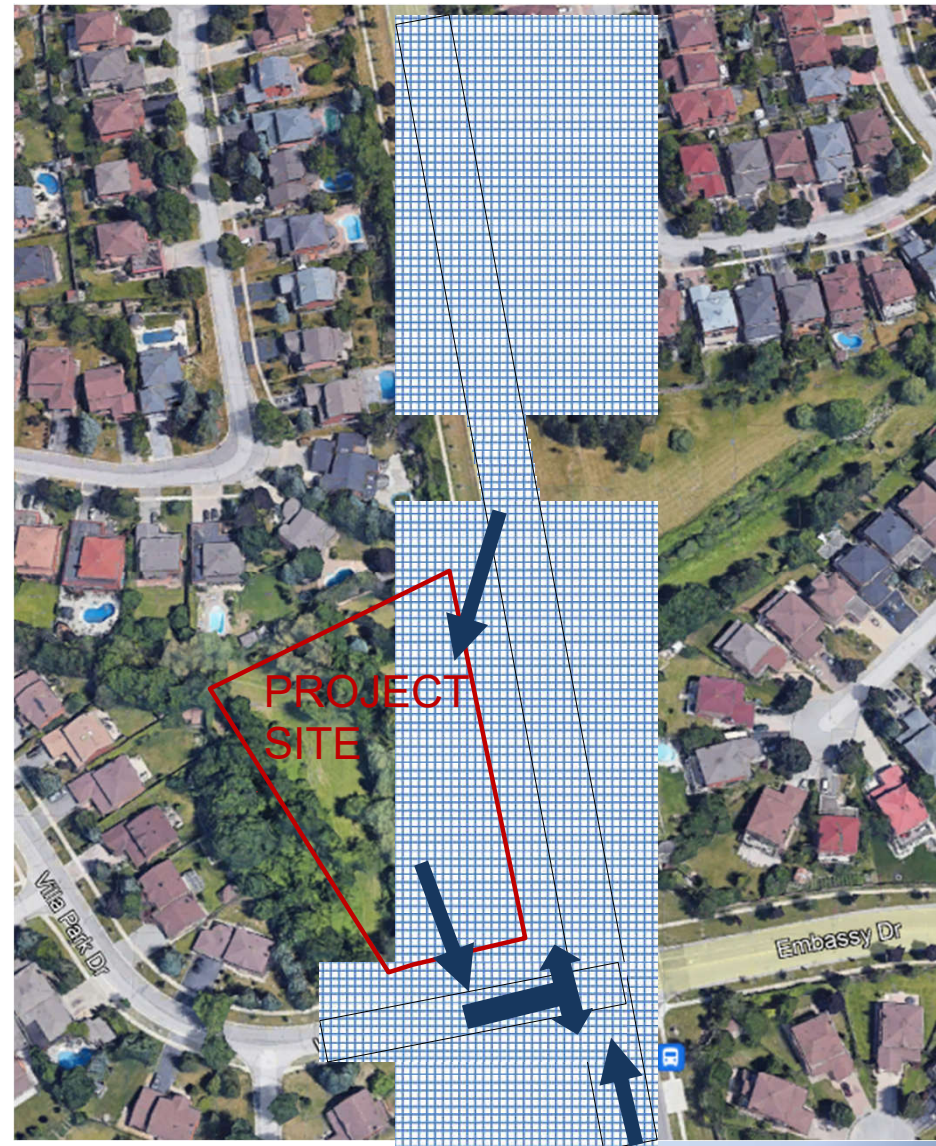
Construction Expectations

- ❖ **Noise, Mud Tracking, Dust, Vibrations**
- ❖ **Hauling 200-300 trucks per day during peak hauling times (4 weeks)**
- ❖ **Working Hours: M-F 7am – 7pm**
- ❖ **Pre-construction Inspection of Homes:**
 - Third Party inspection of home exterior and interior.
 - Used to confirm if possible damage is caused by construction (i.e. vibration)
 - Inspections are completed as permitted by homeowner
 - Completed for homes within close proximity to site.
- ❖ **Closure to sidewalks**



Construction Expectations

- ❖ **Main Truck Access from Pine Valley Drive**
- ❖ **Removal of trees and vegetation**
- ❖ **Dewatering/Bypass Pumping**
- ❖ **Truck Staging may occur on Villa Park Drive**
- ❖ **Construction Work Limited to the Project Site**



Next Steps and Contact Information

After this Public Information Centre, the study team will consider verbal and written comments in order to proceed with the selection of the preferred alternative.

A Questionnaire has been provided online and can be accessed to fill out comments and questions.

For more information on this project and to be placed on our mailing list, please contact:

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Thank You for Participating