

REPORT NO. 196 of the  
ENVIRONMENT, TRANSPORTATION & PUBLIC SAFETY  
STANDING COMMITTEE  
of its meeting held April 23, 2014

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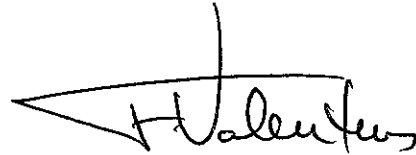
**Present:**  
Councillor J. Gignac  
Councillor A. Halberstadt  
Councillor R. Jones  
Councillor H. Payne  
Councillor F. Valentinis, Chair

That the following recommendations of the Environment, Transportation and Public Safety Standing Committee **BE APPROVED:**

Moved by Councillor Halberstadt, seconded by Councillor Payne,  
**THAT** City Council **APPROVE** the installation of a demonstration rain garden at the Ojibway Nature Centre.  
Carried.

Livelihood #17107, EI/10822

Clerk's Note: The report authored by the Environmental Coordinator dated March 31, 2014 entitled "*Rain Garden Demonstration Site – Ojibway Nature Centre*" is **attached** as background information.



CHAIRPERSON



SUPERVISOR OF COUNCIL SERVICES

NOTIFICATION:				
Name	Address	Email Address	Phone	FAX
Kevin Money, ERCA		<a href="mailto:kmoney@erca.org">kmoney@erca.org</a>		

**THE CORPORATION OF THE CITY OF WINDSOR**  
**Environment, Transportation & Public Safety Standing Committee -**  
**Admin Report - Environment Transportation**



**MISSION STATEMENT:**

*"Our City is built on relationships – between citizens and their government, businesses and public institutions, city and region – all interconnected, mutually supportive, and focused on the brightest future we can create together."*

<b>LiveLink REPORT #: 17107 EI/10822</b>	<b>Report Date: March 31, 2014</b>
<b>Author's Name: Karina Richters</b>	<b>Date to Standing Committee: April 23, 2014</b> #3804 jc-04/07/14:eb
<b>Author's Phone: 519 253 7111 ext. 226</b>	<b>Classification #:</b>
<b>Author's E-mail: krichters@city.windsor.on.ca</b>	

**To: Environment, Transportation & Public Safety Standing Committee**

**Subject: Rain Garden Demonstration Site – Ojibway Nature Centre**

**1. RECOMMENDATION: City Wide:  Ward(s): \_\_\_\_\_**

1. That City Council APPROVE the installation of a demonstration rain garden at the Ojibway Nature Centre

**EXECUTIVE SUMMARY:**

N/A

**2. BACKGROUND:**

A rain garden is situated and designed to allow rainwater runoff from impervious urban areas, like roofs, driveways, walkways, and parking lots to absorb into the ground as opposed to flowing into storm drains or combined sewers. Apart from diverting this water from municipal infrastructure, this infiltration helps recharge groundwater and protects local water quality by reducing polluted runoff.

The City Council report *2012 Sewer Surcharge Budget Update/Measures to Mitigate Basement Flooding* (CR128/2012) identified the installation of green infrastructure (i.e. rain gardens) as one method to divert storm water from municipal sewers.

The City of Windsor Climate Change Adaptation Plan (M498-2012) proposed the installation of rain gardens as a pilot project as an adaptation action that would contribute to reducing the risks associated with increasing precipitation and temperatures.

### **3. DISCUSSION:**

The Essex Region Conservation Authority (ERCA) has already begun working with member municipalities to create rain gardens at various locations including Harrow and Leamington. ERCA staff will provide expertise to design and build a rain garden at the Ojibway Nature Centre. ERCA and City of Windsor staff will be monitoring the rain garden for its effectiveness. Part of the monitoring will include the installation of a piezometer to record water level depths.

The Ojibway Nature Centre was selected for the first pilot rain garden due to the local soil characteristics (sandy), the availability of free native plants and the number of visitors to the centre. In addition, the Friends of Ojibway, a volunteer organization dedicated to promoting public awareness of the Ojibway Prairie Complex, will be available to help with the planting and maintenance of the rain garden.

The proposed rain garden will be located between the parking lot and the Ojibway Nature Centre. The area receives run-off from the numerous walking paths in the area. These paths are maintained in the winter and de-icer is often used. The proposed rain garden at this location will help reduce the salt loadings into the nearby water course which is home to numerous amphibians and turtles. A site plan is attached for reference.

The construction of the rain garden will include the use of a back-hoe and operator to sculpt a depression for the capture of rain water. The topsoil is replaced and native flowers tolerant to fluctuating water levels and salt are planted. The native plants will be sourced from the Ojibway complex itself by members of the Friends of Ojibway and transplanted in the rain-garden.

Well designed rain gardens should require little maintenance after the first two years. Some weeding and watering (under drought conditions) may be required in the first two years until the garden has matured. The members of the Friends of Ojibway will be able to assist with this maintenance.

As part of this pilot project, interpretative signage and other communication materials (i.e. fact sheets and postcards) will be created to build awareness of the benefits of rain gardens. Rain gardens are often installed as complimentary features to downspout disconnection. Information on the benefits of rain gardens and downspout disconnections will be components of the educational materials developed as part of this pilot project.

Rain gardens are not a risk for mosquito breeding. Storm water flowing into a rain garden will be absorbed by the soil within hours and the rain garden remains dry between rainfall events. As mosquitoes need 7 to 12 days to lay and hatch eggs, they are more likely to lay eggs in bird baths and catch basins rather than in a dry rain garden.

### **4. RISK ANALYSIS:**

This is a low risk project involving the moving of soil by a contractor and the transplanting of native plants by the Friends of Ojibway. These volunteers are well-versed in native plants and constructing gardens. Maintenance requires weeding and watering of plants, routine activities done at the Ojibway Nature Centre.

## 5. FINANCIAL MATTERS:

The 2014 Environmental Master Plan budget has allocated approximately \$15,000 towards the construction of rain garden pilot projects. No additional funding is necessary to implement this project. The following table breaks down the estimated costs for the construction of a rain garden at the Ojibway Nature Centre.

<b>Description</b>	<b>Estimated Cost</b>
ERCA Personnel and Expertise to design and assist with construction and monitoring of rain garden	\$1500
Water and Soil Samples	\$200
Material and Supplies (mulch, gloves for volunteers, piezometer)	\$2,200
Promotional and Educational Materials	\$400
<b>Total Costs for ERCA Coordinated Activities</b>	<b>\$4,300</b>
Landscape Contractor (1-day)	\$1,000
Interpretative Signage	\$1,500
<b>Total Estimate Project Costs</b>	<b>\$6,800</b>

A Purchase Order will be issued to ERCA to coordinate the activities for the rain garden design and construction.

The in-kind support from the Friends of Ojibway includes the harvesting of native plants from Ojibway Park and replanting in the rain garden, as well as support for the ongoing maintenance of the rain garden. This in-kind support will save the project an estimated \$4,000 in purchasing plants.

## 6. CONSULTATIONS:

**Essex Region Conservation Authority** - Community Outreach Coordinator, Acting Water Quality Specialist

**Ojibway Nature Centre** – Naturalist, Education and Outreach Coordinator

**Parks Development** - Acting Landscape Architect, Parks Technologist

## 7. CONCLUSION:

The installation of rain gardens is one tool to help reduce storm water run-off and as such was listed as a proposed short-term adaptation action in the City of Windsor's Climate Change

Adaptation Project. Additional benefits include reduction of pollutant run-off and increased biodiversity due to the addition of native habitat.

*Karina Richters*

**Karina Richters**  
Environmental Coordinator

*Chris Manzon*

**Chris Manzon**  
Senior Manager of Pollution Control

*John Miceli*

*Paul Pratt*

**Paul Pratt**  
Naturalist

*John Miceli*

**John Miceli**  
Executive Director of Parks and Facilities

*Mario Sonego*

**Mario Sonego**  
City Engineer

*Onorio Colucci*

**Onorio Colucci**  
Chief Financial Officer & City Treasurer

*Helga Reidel*

**Helga Reidel**  
Chief Administrative Officer

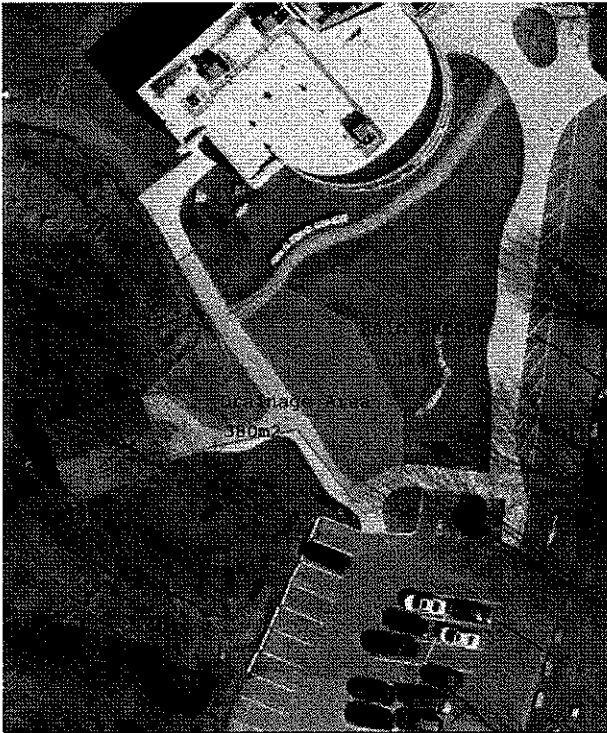
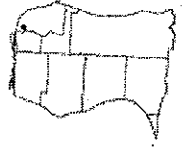
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**APPENDICES:**  
Site Plan  
Letter of Support from ERCA

**DEPARTMENTS/OTHERS CONSULTED:**  
Name:  
Phone #: 519 ext.

NOTIFICATION :				
Name	Address	Email Address	Telephone	FAX
ERCA - Kevin Money	360 Fairview Ave. W. Suite 311, Essex, Ontario N8M 1Y6	kmoney@erca.org	519-776-5209 x. 351	

### Ojibway Nature Centre Rain Garden



**NOTES:**  
Estimated drainage area and rain garden dimensions.

**Legend**

THIS MAP IS NOT TO BE USED FOR NAVIGATION  
Copyright the Essex Region Conservation Authority, 2014. Data herein is provided by ERCA on an 'as is' basis. Assessment parcel provided by Teranzel Enterprises Inc. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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Essex Region  
Conservation  
Authority



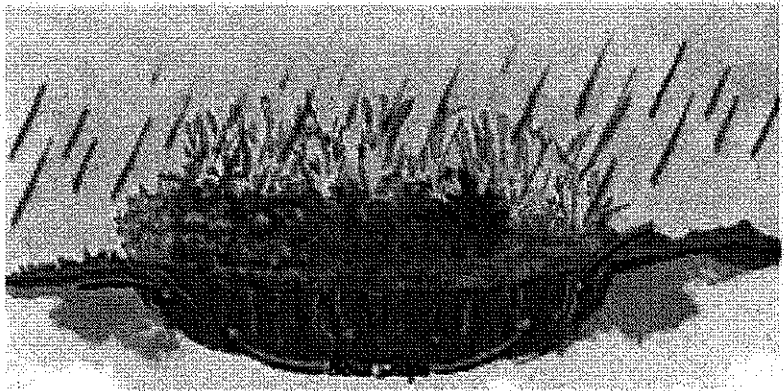
240 Fenelon Avenue West, Suite 211, Essex, ON, Canada, N8H 1Y6 | P 519-771-5189 | F 519-771-3088 | esra.org | esra@esra.org

- Partner Municipalities
- Town of Amherstburg
- Town of Essex
- Town of Hagersville
- Town of Lakeshore
- Town of Leamington
- Municipality of Leamington
- Township of Pelee
- Town of Tecumseh
- City of Windsor

March 28, 2014

Dear Madame/Sir,

To date, The Essex Region Conservation Authority has constructed a rain garden in Essex County at the Harrow Arena, and will be constructing another at Seachiff Park in Leamington this spring. Ultimately, the goal is to construct demonstration plots in each of the municipalities within our watershed to inform business and homeowners of their environmental and aesthetic benefits. Especially, these low-maintenance plots are designed to hold water for brief periods during and after a rainfall, and can be an important part of improving a community's overall water quality. Their design, a depressed area with native plants, allows them to effectively recharge aquifers and remove pollutants from runoff.



  
 Kevia Mandy, Director of Conservation Services

