Public Information Centre No. 2

June 15, 2017
6:00 – 8:00 pm

Valley Park Community Centre (GYM B)
970 Paramount Drive
Stoney Creek

Please complete the sign-in sheet and review display materials.
The project team is available to answer your questions and address any concerns.

Your Input is valued!
Please fill out a comment sheet.
Introduction

Why are we here?

The City is preparing a Stormwater Management Master Plan that will provide a long-term strategy to best address management of stormwater resources as development proceeds within the Upper Hannon Creek area.

The purpose of this Open House is to present information on:

- PIC #1 summary and work completed to date;
- Stormwater management targets that will permit future development, protect and enhance the receiving watercourse system including natural heritage;
- Document the planning process followed; and
- Project schedule/next steps including commitments.

Your concerns are important to us and we value your input in the decision making process. Feel free to talk to the Project team or take a comment form and a pen. We encourage you to ask questions and provide feedback.
Introduction

- The Study Area is located within the headwaters of Hannon Creek and the Red Hill Creek and drains toward the Niagara Escarpment outletting to Red Hill Creek and the Hamilton Harbour.

- This geographical setting highlights the sensitivity of the study area and necessity for the Stormwater Master Drainage Plan to integrate the City’s regard for ecological sustainability with flood, erosion, water quality and water quantity control requirements.

- Upper Hannon Creek subwatershed (see Study Area Map) has a drainage area of approximately 1,196 ha and is located within the upper end of the Red Hill Creek watershed. The study area includes both potentially developable land as well as sensitive environmental features.

- The Study Area has been divided into East and West (see Study Area Map)
Land Use

- The Upper Hannon Creek study area falls within the City of Hamilton’s Urban and Rural Official Plans.
- The study area is predominantly designated as Business Park; however it is also comprised of the following land use designations under the Official Plan:

Urban Official Plan – business park, neighbourhoods, open space, institutional, utility, district commercial and arterial commercial

Rural Official Plan – agriculture and rural

These future land uses within the Upper Hannon Creek area shall be considered when developing drainage and servicing plans.
The Project is following the Municipal Class EA Master Planning Process (Approach 2), which is outlined on this panel.

Applicable infrastructure project Class EA planning schedules (e.g. A, A+, B, or C) have been identified at the end of the process.
PIC #1

• PIC #1 held March 31, 2015

• Nineteen people signed into the PIC

• Attendees provided input to flooding, existing conditions and indicated general support for the study

Public Feedback

- Identification of localized flooding in the Beaverbrook Avenue Area
- How will field drainage be maintained or altered?
- Keep us in the loop
- Very informative

What we heard from you...
Study Area and Karst Field Monitoring Work Locations

Legend
- Karst Feature
- Water Sampling Locations
- Tracer Injection Locations
- Flow Path
- Reach_Breaks

Contours
- Major
- Minor

Base Layers
- Roads
- Watercourses
- Parcels
- Hannon Subwatershed Boundary

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Stream Classification

Aquatic habitat was characterized based on review of previous data and field investigations.

Stream habitats were classified as:
- Critical Habitat
- Important Habitat
- Marginal Habitat
- No Habitat

Legend

- Not Accessible
- High Constraint
- High Constraint - Potential to Rehabilitate
- Medium Constraint
- Low Constraint
- Intermittent Connection

Base Layers
- Roads
- Watercourses
- Reach Breaks
- Parcels
- Hannon Subwatershed Boundary

Note: Streams that were not assessed (no access granted) require further study.
## Stream Classification

<table>
<thead>
<tr>
<th></th>
<th>Fisheries</th>
<th>Terrestrial Resources/Linkage</th>
<th>Stream Morphology</th>
<th>Flooding/Conveyance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIGH</strong></td>
<td>High quality habitat contains permanent, critical fish habitat and/or aquatic Species at Risk. Fish species observed.</td>
<td>Contains designated significant natural heritage features (e.g. PSWs, Significant Woodlands, ESAs, SAR habitat).</td>
<td>These corridors contain a defined channel with a well-developed channel morphology (i.e., riffle-pool) and/or a well-defined valley. These corridors offer both form and function.</td>
<td>Aids in flood control, wetland communities present</td>
</tr>
<tr>
<td><strong>MEDIUM</strong></td>
<td>Contributing habitat.</td>
<td>Natural communities present, contributes to overall landscape connectivity.</td>
<td>These reaches have a defined channel (bed and banks) or valley (e.g. gullies), may or may not have well-defined bed morphology (form) but do maintain geomorphic function and have potential for rehabilitation. In many cases, these reaches are presently exhibiting evidence of geomorphic instability or environmental degradation due to historic modifications and land use practices.</td>
<td>Moderate flood control</td>
</tr>
<tr>
<td><strong>LOW</strong></td>
<td>Poor quality habitat does not directly support a fishery.</td>
<td>No natural communities or wildlife habitat present.</td>
<td>These reaches consist of ephemeral headwater systems that lack defined bed and banks (form) but do perform a geomorphic function through the conveyance of flow and sediment.</td>
<td>Provides little flood control</td>
</tr>
</tbody>
</table>
Stream Classification

Red
- Red streams are to be preserved as corridors;
- Red dashed streams are of similar importance as red streams, however significantly degraded. As such they require enhancement. When enhanced, relocation is feasible.

Blue
- Blue streams are to be left as an open watercourse, but can be relocated. They should be reconstructed as a functioning riparian corridor system.

Green
- Green Streams can become part of a piped system.
Updated Existing Conditions
Floodline Mapping

Legend
- Contours
- Roads
- Watercourse
- Floodline Extents - Regional
Erosion Threshold Limit

- An Erosion Threshold Limit is the flow of stormwater that theoretically can cause erosion within the most sensitive part of a watercourse. In defined watercourses these flows are based on bed and bank materials and channel geometry.

- The Erosion Threshold Limit target is set so that proposed development conditions flows do not exceed the existing conditions target rate and cause erosion.

- Where the erosion threshold limit is exceeded at stream segment HC-3, upstream areas could be protected with increased LID targets, or this section of stream could be enhanced by carrying out stream restoration.
Water Balance

A water balance describes the flow of water in and out of a system. An equation can be used to represent this equation, in this case represented by:

Precipitation (P) = Evapotranspiration (E) + Recharge (Qc) + Runoff (Qs).

A Water Balance was carried out to analyze the effects of the proposed development. Maintaining infiltration through the use of LID features will assist in maintaining the existing water balance.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Existing Conditions</th>
<th>Future Conditions</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precipitation (P)</td>
<td>9,978,137</td>
<td>9,978,137</td>
<td>0%</td>
</tr>
<tr>
<td>Evapotranspiration E</td>
<td>5,740,111</td>
<td>5,579,174</td>
<td>-3%</td>
</tr>
<tr>
<td>Recharge (Qc)</td>
<td>1,877,607</td>
<td>1,555,731</td>
<td>-17%</td>
</tr>
<tr>
<td>Runoff (Qs)</td>
<td>2,360,420</td>
<td>2,843,233</td>
<td>20%</td>
</tr>
</tbody>
</table>
Constraints

Within the study there are several areas that have potential constraints to development.

- Constraints are primarily related to natural environmental features (such as sensitive watercourses and Karst features).
- Constraints will be further reviewed by developers as part of proposed land use changes.
Types of Alternatives

Below provides a description of SWM alternatives.

1) **Do nothing**
   - Involves allowing development to occur in an uncontrolled manner. Results in flooding, erosion and also water quality degradation both within the future development lands and the lands downstream.

2) **Source Control Measures**
   - This alternative puts the responsibility on the property owner to control run off in such a way that downstream flooding and erosion is avoided. Samples of this include:
     - Roof top storage (Private Initiative)
     - Underground storage tanks (Private Initiative)
     - Parking Lot Storage (Private Initiative)
     - Oil Grit Separators (Public Initiative)

3) **Low Impact Development (LID)**

   3A) **LID Conveyance Control Measures**
   - Involve the linear stormwater transport systems that are often located within the road right-of-way such as ditches and sewers but they encourage infiltration. Samples include:
     - Bio-swales
     - Grassed Ditches
     - Perforated Pipes

   3B) **LID Source Control Measures**
   - Involves lot-level source controls that promote the infiltration. Samples of these include:
     - Bioretention
     - Downspout Disconnection
     - Filter Strips
     - Green Roofs
     - Permeable Pavement
     - Rainwater Harvesting
     - Soakaway Pits
     - Tree Planting

4) **Detention Facilities**
   - Involves conventional stormwater facilities such as wet ponds, wetlands and dry ponds at the end of the flow conveyance system.

5) **Combination Low Impact Development Practices and Detention Facilities**
   - Combination 3) and 4) – may also include 2)

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LID Examples

Residential Rainbarrel, Credit Conservation

Enhanced Grass Swale – Prien & Newhof

Bioretention Swale – "Grey to Green Road Retrofits", Credit Valley Conservation

Enhanced Grass Swale – "Grey to Green Road Retrofits", Credit Valley Conservation

Etobicoke Exfiltration System, Ryerson University
Evaluation Criteria

The screening level assessment is the first step in evaluating alternatives. The following screening level assessment criteria have been used to assess which alternatives will be carried forward to the full evaluation process. The screening criteria and evaluation are shown below:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description of Criteria</th>
<th>Measures for Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Feasibility</td>
<td>Ability to be constructed</td>
<td>Assessment of the individual stormwater management techniques will range from Excellent (E) to Poor (P) in its ability to meet the identified criteria.</td>
</tr>
<tr>
<td>Ability to Reduce Flooding</td>
<td>Ability to meet flood control targets and not increase flooding risks to downstream properties.</td>
<td>Stormwater management techniques that fail to meet primary criteria will be deemed to be an unacceptable stormwater management options for this Study Area and will not be carried forward to the detailed assessment (scored NA = Not acceptable).</td>
</tr>
<tr>
<td>Ability to Improve Water Quality</td>
<td>Ability to meet water quality criteria as per the 2003 MOEC Stormwater Management Manual.</td>
<td></td>
</tr>
<tr>
<td>Ability to Reduce Erosion</td>
<td>Ability to meet erosion reduction targets in accordance with the 2003 MOECC Stormwater Management Manual.</td>
<td></td>
</tr>
<tr>
<td>Ability to Meet Water Balance Targets</td>
<td>Ability to maintain the pre-development water balance and prevent adverse changes to site hydrology.</td>
<td></td>
</tr>
<tr>
<td>Cost Effective</td>
<td>Cost effectiveness of the SWM technique is in relation to the overall benefit and the collective criteria.</td>
<td></td>
</tr>
<tr>
<td>Consistent with City Guidelines for Industrial Land Usages</td>
<td>Consistent with recommendations in Table 2.2 from the City of Hamilton Criteria and Guidelines for Stormwater Infrastructure Design</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Technical Feasibility</th>
<th>Ability to Reduce Flooding</th>
<th>Ability to Improve Water Quality</th>
<th>Ability to Reduce Erosion</th>
<th>Ability to Meet Water Balance Targets</th>
<th>Cost Effective</th>
<th>Consistent with City Guidelines for Industrial Land Usages</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do Nothing</td>
<td>E</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>E</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>LID only</td>
<td>E</td>
<td>P</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>P</td>
<td>E</td>
<td>G</td>
</tr>
<tr>
<td>Detention Storage Only</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>F</td>
<td>E</td>
<td>G</td>
<td>E</td>
<td>G</td>
</tr>
<tr>
<td>LID and Detention Storage</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>G</td>
<td>E</td>
<td>E</td>
</tr>
</tbody>
</table>

Notes: E=Excellent, G=Good, F=Fair, P=Poor, NA=Not Acceptable
### Detailed Evaluation of Stormwater Approach Alternatives

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>CRITERIA</th>
<th>CRITERIA INDICATORS</th>
<th>ALTERNATIVE 2: LOW IMPACT DEVELOPMENT (LID) ONLY</th>
<th>ALTERNATIVE 3: DETENTION FACILITIES (DFs) ONLY</th>
<th>ALTERNATIVE 4: COMBINATION LID AND DFs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHYSICAL AND NATURAL ENVIRONMENT</strong></td>
<td>Ability to meet Water balance targets</td>
<td>Ability to mitigate undesired impacts to the pre-development water balance and site hydrology, including surface drainage, groundwater, soils and geology. The alternative must, at a minimum, maintain the pre-development groundwater recharge.</td>
<td>• LID provides infiltration to meet water balance needs.</td>
<td>• Does not provide infiltration benefits.</td>
<td>• LID provides infiltration to meet water balance needs.</td>
</tr>
<tr>
<td></td>
<td>Ability to meet Flooding targets</td>
<td>Ability to meet flood control criteria. The alternative must control peak flows to existing condition peak flows for design storms up to and including the 100 year storm event. Risk of increased flooding to infrastructure and private property to be mitigated.</td>
<td>• Not effective for peak flow control. • Increased risk of flooding</td>
<td>• Provides peak flow controls to mitigate effects of flow increase and/or flooding from proposed development. • Low risk of flooding</td>
<td>• Provides peak flow control. • Low risk of flooding</td>
</tr>
<tr>
<td></td>
<td>Ability to meet Water quality targets</td>
<td>Ability to meet water quality criteria, as per the 2003 MOECC Stormwater Management.</td>
<td>• Provides some water quality targets (gravel filter strips)</td>
<td>• Provides good water quality application</td>
<td>• Provides good water quality application</td>
</tr>
<tr>
<td><strong>SOCIAL AND CULTURAL ENVIRONMENT</strong></td>
<td>Ability to meet Erosion targets</td>
<td>Ability to control watercourse erosion in accordance with the 2003 MOECC Stormwater Management Manual, as described in Section 2.4 of this report.</td>
<td>• Provides good erosion control.</td>
<td>• Provides some erosion control.</td>
<td>• SWM facilities provide some degree of erosion control in conjunction with LID controls.</td>
</tr>
<tr>
<td></td>
<td>Impact on Ecology</td>
<td>Potential to mitigate impacts to terrestrial and aquatic habitat. Ability to provide opportunities for connectivity, diversity and sustainability for terrestrial and aquatic habitats.</td>
<td>• Impacts can be mitigated. • Provides some opportunity to benefit terrestrial and aquatic habitats.</td>
<td>• Provides benefit to terrestrial and aquatic habitats. • Impacts can be mitigated.</td>
<td>• Provides benefit to terrestrial and aquatic habitats. • Impacts can be mitigated.</td>
</tr>
<tr>
<td></td>
<td>Impact on existing and future land uses</td>
<td>Potential to be integrated with the existing land uses within the Study Area.</td>
<td>• High potential for integration with existing land uses, however larger area requirements. • May also displace land planned for future development.</td>
<td>• SWM facilities within open space compatible with all existing land uses. • May also displace land planned for future development.</td>
<td>• SWM facilities within open space compatible with all existing land uses. • May also displace land planned for future development.</td>
</tr>
<tr>
<td></td>
<td>Potential benefit to community</td>
<td>Relevance of the alternative to Official Plan, Vision 2020 and Growth Integration Development Strategy (including employment), opportunities to improve existing watercourses and opportunities to integrate SWM facilities to enhance public open space and less inconvenience to the public if implemented with planned road works.</td>
<td>• Alternative furthers City municipal planning objectives. • LID can be implemented as part of road improvements. • Increase in aesthetic value through planted vegetation.</td>
<td>• Alternative furthers City municipal planning objectives. • SWM facilities enhance public open space. • SWM facilities hard to implement as part of road improvements.</td>
<td>• Alternative furthers City municipal planning objectives. • SWM facilities enhance public open space. • LID can be implemented as part of road improvements.</td>
</tr>
<tr>
<td></td>
<td>Built Heritage and Archaeological Resources</td>
<td>Potential impacts on Built Heritage and Archaeological Resources significant areas/features within the Study Area.</td>
<td>• Low potential to impact Built Heritage Resources • Moderate potential to impact archaeological resources</td>
<td>• Low potential to impact Built Heritage Resources • Moderate potential to impact archaeological resources</td>
<td>• Low potential to impact Built Heritage Resources • Moderate potential to impact archaeological resources</td>
</tr>
</tbody>
</table>
Detailed Evaluation of Stormwater Approach Alternatives – Cont’d

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>CRITERIA</th>
<th>CRITERIA INDICATORS</th>
<th>ALTERNATIVE 2 LOW IMPACT DEVELOPMENT (LID) ONLY</th>
<th>ALTERNATIVE 3 DETENTION FACILITIES (DFs) ONLY</th>
<th>ALTERNATIVE 4 COMBINATION LID AND DFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECHNICAL</td>
<td>Proven Effectiveness/Level of Service</td>
<td>Degree to which the alternative has been proven effective through scientific literature, implementation and/or monitoring.</td>
<td>• Previous/porous pavements applicable in specialized applications and in low volume areas.</td>
<td>• White widely in use, current approach is being reviewed and approved upon through new MOECC SWM guidelines.</td>
<td>• Previous/porous pavements applicable in specialized applications and in low volume areas.</td>
</tr>
<tr>
<td>Acceptance by Regulatory Agencies</td>
<td>General level of acceptance of the alternative by the various Municipal, Provincial, Federal, and CA regulatory agencies.</td>
<td>• Similar level of acceptance to other alternatives (i.e. grassed swales acceptable on semi-urban road sections and pervious/porous pavements applicable in specialized applications and in low volume areas.</td>
<td>• Similar level of acceptance to other alternatives. SWM facilities acceptable for quality and quantity treatment.</td>
<td></td>
<td>• Similar level of acceptance to other alternatives. Grassed swales acceptable on semi-urban road sections. SWM facilities acceptable for quality and quantity treatment.</td>
</tr>
<tr>
<td>By-law and Policy requirements</td>
<td>Degree to which the alternative will be impacted by existing policy and by-law requirements.</td>
<td>• Similar policy and by-law requirements to other alternatives.</td>
<td>• Similar policy and by-law requirements to other alternatives.</td>
<td>• Similar policy and by-law requirements to other alternatives.</td>
<td>• Similar policy and by-law requirements to other alternatives.</td>
</tr>
<tr>
<td>Impact on existing infrastructure</td>
<td>Potential impacts on existing infrastructure (services, roads)</td>
<td>• Low impact to existing infrastructure</td>
<td>• Lower impact to existing infrastructure</td>
<td>• Low impact to existing infrastructure</td>
<td></td>
</tr>
<tr>
<td>Constructability</td>
<td>Degree of difficulty in constructing the alternative given site conditions and constraints.</td>
<td>• Requires specialist experience.</td>
<td>• Less specialist construction experience required.</td>
<td>• Less degree of difficulty if implemented with new road development.</td>
<td></td>
</tr>
<tr>
<td>Available and suitable surface outlets</td>
<td>Suitability of stormwater outlets to maintain existing flow regime.</td>
<td>• Existing outlets remain suitable</td>
<td>• Existing outlets remain suitable.</td>
<td>• Existing outlets remain suitable.</td>
<td></td>
</tr>
<tr>
<td>FINANCIAL</td>
<td>Capital Costs</td>
<td>The construction cost associated with the alternative.</td>
<td>• No significant difference between Alternative 3 and Alternative 4.</td>
<td>• No significant difference between Alternative 2 and Alternative 4.</td>
<td>• No significant difference between Alternative 2 and Alternative 3.</td>
</tr>
<tr>
<td>Operation and Maintenance Costs</td>
<td>The operation and maintenance costs associated with the alternative.</td>
<td>• No significant difference between Alternative 3 and Alternative 4.</td>
<td>• No significant difference between Alternative 2 and Alternative 4.</td>
<td>• No significant difference between Alternative 2 and Alternative 3.</td>
<td></td>
</tr>
<tr>
<td>Property Value impacts</td>
<td>Potential impacts to property values.</td>
<td>• No significant difference between Alternative 3 and Alternative 4.</td>
<td>• No significant difference between Alternative 2 and Alternative 4.</td>
<td>• No significant difference between Alternative 2 and Alternative 3.</td>
<td></td>
</tr>
<tr>
<td>Phasing Considerations</td>
<td>Degree to which the alternative can effectively be implemented as per the proposed phasing plan.</td>
<td>• No significant difference between Alternative 3 and Alternative 4.</td>
<td>• No significant difference between Alternative 2 and Alternative 4.</td>
<td>• No significant difference between Alternative 2 and Alternative 3.</td>
<td></td>
</tr>
</tbody>
</table>

PRELIMINARY OVERALL RANKING

<table>
<thead>
<tr>
<th>LEGEND</th>
<th>Most Preferred</th>
<th>Preferred Alternative</th>
<th>Least Preferred</th>
</tr>
</thead>
</table>

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Preferred Alternative for Stormwater Management (SWM)

**Overall Strategy**

Based on the analysis, the preferred alternative is the combined LID control and detention storage option. This is the only option that satisfies all of the criteria and meets all of the targets.

- The LID controls are required to provide infiltration to meet the water balance targets, and to meet the erosion targets.
- The SWM facilities are required to mitigate peak flows so that the existing conditions flow targets are met.
- The SWM facilities also provide some degree of erosion control in conjunction with the LID controls.

**Lot Level Controls**

- Individual development lot-level controls (opposed to Regional detention facilities) are the preferred method to mitigate future land use changes so that development can occur on a site by site basis.

- Conveyance or end-of-pipe controls would be difficult to fund and construct as the upstream sites would be developed at varying rates.

- Lot-level SWM facilities will provide water quality benefits and peak flow control. LID methods will provide infiltration to maintain the overall water balance, as well as to provide addition peak flow attenuation to meet the erosion threshold requirements.

- Although lot-level controls are recommended, the overall design is intended to mitigate the impacts of development on a watershed basis. Proposed lot level controls were conceptually designed so that the overall integrity of the watershed is maintained.
A conceptual Servicing Plan was developed to ensure that the existing flow regime is maintained, and that the required length of Low Constraint Streams (Previously shown in Green) are provided to maintain the drainage density requirement.

All recommended projects fall under Schedule A (address through site plan) or Schedule A+ (work located in road allowance utility corridors).

Schedule A and A+ projects are pre-approved (Schedule A+ projects include notice prior to construction).
## Proposed Projects Addressed by this Study

<table>
<thead>
<tr>
<th>Facility ID</th>
<th>Description</th>
<th>Class EA Planning Schedule</th>
<th>Considerations</th>
</tr>
</thead>
</table>
| SWMFs 1-3   | • New Stormwater Management Facility (SWMF)  
             • Refer to Implementation Plan for general location | Schedule A | • Individual land owners will assemble properties, complete land use concepts and functional servicing including siting SWMFs  
• Approval addressed under the Planning Act (approval of consent, site plan, plan of subdivision or condominium)  
• City will assume responsibility once constructed and in operation. |
| NSS-1       | • Nebo Road Trunk Storm Sewer  
             • From Twenty Road East to approximately 400 metres south of Rymal Road East  
             • Approximately 900 metres in length | Schedule A+ | • Requires public notice prior to construction  
• Can be implemented as part of road improvements  
• Assumes all works in existing ROW and trenchless water crossings (if required) |
| TCSS-1      | • Trinity Church Road Trunk Storm Sewer  
             • Starts approximately 350 metres south of Rymal Road East  
             • Approximately 600 metres in length | Schedule A+ | • Requires public notice prior to construction  
• Can be implemented as part of road improvements  
• Assumes all works in existing ROW and trenchless water crossings (if required) |
## Commitments

<table>
<thead>
<tr>
<th>City</th>
<th>HCA</th>
<th>Private Property Owner – Developer</th>
</tr>
</thead>
</table>
| **Natural Environment**  
- Ensure all regulatory requirements to protect the environment are followed during construction to ensure minimal impact to the natural environment.  
- Work with HCA to address potential impacts related to construction.  
- Ensures developer’s work is complete and follows this Master Plan and is sufficient to support development applications. | **Floodplain Mapping**  
- An updated flood impact assessment of proposed developments may be required to confirm the initial findings within the Master Plan.  
- Completion of flood impact assessments for tributaries that are to be maintained or relocated and that were not assessed through the Master Plan.  
- Ensures developer’s work is complete and is sufficient to support development applications. | **Natural Heritage**  
Completion of seasonally appropriate ecological inventories and assessments as part of an Environmental Impact Statement (EIS) may be required as part of development planning application(s) on a site-specific basis. |
| Ensures developer’s work is complete and sufficient to support development applications and follows this Master Plan. | Ensures developer’s work is complete and sufficient to support development applications and follows this Master Plan. | **Hydrogeology and Karst**  
Completion of additional hydrogeological studies and assessments prior to development. |
Next Steps

**Summer/Autumn 2017**
- Review comments received
- Council endorsement
- File EA Addendum Report for 30-day public review period

**Future**
- Select projects proceed to Preliminary and Detailed Design based on development proposals

**Future**
- Select projects proceed to Tender and Construction
- Post construction monitoring of how Natural Heritage Features are responding

*Dates noted above are subject to change*
We appreciate the time you have taken to learn more about the project and we value your input. Stay involved and up-to-date as the project progresses:

- Join our mailing list: leave us your mailing address
- Visit the project website: [www.hamilton.ca/UpperHannonCreek](http://www.hamilton.ca/UpperHannonCreek)
- Contact us with additional comments or questions at any time:

**Melanie Anderton**  
*Project Manager*  
*Growth Management*  
*City of Hamilton*

Phone: 905-546-2424 ext. 6412  
Email: iplanning@hamilton.ca