Making It Work Conference:
Low Impact Development in Action

HISTORIC EXAMPLES OF STORMWATER MANAGEMENT FACILITIES IN PARKS AND WHERE DO WE GO FROM HERE

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SCHAEFFERS
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PRESENTATION OUTLINE

1. History of Stormwater Management (SWM)

2. Three examples of Dry SWM Ponds constructed in parks
   - Aldergrove Park (East Riseborough), Markham
   - Copland Park, Aurora
   - Ada Mackenzie Park, Richmond Hill

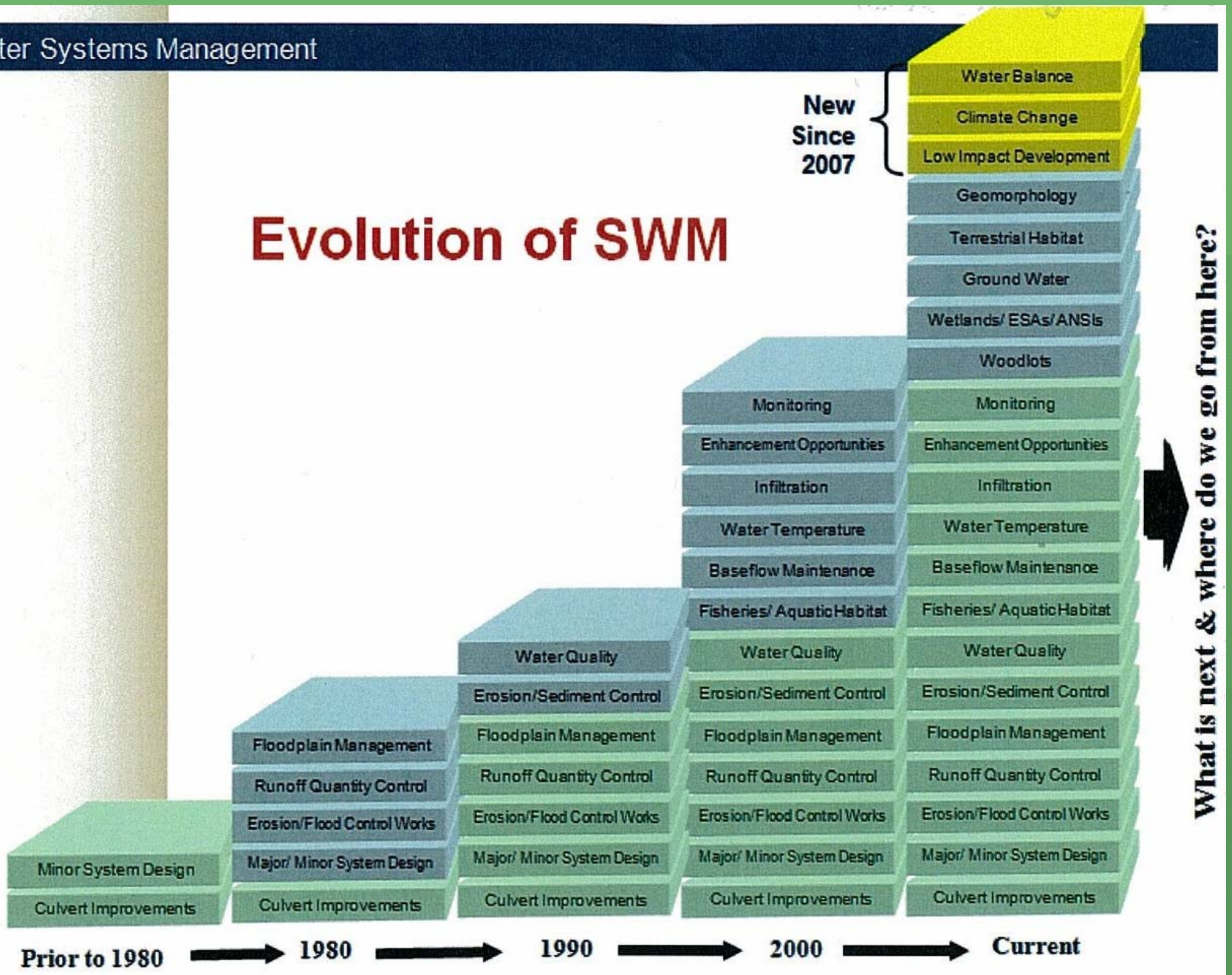
3. Post 1980's

4. Low Impact Development in Parks (Where do we go from here)
   - Opportunities
   - Challenges

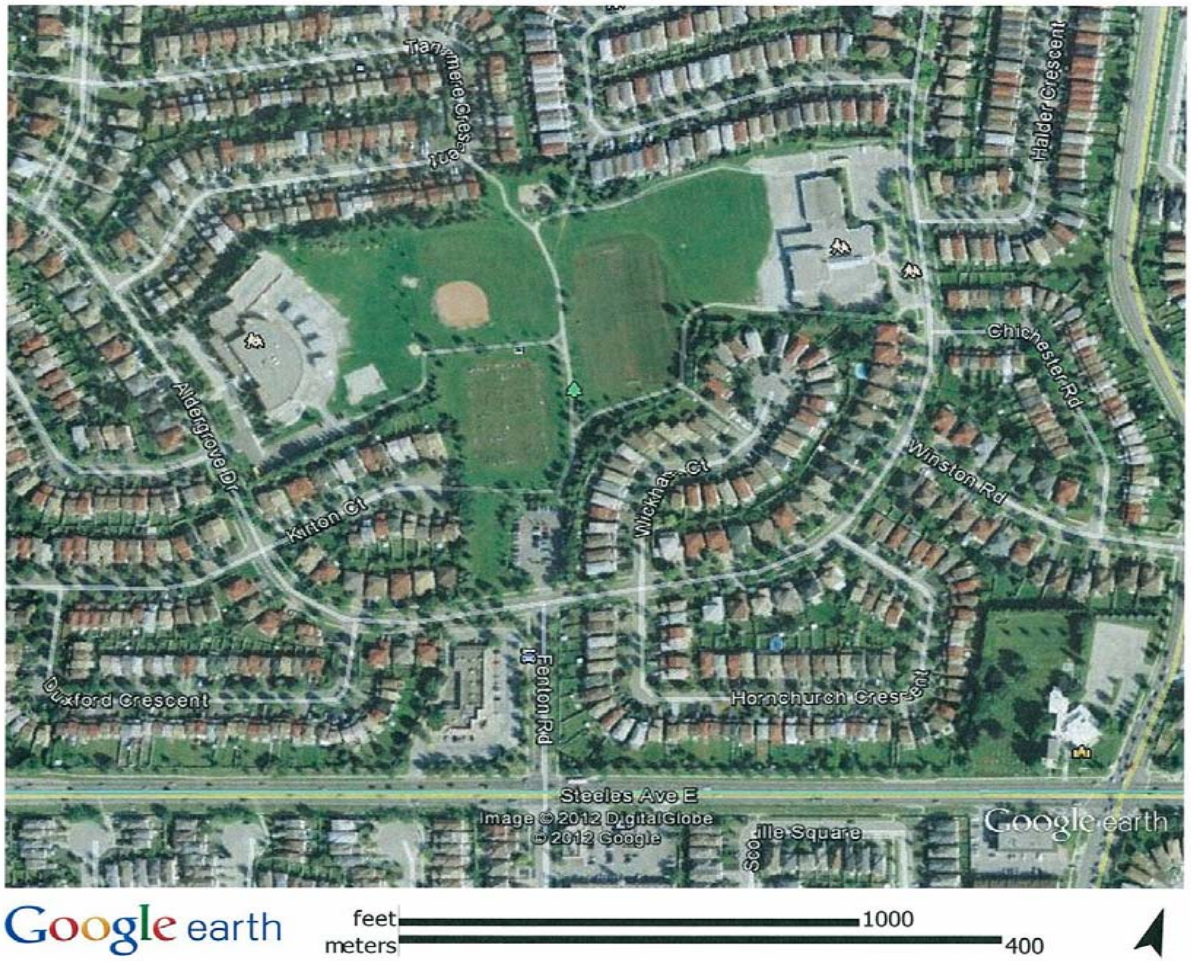
HISTORY OF STORMWATER MANAGEMENT

- Prior to the 1980's, no real stormwater management, just avoid on site flooding and stormwater was outletted to receiving watercourses with potential damaging consequences
- 1980's – water quantity control (dry ponds)
- 1990's – addition of water quality control (wet ponds)
- 2000 – addition of dealing with other impacts of urbanization

Evolution of SWM

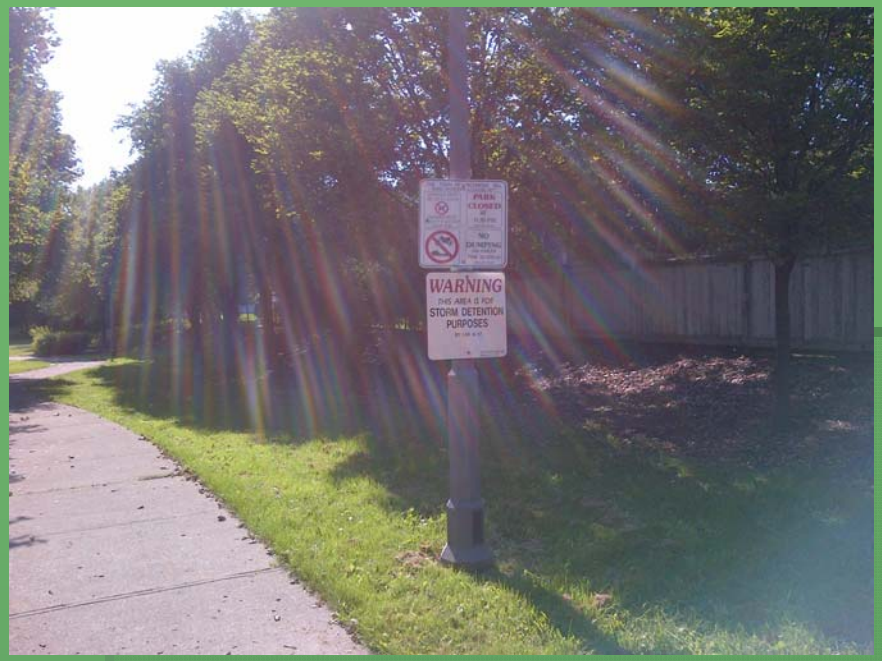


Site No. 1
Name: Aldergrove Park
Municipality: Markham
Date Constructed +/-: 1982
Comments: Contains two large soccer fields
- Birdcage top catchbasins located at lowest points



Site No. 2
Name: Copland Park
Municipality: Aurora
Date Constructed +/-: 1985
Comments: - Used as baseball diamond and tobogganing in winter
- Outlet structure is constructed from gabion baskets

Site No. 3
Name: Ada Mackenzie Park
Municipality: Richmond Hill
Date Constructed +/-: 1985
Comments: Park is for passive recreational use
- Dry detention pond followed by a wet impoundment currently containing cattails
- Berm exists between the two cells with a small pipe for conveyance of stormwater


WARNING
THIS AREA IS FOR
STORM DETENTION
PURPOSES

POST 1980'S

- Prior to wet ponds, there was no land specifically dedicated for Stormwater Management, but that changed with wet ponds
- General concept is that the most effective Stormwater Management was an end-of-pipe facility
- This end-of-pipe facility would usually be close to a low elevation location, which many not coincide with a favourable park location

LOW IMPACT DEVELOPMENT

- This is a recent concept of stormwater management which stresses on-site controls and utilizes a multitude of techniques to attempt to replicate the pre-development hydrologic regime
- In general, the use of LID may reduce or possibly eliminate the need of SWM Wet Ponds which are in public ownership
- However, agencies need assurance that such LID facilities will be maintained and therefore preferably located on land publicly owned
- It is difficult to implement many LID techniques on privately owned land especially if certain densities, i.e. freehold townhouses

OPPORTUNITIES

- Since parks have open space and are in public ownership, there is opportunity for LID techniques
- Potential LID techniques which may be considered in parks
  - Dry detention ponds
  - Underground storage and/or infiltration galleries
  - Bio-retention or dry swales for water quality treatment

CHALLENGES

- Finding locations preferable for both SWM and park purposes, i.e. low point topography, relatively central location and vehicle access/parking
- Have “buy-in” from parks department for multiple-use facility, i.e. allow SWM facility, but still give park credit, as required under The Planning Act
- Conservation authorities must resolve this with parks department and not just rely on the development community to approach parks department
- Work out logistics of how to design LID facility such that it is compatible with park use, i.e. avoid vegetation from being trampled

QUESTIONS?