

# NOTICE TO CLOCA BOARD OF DIRECTORS

Please find enclosed the Agenda and supporting documents for the

**CLOCA Board of Director's meeting on Tuesday, March 19, 2019, 5:00 p.m.,**  
**NOTE CHANGE IN MEETING LOCATION: MUNICIPALITY OF CLARINGTON**  
**COUNCIL CHAMBERS, 40 TEMPERANCE STREET, BOWMANVILLE**

The list below outlines upcoming meetings and events for your information.

## UPCOMING MEETINGS & EVENTS

DATE	TIME	EVENT	LOCATION
March 13 to 17/19 March 23 to 24/19 March 30 to 31/19	9:30 a.m. to 12 Noon or 12:00 Noon to 2:30 p.m.	Annual Maple Syrup Festival (Tickets to be purchased in advance)	Purple Woods CA 38 Coates Road East, Oshawa
*Tuesday, March 19/19	5:00 p.m.	CLOCA Board of Director's Meeting	*Clarington Council Chambers 40 Temperance St., Bowmanville
Friday, April 5/19	7:00 p.m. to 9:00 p.m.	Sugarbush Lantern Walk (Tickets to be purchased in advance)	Purple Woods CA 38 Coates Road East, Oshawa
Tuesday, April 16/19	5:00 p.m.	CLOCA Board of Director's Meeting	100 Whiting Avenue Authority's Office Boardroom
Saturday, April 27/19	9:00 a.m. to 12:00 p.m.	Earth Day Tree Planting	Heber Down CA 5700 Cochrane St., Whitby
Friday, May 10/19	7:00 p.m. to 9:00 p.m.	Twilight in the Sugarbush Garlic Mustard Management & Pesto Making Workshop	Purple Woods CA 38 Coates Road East, Oshawa
Tuesday, *May 14/19	5:00 p.m.	CLOCA Board of Director's Meeting	100 Whiting Avenue Authority's Office Boardroom
Wednesday, June 12/19	7:00 p.m. to 9:00 p.m.	Twilight with the Chickadees Split Rail Fence Construction & Buckthorn Removal	Lynde Shores CA 1225 Victoria St., Whitby
Tuesday, June 18/19	5:00 p.m.	CLOCA Board of Director's Meeting	100 Whiting Avenue Authority's Office Boardroom
Friday, June 21/19	8:00 p.m. to 10:00 p.m.	Firefly Night Hike	Purple Woods CA 38 Coates Road East, Oshawa
Tuesday, July 16/19	5:00 p.m.	CLOCA Board of Director's Meeting	100 Whiting Avenue Authority's Office Boardroom
Tuesday, September 18/19	5:00 p.m.	CLOCA Board of Director's Meeting	100 Whiting Avenue Authority's Office Boardroom
Tuesday, October 15/19	5:00 p.m.	CLOCA Board of Director's Meeting	100 Whiting Avenue Authority's Office Boardroom
Tuesday, November 19/19	5:00 p.m.	CLOCA Board of Director's Meeting	100 Whiting Avenue Authority's Office Boardroom
Tuesday, December 17/19	5:00 p.m.	CLOCA Board of Director's Meeting	100 Whiting Avenue Authority's Office Boardroom

\*prior Tuesday meeting due to Monday being a statutory holiday

\* location change for meeting

### LATEST NEWS

Check Out our Website! [www.cloca.com](http://www.cloca.com)

Discover your local Conservation Area.

Register as a Conservation Volunteer Programs & Services

Mobile access to online information with CLOCA's new mobile website and Free Conservation Areas App

*“Healthy Watersheds for Today and Tomorrow”*

CENTRAL LAKE ONTARIO CONSERVATION AUTHORITY

**A G E N D A**  
**AUTHORITY MEETING**

Tuesday, March 19, 2019 - 5:00 P.M.

**NOTE CHANGE IN MEETING LOCATION:** MUNICIPALITY OF CLARINGTON  
COUNCIL CHAMBERS, 40 TEMPERANCE STREET, BOWMANVILLE

CIRCULATION LIST

Authority	Bob Chapman, Chair	Authority Staff:	C. Darling, Chief Administrative Officer
Members:	Ron Hooper, Vice Chair		B. Boardman, Administrative Assistant/Recording Secretary
	Dave Barton		H. Brooks, Director, Watershed Planning & Natural Heritage
	Janice Jones		R. Catulli, Director, Corporate Services
	Chris Leahy		G. Geissberger, Marketing & Communications Coordinator
	Sterling Lee		D. Hope, Land Management & Operations Supervisor
	Tito-Dante Marimpietri		C. Jones, Director, Planning & Regulations
	Ian McDougall		P. Lowe, Director, Community Engagement
	Don Mitchell		P. Sisson, Director, Engineering & Field Operations
	Rhonda Mulcahy		R. Wilmot, GIS Systems Supervisor
	John Neal		
	Brian Nicholson		
	David Pickles		
	Corinna Traill		
	Steve Yamada		

**SUPPORTING  
DOCUMENTS**

**AGENDA ITEM:**

1. **DECLARATIONS** of interest by members on any matters herein contained
2. **ADOPTION OF MINUTES** of February 26, 2019
3. **DELEGATIONS**
4. **CORRESPONDENCE** - *None*
5. **PRESENTATION** - *None*
6. **DIRECTOR, DEVELOPMENT REVIEW & REGULATION and  
DIRECTOR, ENGINEERING & FIELD OPERATIONS**
  - (1) Staff Report #5629-19  
Re: Permits Issued for Development, Interference with Wetlands and  
Alteration to Shorelines and Watercourses - February 1 to 28, 2019

pg. 1

pg. 19

Cont'd

**AGENDA ITEM**

**SUPPORTING  
DOCUMENTS**

- (2) Staff Report #5630-19  
Re: Port Darlington Shoreline Hazard Study

pg. **21**  
(Appendices  
enclosed separately)

**7. DIRECTOR, COMMUNITY ENGAGEMENT - *None***

**8. DIRECTOR, CORPORATE SERVICES - *None***

**9. CONFIDENTIAL MATTERS - *None***

**10. NEW AND UNFINISHED BUSINESS**

- (1) Status of Unfinished Business

pg. **33**

**11. ADJOURNMENT**

**A G E N D A**  
**SUPPORTING DOCUMENTS**

**MEETING OF:** Authority

**DATE:** Tuesday, March 19, 2019

**TIME:** 5:00 p.m.

**NOTE CHANGE IN MEETING LOCATION:**

**LOCATION:** MUNICIPALITY OF CLARINGTON  
COUNCIL CHAMBERS  
40 TEMPERANCE STREET,  
BOWMANVILLE

CENTRAL LAKE ONTARIO CONSERVATION AUTHORITY  
**MINUTES NO. 2**  
**AUTHORITY MEETING**

Tuesday, February 26, 2019 - 5:00 P.M.

MEETING LOCATION: 100 WHITING AVENUE, OSHAWA  
 AUTHORITY'S ADMINISTRATIVE OFFICE, BOARDROOM

Present:

Members:	Bob Chapman, Chair	Staff:	C. Darling, Chief Administrative Officer
	Ron Hooper, Vice Chair		B. Boardman, Administrative Assistant/Recording Secretary
	Dave Barton		H. Brooks, Director, Watershed Planning & Natural Heritage
	Janice Jones		R. Catulli, Director, Corporate Services
	Sterling Lee		G. Geissberger, Marketing & Communications Coordinator
	Tito-Dante Marimpietri		D. Hope, Land Management & Operations Supervisor
	Ian McDougall		C. Jones, Director, Planning & Regulations
	Don Mitchell		P. Lowe, Director, Community Engagement
	Rhonda Mulcahy		P. Sisson, Director, Engineering & Field Operations
	Brian Nicholson		R. Wilmot, GIS Systems Supervisor
	David Pickles		
	Corinna Traill		
	Steve Yamada		

Others:

Gordon Giffin  
 Michelle Lomas  
 Richard D. Lomas  
 Sarah Delicate  
 N. Sims  
 Bill Sims  
 Joanne Ford  
 Corinne Racioppa  
 Yvette Smith  
 Judith Kreps Hawkins  
 Barb Hawkins Kreps  
 Rick Rossi

Absent:

Chris Leahy  
 John Neal



The Chair called the meeting to order at 5:00 p.m.

**DECLARATIONS** of interest by members on any matters herein contained – NONE

**ADOPTION OF MINUTES** of January 15, 2019 (Agenda pg. 1)

Res. #24      Move by S. Lee  
                   Seconded by R. Hooper

***THAT the Authority minutes of January 15, 2019 be adopted as circulated***  
**CARRIED**

Cont'd

## DELEGATION

- (1) Sarah Delicate, Chair – Port Darlington Community Association (PDCA) Shoreline Restoration Committee  
 Re: Issues, concerns and experiences regarding the shoreline starvation, through the voice of the generational shoreline residents and stewards (Schedule H-1 to H-23)

T-D. Marimpietri arrived at 5:03pm

S. Yamada arrived at 5:15pm

## DEVELOPMENT REVIEW & REGULATION

- (1) Staff Presentation – Overview of CLOCA's Development Review & Regulations Responsibilities (Schedule H-24 to H-38)
- (2) Staff Report #5626-19 (Agenda pg. 9)  
 Re: Permits Issued for Development, Interference with Wetlands and Alteration to Shorelines and Watercourses - January 1 to January 31, 2019

Res. #25 Moved by I. McDougall  
 Seconded by D. Barton

***THAT Staff Report #5626-19 be received for information.***  
**CARRIED**

- (3) Staff Report #5628-19 (Agenda pg. 11)  
 Re: CLOCA Comments on Proposed Amendments to the Growth Plan for the Greater Golden Horseshoe (2017)

Res. #26 Moved by I. McDougall  
 Seconded by D. Barton

***THAT the Commentary in Staff Report 5628-19 be endorsed and submitted to the Province of Ontario and Conservation Ontario as CLOCA's comments regarding Growth Plan (2017) Amendment No. 1; and,***  
***THAT Staff Report 5628-19 be circulated to Watershed Members of Provincial Parliament, Municipalities and adjacent Conservation Authorities for their information.***  
**CARRIED**

## DIRECTOR, COMMUNITY ENGAGEMENT

- (1) Staff Report #5622-19 (Agenda pg.14)  
 Re: Community Needs & Opportunities for Environment Education

Res. #27 Moved by T-D. Marimpietri  
 Seconded by C. Traill

***THAT Staff Report 5622-19 be received for information.***  
**CARRIED**

**DIRECTOR, COMMUNITY ENGAGEMENT**

- (2) Staff Report #5623-19 (Agenda pg.39)  
Re: 2019 Education Program Delivery Assessment

Res. #28 Moved by T-D. Marimpietri  
Seconded by C. Traill

***THAT Staff Report 5623-19 be received for information.***  
**CARRIED**

- (3) Staff Report #5624-19 (Agenda pg.82)  
Re: New Professional Development Day Camp Program

Res. #29 Moved by T-D. Marimpietri  
Seconded by C. Traill

***THAT Staff Report 5624-19 be received for information.***  
**CARRIED**

**DIRECTOR, ENGINEERING AND FIELD OPERATIONS**

- (1) Staff Presentation – Overview of CLOCA’s Engineering & Field Operations Responsibilities  
(Schedule H-39 to H-54)

**DIRECTOR, CORPORATE SERVICES**

- (1) Staff Report #5627-19 (Agenda pg. 83)  
Re: Solar Application at CLOCA Office

Res. #30 Moved by T-D. Marimpietri  
Seconded by C. Traill

***THAT Staff Report #5627-19 be received for information; and,***  
***THAT the net revenue of \$8,655.29 from generation be returned to the reserve for working capital.***  
**CARRIED**

**CONFIDENTIAL MATTERS**

Res. #31 Moved by D. Barton  
Seconded by B. Nicholson

***THAT the meeting convene “In Camera”.***  
**CARRIED**

Res. #33 Moved by T-D. Marimpietri  
Seconded by C. Traill

***THAT the meeting reconvene; and,***  
***THAT the discussion of the “In Camera” session be received for information.***  
**CARRIED**

**NEW AND UNFINISHED BUSINESS**

Res. #34      Moved by T-D. Marimpietri  
                    Seconded by J. Jones

***THAT the Unfinished Business be received.***  
**CARRIED**

**ADJOURNMENT**

Res. #35      Moved by D. Barton  
                    Seconded by S. Lee

***THAT the meeting adjourn.***  
**CARRIED**

The meeting adjourned at 6:02 p.m.

## A Brief History of Cedar Crest Beach Road

A look backwards and hope for the future

Jan/Feb 2019



H-1

1839 – 41: Port Darlington Harbor Company opens Port Darlington to markets across Lake Ontario:

- Became a hub of commerce and trade.
- Many resorted here. Picnic parties and pleasure seekers of all kinds assembled in large numbers.
- There was a good hotel and a number of cottages were erected (many are still standing today).



1954

<http://www.ontariogenealogy.com/Durham/history/bowmanville29.html>

## History of Port Darlington



Houses have been on the Port Darlington shoreline since before Confederation.

H-2

There are now over 100 families on the shoreline between the St. Marys' pier and the Port Darlington Marina.

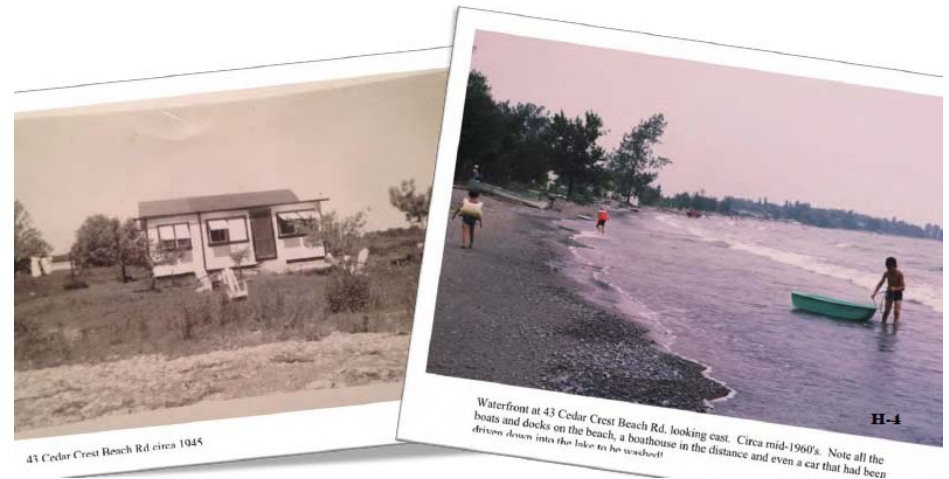
The most recent new-build permit was issued in 2017.



H-3

## Cedar Crest Beach and Cove Road is a Crescent-Shaped Bay.

The shores have been a stable dynamic beach for centuries.



43 Cedar Crest Beach Rd circa 1945

Waterfront at 43 Cedar Crest Beach Rd, looking east. Circa mid-1960's. Note all the boats and docks on the beach, a bathhouse in the distance and even a car that had been driven down into the lake to be washed!

H-4

There was a time that Cedar Crest Beach did not suffer from net erosion, *just like Cove Road today.*



H-5

6

CCB 1954



H-6

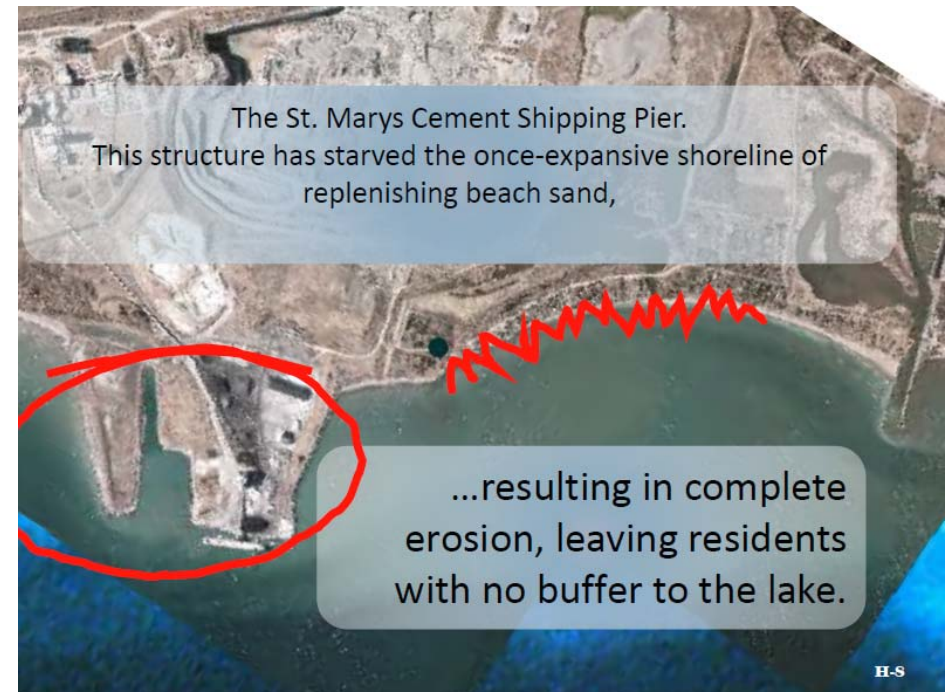
In the 1972 planning documents for the construction of St. Marys' shipping pier, a **complete interruption to littoral drift** was predicted.

#### 8.2 Interruption of Littoral Processes

In Appendix V a calculation indicates a small amount of net littoral drift to the West. Although the calculation is as accurate as the input data warrant, the result is only an order of magnitude indication and in this case it can be said that the littoral drift is small. Air photos would indicate a drift from West to East and this would be more in keeping with the general pattern of sand circulation along the North shore of Lake Ontario. The long landfill project would pose a complete interruption to this littoral drift resulting in accretion on the West side and erosion on the East side. The rates of accretion and erosion will be small, but the balance is very delicate to begin with. This balance will be completely upset and the company may be liable to supply the downdrift areas (to the East) with sand that its structure has trapped.

(beach nourishment)

H-7



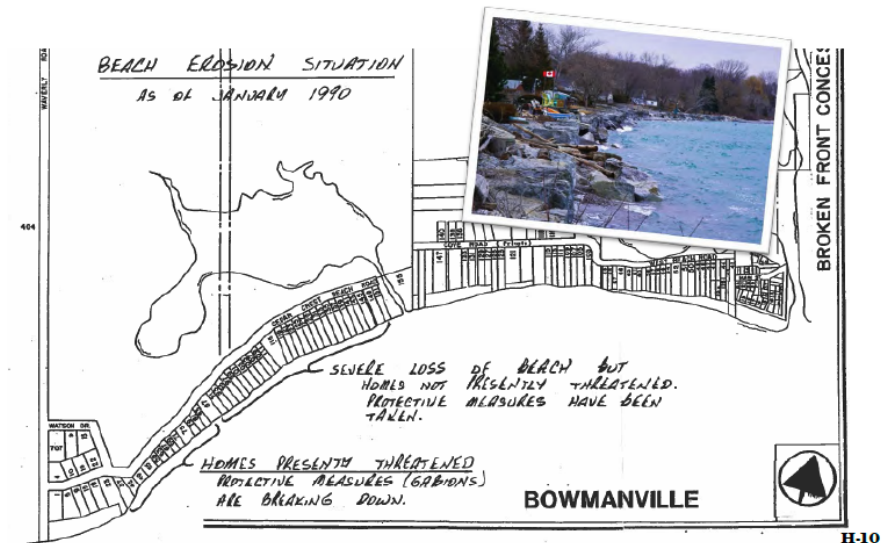
H-8

## 1967 shoreline (pre-pier) compared to 2016 shoreline



H-9

- 7 In recent history, 100s of feet of shoreline has been eroded on Cedar Crest Beach, with many unsuccessful mitigation attempts by home owners.



H-10

By the early 1990's, with direction from CLOCA, homeowners began to harden the shoreline in a **desperate attempt to save their homes** against this erosion.



H-11

Property lines now run into the lake.

MNRF topographic maps with assessment parcel data



H-12

After **flooding November 20, 2015**, residents took a petition to city council **June 2016** seeking a solution.  
**Nov 15, 2015 Lake Ontario water level = 74.56 M (Below Average)**



H-13

8



Forty-five years later, the **June 19, 2017 report to Clarington General Government Committee reports:**

"The Cedar Crest Beach shoreline is contained in a littoral sub-cell defined by St. Marys Cement Pier in the west and Peter Rock Shoal in the east. St. Marys Cement Pier is listed as a primary littoral sub-cell barrier, which means that **it appears to intercept upwards of 60% of alongshore sediment transport in the surf zone**"

Report Number: EGD-015-17  
 Subject: Cedar Crest Beach Erosion Mitigation

H-14



"It is expected that [the Piers] act as a complete barrier to alongshore movement of granular sediment (i.e., sand and gravel) and, therefore, **there is no exchange of granular sediment between west and east shorelines on either side of the piers.**"

"Net alongshore transport in the study area is generally towards the east. This means that St. Marys piers would block any potential supply of sediment available (e.g., through bluff erosion) from the westerly shorelines."

"...impacts by the St. Marys piers on the study shoreline: 1) interruption of sediment supply from the shorelines west side of the piers (approximately 2,000 m3/year as evident from formation of the fillet beach on the west side of the piers); and 2) reversal of longshore transport along the shoreline immediately east of the piers (as evident from formation of the fillet beach on the east side of the piers); and 3) loss of sediment supply from the shoreline protected by the St. Marys piers."

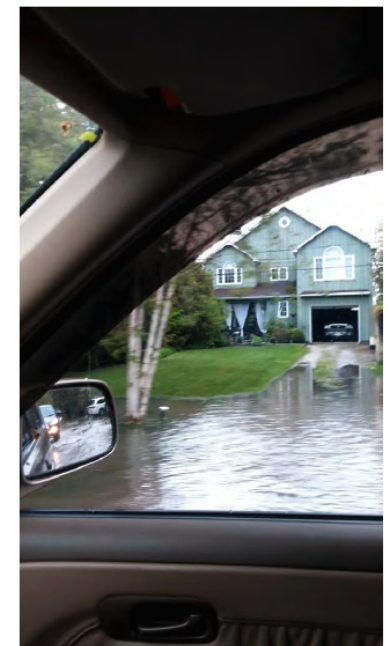
H-15

Nov. 2018, Baird Report, pg. 11

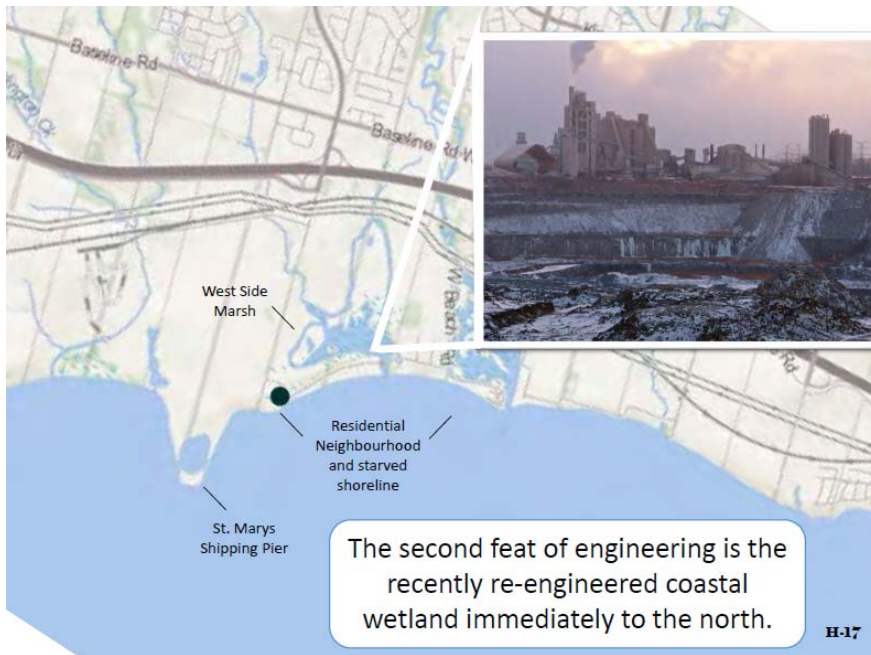
CCB flooded violently in spring 2017.

Biblical rain events flooded the entire shoreline of Lake Ontario.

This is a distraction from the core issue for us.



H-16



“...leaving wetlands in their natural state could reduce the financial costs of flooding by nearly 40 per cent.”

INTACT CENTRE  
ON CLIMATE ADAPTATION

UNIVERSITY OF  
WATERLOO

## When the Big Storms Hit

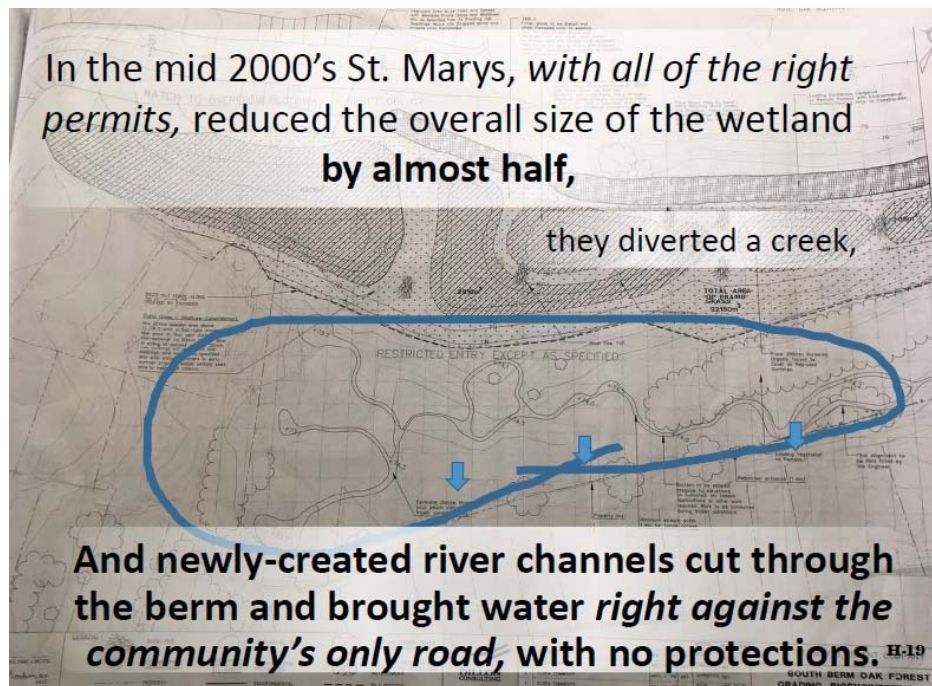
The Role of Wetlands to Limit Urban and Rural Flood Damage



Prepared for the Ontario Ministry of  
Natural Resources and Forestry

Natalia Moudrak, Anne-Marie Hutter, Dr. Blair Feltmate  
Intact Centre on Climate Adaptation

H-18



## 1967 marsh vs 2016 marsh



H-21

**Feb 12, 2019 CLOCA Flood Alert –**  
*snow shelf acted as the protective  
 shore once would have.*



H-22



## Our Ask

Residents of CCB, Cove Road and West Beach Road are urgently requesting that CLOCA, the Municipality of Clarington, Durham Region, the Provincial Government, the Federal Government and St. Marys Cement **do what is required to restore and protect the Port Darlington Shoreline, without further delay.**

H-23



## Planning and Regulation

Seeks to protect **people**, our **environment** and **property** in our watersheds by:

**Planning:** Actively participating in development planning as a trusted advisor making comments under the Planning Act via MOU with the Province, Region and Municipalities.

**Regulation:** Directly regulating certain development activity under a legislative mandate provided by the Conservation Authorities Act



*What we do on the land  
is mirrored in the water.*

Working In Partnership



H-24

11



Natural Hazards and Natural Heritage Focus:  
*Shoreline Hazards: Flooding, Erosion, Slope Instability, Dynamic Beach*



*What we do on the land is mirrored in the water.*

H-25



Natural Hazards and Natural Heritage Focus:  
*Riverine Hazards: Flooding, Erosion, Slope Instability*



*What we do on the land is mirrored in the water.*

H-26



Natural Hazards and Natural Heritage Focus:  
*Protection of Wetlands and Watercourses*



*What we do on the land is mirrored in the water.*

H-27



## Extent of CLOCA's *Regulation Mapping*



 What we do on the land is mirrored in the water. H-28



## Protecting people, our environment and property through *Planning*

- We participate in planning by:
  - Assisting in the development of provincial, regional and local planning **policy**
  - Reviewing regional and municipal **Official Plans**
  - Reviewing and providing technical comments on **site specific development** proposals
  - Technical comment for Environmental Assessments and **Infrastructure Projects**

 What we do on the land is mirrored in the water. H-29



## Protecting people, our environment and property through *Planning*

- In 2018:
  - We provided formal comments on over **285 development applications** and policies
  - We reviewed over **1000 technical submissions** and reports
  - We attended over **85 consultation meetings** to support development proposals

 What we do on the land is mirrored in the water. H-30



## Protecting people, our environment and property through *Regulation*

- Regulations are focused:
  - On lands within or near wetlands, watercourses, flood plains, valley and shoreline erosion and slope hazards
  - Nearly **300 Development Permits** issued in 2018
  - Permits are issued in a timely manner and are supported through monitoring and enforcement

 What we do on the land is mirrored in the water. H-31



### Fee for Service and **Cost Recovery**

- Full cost recovery strategy
- Services supported by users not property tax base
- Annual increases tied to inflation plus actual cost of business
- Fees based on scale, complexity + actual costs to CLOCA to deliver the service

What we do on the land is mirrored in the water.

H-32



### Public Service **Values**

- We recognize that we are in service to the public and can have a big impact on proposals. Accordingly, we:
  - Seek solutions to problems
  - Work co-operatively, pragmatically and reasonably
  - Make timely decisions and explain our actions

What we do on the land is mirrored in the water.

H-33



### Planning and Regulations **Staff**

Lisa-Beth Bulford  
Development Planner  
Uxbridge, Pickering,  
Ajax, Whitby

Chris Jones,  
Director, Planning  
and Regulation  
Oshawa

Stefanie Penney  
Development  
Planner  
Clarington

Eric Cameron  
Infrastructure Planner / Enforcement Officer  
Covering All CLOCA Jurisdiction

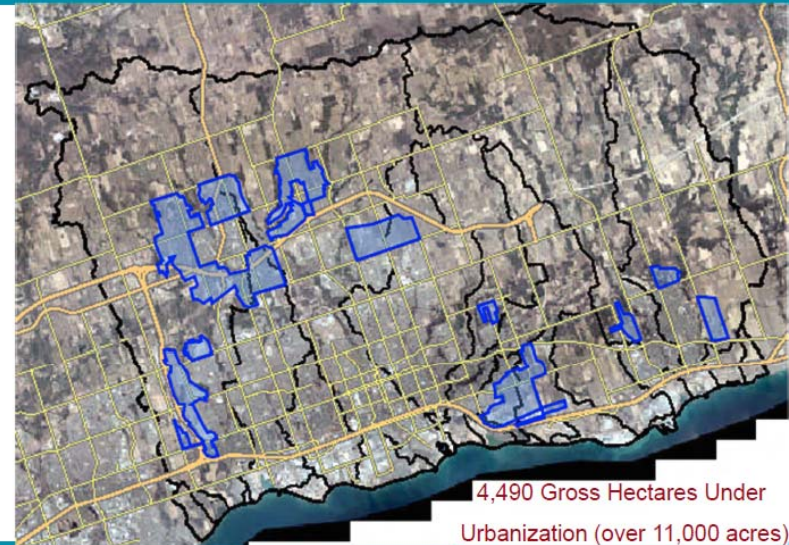
John Hetherington  
Regulations and Provincial Offences Officer  
Covering All CLOCA Jurisdiction

Marnie Guindon  
Planning and Regulation Officer  
Oshawa and Scugog

Connie Ciulla Service, Information and Records Coordinator

What we do on the land is mirrored in the water.

H-34



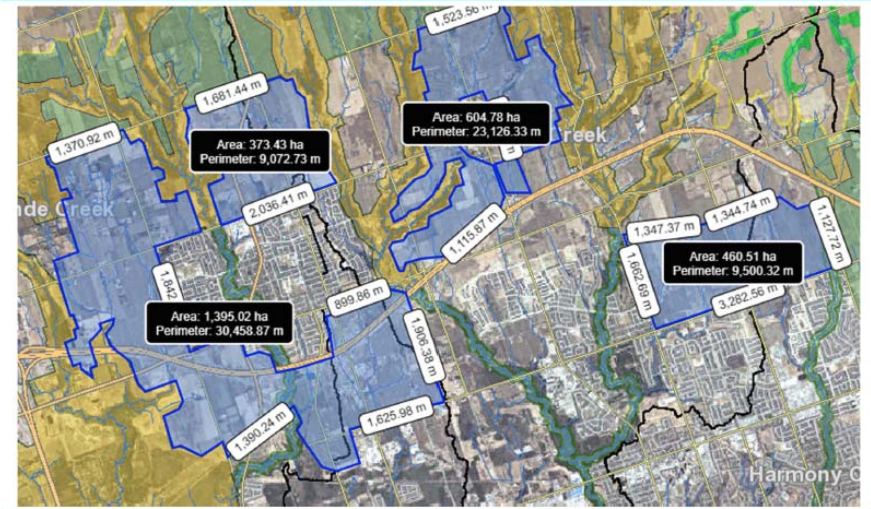
What we do on the land is mirrored in the water.

H-35



*What we do on the land is mirrored in the water.* H-36

14



*What we do on the land is mirrored in the water.* H-37



*What we do on the land is mirrored in the water.* H-38

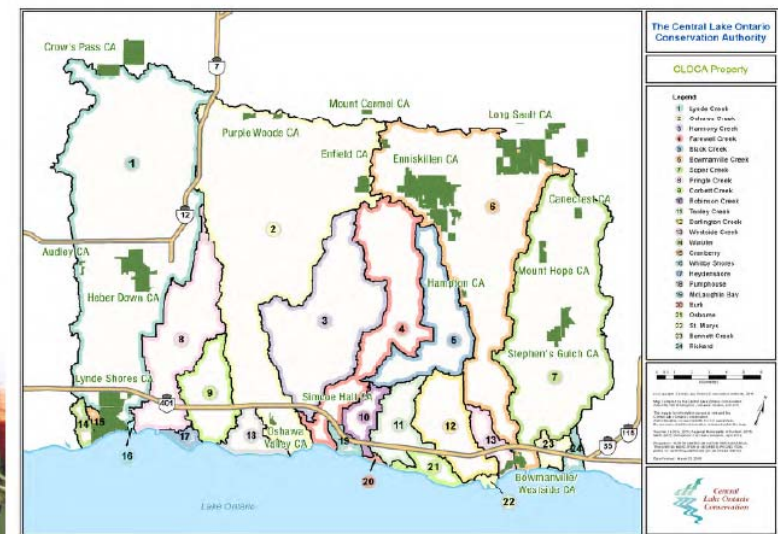


## Engineering and Field Operations



The CLOCA Land Management & Operations group are responsible for 2700 ha or 6700 acres of environmentally sensitive land owned by CLOCA. This land consists of:

- 8 Public Conservation Areas with approximately 45 km of hiking trails
  - Lynde Shores CA
  - Purple Woods CA
  - Stephen's Gulch CA
  - Long Sault CA
  - Heber Down CA
  - Bowmanville/Westside Marshes CA
  - Enniskillen CA
  - Crow's Pass CA
- Land tracts acquired with important and sensitive natural features and/or extensive natural hazards (flooding and erosion)



## Field Operations

- Protection of sensitive lands, water, and the betterment of our watersheds
- Provision of public passive recreation for community health and well being, education and awareness



## Field Operations

- Maintain roadways, parking lots, comfort stations, pay & display parking, information kiosks and signage
- Construct / maintain trails – trail surfaces, vegetation, and hazard tree attenuation
- Ensure public spaces are safe and fit for public use
  - Day use areas, picnic areas, shelters, buildings
  - Conservation Areas Inspection Policy
- Customer service, education and enforcement



## Field Operations

- Land tract security (i.e., fencing, gates, signage)
- Land rental
  - Farmland, Aero Modeller's, Amateur Radio, Dog Parks
- Building rentals / repairs
  - Four tenant houses (SGCA, LYSCA, Crow's / Rogers)
  - Storage buildings (LYSCA, HDCA)
- Building maintenance
  - Main office, PW Heritage Hall, ECA Education Centre
- Enforcement oriented activities
  - Hunting, encroachments, ATV's, Dogs off leash, Trespass
  - Drug related issues, inappropriate activities
  - Work closely with DRPS, MNR, MECP, DFO

## Field Operations

- Special Event Responsibilities
  - Set-up/Tear down
  - Special Event Parking
  - Groundwater Festival, Maple Syrup Festival
- Maple Syrup Production
- CLOCA Fleet Vehicle Management
  - Vehicle purchase
  - Vehicle maintenance
- CLOCA Operations Equipment
  - Purchase, maintenance

## Field Operations

- Streamlined public use systems
- User fees to offset maintenance costs (parking revenue)
- Forestry revenue and reserve to assist with hazard trees and reforestation
- Grants for capital works (ex: Enabling Accessibility Fund, Canada 150, OTC, RInC, Shell)

• *Operate Responsibly and Sustainably (Strategic Plan Goal 3)*



H-47

## Field Operations

- Municipal agreements (Hampton CA, Bowmanville/Westside Marshes CA, Whitby Dog Parks)
- Project partners (Trees Canada/CNR, MTO, TOARC, WFT, Region, Clarington, Town of Whitby, Ducks Unlimited, Citizens Associations, TD Bank, RBC, Deloitte)

*Collaborate and Partner (Strategic Plan Goal 4)*



H-48

## Engineering Services

### –Development Review

- Review stormwater management, flooding, erosion, slope stability (geotechnical) and groundwater impacts
- Comment to planning department on site plans and subdivisions, EAs, and development Master Plans
- Review regulation applications related to stream works and natural hazards

### –Hydrologic and Hydraulic Models

### –Floodplain Mapping

### –Groundwater Mapping

### –Watershed Planning input

### –Design, tendering and contract administration for construction and technical services contracts



H-49

## Engineering Services

### Surface Water and Groundwater Monitoring

#### – Stream Gauging system

- 10 stream gauges
- 11 precipitation gauges
- 5 snow courses

#### – Flood Forecasting and Warning

- Provincial Water Quality Monitoring Network
- Coastal Erosion Monitoring
- Low Water Monitoring
- Provincial Groundwater Monitoring Network



H-50

## Engineering Services



## Engineering Services

- Grant funding for floodplain mapping and studies (NDMP)

• *Operate Responsibly and Sustainably*  
(Strategic Plan Goal 3)

Collaborating with the Conservation Authorities has enabled the Province and municipalities to use a cost effective and streamlined approach preventing upwards of \$100million/year in flood damages.

Conservation Ontario



## Engineering Services

- Provincial funding (MNRF) for Flood Forecasting and Warning and partnerships with Region (DEMO), municipalities, for emergency response
- Partnerships with local and regional municipality for precipitation gauging and EC/MNRF cost share on stream gauges
- Special projects with UOIT and municipalities
- Provincial funding (MECP) for PWQMN and PGMN
- Participation on GTA and provincial committees for professional development (GTAFWW Group), Coastal CA Working Group, PGMN Central Working Group, CAMC Committee, CA's Geoscientists Group, Engineering CA Working Group)

Collaborate and Partner (Strategic Plan Goal 4)



H-53

## Engineering and Field Operations

## Questions



H-54

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CENTRAL LAKE ONTARIO CONSERVATION AUTHORITY

**DATE:** March 19, 2019  
**FILE:** RPRG3974  
**S.R.:** 5629-19  
**TO:** Chair and Members, CLOCA Board of Directors  
**FROM:** Chris Jones, Director, Planning & Regulation  
**SUBJECT:** **Permits Issued for Development, Interference with Wetlands and Alteration to Shorelines and Watercourses – February 1 to 28, 2019**

APPROVED BY C.A.O. 

Attached are Development, Interference with Wetlands and Alterations to Shorelines and Watercourses applications, pursuant to Ontario Regulation 42/06, as approved by staff and presented for the members' information.

**RECOMMENDATION:**

*THAT Staff Report #5629-19 be received for information.*

CJ/ms  
Attach

## Permits Issued for 2/1/2019 to 2/28/2019

Row #	Municipality	Owner / Applicant	Street / Lot / Con	Permit No.	Description
1	CLARINGTON DARLINGTON	ROGERS COMMUNICATION CANADA INC. / DTS TECHNICAL INC.	3468 TRULLS ROAD NORTH/VIVIAN DRIVE / LOT 30 / CON 03	C19-015-G	DEVELOPMENT ACTIVITIES ASSOCIATED WITH DIRECTIONAL BORING AND INSTALLATION OF NEW CONDUIT.
2	CLARINGTON DARLINGTON	PROPERTY OWNER/ DAVID SMALL DESIGNS	2882 MAPLE GROVE ROAD / LOT 19 / CON 02	C19-021-GBH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH THE DEMOLITION OF AN EXISTING SINGLE DWELLING AND THE CONSTRUCTION OF A NEW SINGLE FAMILY DWELLING, SEPTIC SYSTEM AND INGROUND POOL .
3	OSHAWA	PROPERTY OWNER) / PODIUM DEVELOPMENTS	1569 SIMCOE STREET NORTH / LOT 10 / CON 04	O18-293-FGH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH EROSION AND SEDIMENT CONTROL MEASURES, FLOODPROOFING, SITE SERVICING AND RETAINING WALL LOCATIONS .
4	OSHAWA	PROPERTY OWNER	397 ST. LAWRENCE STREET / LOT 11 / CON 01	O19-012-BH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH INTERIOR RENOVATIONS TO SUPPORT A SECONDARY DWELLING UNIT .
5	OSHAWA	ROGERS COMMUNICATIONS	TOWNLINE ROAD-TAUNTON ROAD EAST TO BEATRICE STREET EAST / LOT 03 / CON 04	O19-014-GBH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH DIRECTIONAL BORE FOR THE INSTALLATION OF COMMUNICATION CONDUIT .
6	OSHAWA	DANTONBURY DEVELOPMENTS	2300 SIMCOE STREET NORTH & 0 THORNTON ROAD NORTH / LOT 13 / CON 05	O19-018-GH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH THE PLACEMENT OF 140,000M3 TO SUPPORT RESIDENTIAL DEVELOPMENT OF DANTONBURY PHASE 5.
7	OSHAWA	PROPERTY OWNER	308 NASSAU STREET / LOT 12 / CON 01	O19-020-GBFH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH RE-BUILDING OF A SINGLE FAMILY DWELLING .
8	OSHAWA	PROPERTY OWNER	3230 WILSON ROAD NORTH / LOT 07 / CON 06	O19-024-GBH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH CONSTRUCTION OF A NEW SINGLE FAMILY DWELLING, SEPTIC SYSTEM, DRIVEWAY AND ASSOCIATED LOT GRADING .
9	OSHAWA	PROPERTY OWNER	509 BRENTWOOD AVENUE / LOT 07 / CON 02	O19-025-RH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH INTERIOR RENOVATIONS TO ESTABLISH A DWELLING UNIT WITHIN AN EXISTING BASEMENT (NO EXPANSION OF BUILDING FOOTPRINT).
10	OSHAWA	ENBRIDGE GAS INC.	31 BEATRICE STREET EAST / LOT 10 / CON 03	W19-019-GBH	DEVELOPMENT ACTIVITIES IN ASSOCIATION WITH A NEW GAS SERVICE BEING INSTALLED .
11	WHITBY	ENBRIDGE GAS INC.	LOT 33 / CON 03	O19-022-GBH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH THE INSTALLATION OF A NEW GAS SERVICE .
12	WHITBY	PROPERTY OWNER	5300 HALLS ROAD NORTH / LOT 35 / CON 05	W19-008-GBH	DEVELOPMENT ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF A NEW SINGLE FAMILY DWELLING, SEPTIC AND ASSOCIATED GRADING .

## CENTRAL LAKE ONTARIO CONSERVATION AUTHORITY

DATE: March 19, 2019  
 FILE: IMS: PSSG4177  
 S.R.: 5630-19

APPROVED BY C.A.O.

CD

MEMO TO: The Chair and Members, CLOCA Board of Directors

FROM: Perry Sisson, Director – Engineering and Field Operations  
 Chris Jones, Director – Planning and Regulation

SUBJECT: Port Darlington Shoreline Hazard Study

### 1. Purpose and Background

CLOCA, in partnership with the Municipality of Clarington, has undertaken a shoreline hazard study for the Port Darlington area of Bowmanville. Cedar Crest Beach Road residents had petitioned the municipality in 2016 to take action against Lake Ontario shoreline erosion that was threatening their properties, and during the late spring and summer of 2017, high lake water levels resulted in both lake based and riverine flooding within this area. In response to these events, the Council of the Municipality of Clarington passed a series of resolutions, one of which called upon CLOCA to work towards development a plan for the Port Darlington Area.

At the meeting of September 19, 2017, the CLOCA Board of Directors resolved as follows:

**Auth. Res. #58/17, of September 19, 2017**

*“THAT staff take the necessary actions to complete the Port Darlington (West Shore) Damage Centre Study in consultation with the requested working committee as soon as practicable;*  
*THAT the firm of Aqua Solutions be retained to complete the study work as per the previously approved Terms of Reference, amended to address issues associated with Climate Change, recent historic water levels, Sediment Transport, Current Provincial Policy Direction, Updated Mapping and further assessment of potential options to address risks associated with natural hazards;*  
*THAT CLOCA staff be directed to report back to the Board of Directors with the completed study with options for implementation in conformity with the recommendations of the study and provincial Great Lakes shoreline natural hazard management policy;*  
*THAT the Council of the Municipality of Clarington be so advised in response to Resolution C-203-17.”*  
**CARRIED**

This report will summarize the findings of the study, the comments received from the public, and staff recommendations for implementation.

#### 1.1 Environmental Setting

The Central Lake Ontario Conservation Watershed Flood-Risk Assessment (CLOCA 2017) assessed 92 flood damage centres within the CLOCA watershed including two flood damage centres within the Port Darlington area. The West Beach flood damage centre is vulnerable to property damage and public safety risk associated with flood depths exceeding 2 metres during regional flood conditions. Cedar Crest Beach is not as vulnerable to extreme flood depths, but will still have unsafe conditions during regional flood conditions. These two flood damage centres are also prone to Lake Ontario flooding, and are within the erosion hazard of Lake Ontario. The central portion of the study area, Cove Road, is partially within the erosion hazard of the lake, but is situated on a low bluff, with homes elevated above the flood levels.

Cont'd

## 2 The Study

Three reports were prepared for the study to assess the natural hazards within the shoreline area.

- Port Darlington Shore Protection Concepts (Baird & Assoc. Coastal Engineers, November 2018) See Appendix 1
- Port Darlington Community Report on Flooding (CLOCA, November 2018) See Appendix 2
- Port Darlington (West Shore) Shoreline Management Report (Aqua Solutions 5 Inc., December 2018) See Appendix 3

The study on coastal erosion was completed in response to the petition of the landowners and to provide a better understanding of the shoreline processes and conceptual engineering solutions to protect the subject area against shoreline erosion. The report on flooding assessed the impacts of riverine and Lake Ontario flooding on the area and looked for mitigation options. The Shoreline Management Report completes work that was originally undertaken in 2004, and describes approaches to manage the development within the various shoreline and riverine natural hazards.

Two public information sessions were held during the study. The first meeting was held in March, 2018 to introduce the study and provide information on the natural hazards that exist within the study area. The public were offered an opportunity to provide information to the study team. The second meeting was held in December 2018, and at that time the consultants and CLOCA team presented the findings of the various reports in draft form. The reports have been posted on the CLOCA website, and the public were invited to provide comments. A questionnaire was sent out to all who attended one of the sessions to encourage greater response to the study.

The study findings, public comments, and staff comments are provided in the following sections. These sections have been categorized by the three reports that supported the study.

## 3. Port Darlington Shore Protection Concepts (Baird & Assoc. Coastal Engineers, November 2018)

Coastal engineers from Baird were retained to investigate the general conceptual sediment movement and erosion processes within the study, and to develop alternative treatments that could arrest the erosion of the shoreline for the Cedar Crest Beach area.

The report summarized the longshore sediment transport by looking at nearshore bathymetry and field observation of the shoreline. The report notes the bluff adjacent to Watson Crescent and shallow lake bed with net sediment movement from the bluff in both easterly (toward Cedar Crest Beach) and westerly directions, with accretion of sediment along the east edge of the St Marys pier. The net alongshore sediment transport in the study area is generally towards the east.



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The Baird report notes that the St Marys pier protrudes about 650m into the lake and potentially interrupts sediment supply from west of the pier and from the natural shoreline that is now covered by the pier. Although this study was not intended to study the impact of the St Marys pier in detail, it provides an estimate of the magnitude of the potential impact on sediment movement by estimating the accumulation of sediment on the west edge of the pier (2,000 cubic metres of sediment annually estimated).

With an understanding of the conditions and processes affecting sediment transport and erosion of the shoreline, Baird developed four conceptual alternative approaches to shore erosion. The cost of each alternative was estimated (excluding environmental assessment, approvals, engineering design, monitoring and maintenance not included). The four alternatives are:

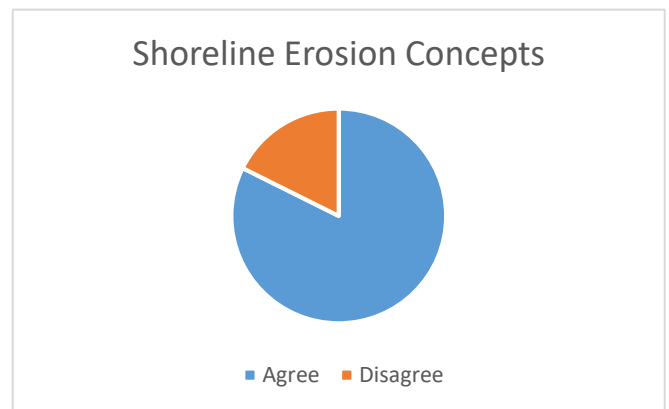
1. Construct a sand and cobble beach along Cedar Crest Beach with Jetties to protect against sediment accumulation at the Westside Marsh outlet and St Marys Overflow channel outlet. Estimated cost \$4.3M or \$6,600 per metre of shoreline.
2. Construct a cobble beach along Cedar Crest Beach with multiple jetties and groynes. This alternative is similar to alternative 1, but provides a more stable beach with more imported cobble and more groynes to anchor the beach. Estimated cost \$10.4M or \$14,900 per metre of shoreline.
3. Construct a sand beach with offshore breakwaters and jetties. This is the most extensive alternative off shore rubblemound breakwaters to reduce wave energy and protect the beach. Estimated cost \$16M or \$21,300 per metre of shoreline.
4. Construct an armoustone revetment along the Cedar Crest Beach shoreline. This alternative would replace the existing shoreline protection woks along Cedar Crest Beach with a superior hard shoreline treatment. This concept would not support a beach. Estimated cost \$3.7M or \$5,700 per metre of shoreline.

The alternatives were evaluated based on the ability of each alternative to address the shoreline hazards, cost, societal benefit, and environmental benefit/impact. Concept 3 scored as the preferred alternative because it best protected the shoreline and provided a beach amenity that could benefit the general public. Alternatives 1 and 2 scored slightly lower, and concept 4 was the lowest ranked alternative. Alternatives 2 and 3 has the added benefit of reducing wave impact to the Cedar Crest Beach shoreline, although the report notes that none of the concepts fully address the flood hazard from Lake Ontario.

### 3.1 Public Comments

The majority of commenters supported the Baird report on shoreline erosion and identified alternative 3 as their preferred concept. Some noted the importance of the works to reduce wave run-up, given that this feature caused flooding of some homes during the 2017 high water period. Suggestions for advancing the project included requesting assistance from St Marys Cement and government funding.

Information was provided based on local knowledge and understanding of shoreline wave and sediment movement, and several suggested exploring other alternative shoreline structures to protect against erosion of the shoreline.



Concerns raised in the comments included the high cost, possible use of tax payer funding, and maintenance costs. A number of commenters did not support the use of created beach space for the general public. Concerns were also raised that protection of the Cedar Crest Beach reach of shoreline could aggravate erosion of the adjacent Cove Road shoreline.

Cont'd

### **3.2 Discussion**

The Baird report provides information on erosion and accretion within the Port Darlington area including information on potential impacts from the St Mary's dock facility. However, the report indicates that quantitative estimates of shoreline recession rates requires more detailed investigation. Available historic documentation indicates that CLOCA submitted comments on the 1990s dock expansion including concern that the impacts of the proposed dock were not fully understood.

If the construction of engineered works for shoreline erosion protection are to be considered, an Environmental Assessment (EA) process will be required. The EA will advance from the initial conceptual designs in the Baird Report with more detailed investigation and design work, and variations from the concepts are likely to be considered. The information and suggestions provided through this study can be carried forward into the EA process. Individual EA's would require the following generalized steps:

- Preparation, submission and review of a Terms of Reference to be approved by the Minister of the Environment, Conservation and Parks;
- Commencement, preparation and submission of an Individual Environmental Assessment study; and,
- A ministerial decision to approve or refuse an EA;
- Implementing approvals related to the Federal Fisheries Act, Navigation Act, Public Lands Act and others.

The costs (estimated in the Baird report) for any of the shoreline alternatives would be considerable. The works would have an estimated lifespan of 25 to 50 years, and annual maintenance costs of 0.5% to 1% of construction cost.

Government funding programs such as the Disaster Mitigation and Adaptation Fund may assist with partial (40%) funding and are being explored, but significant additional funds would still be required. A critical consideration is that government funding programs typically support projects that demonstrate public benefit over projects that limit benefits to private property owners. If the works were linked to a public benefit, such as creation of more public beach amenity, there may be greater eligibility for public funding. In the absence of full public funding, private funding could be considered via a Local Improvement Charge as provided for in the Municipal Act, 2001 and (Ontario Regulation 586/06) or via a Stakeholder Cost Sharing Agreement. Other private contributions to shoreline erosion projects are possible, and St Marys should be consulted regarding possible participation with shoreline protection works.

In 2018, Municipality of Clarington staff and CLOCA staff collaborated on the submission of an Expression of Interest application under the National Disaster Mitigation Program to Infrastructure Canada for funding under the program. The application was denied for the first intake of funding into the program. Infrastructure Canada staff advised that the application will be eligible to be considered for a second intake into the program anticipated in the fall of 2019. The second intake application will be revised to reflect the results of the Port Darlington Shoreline Hazards Study and subsequent CLOCA Board and Clarington Council decisions.

Finally, the shoreline protection concepts would not remove the risk to life and property that exist along Cedar Crest Beach Road and West Beach Road associated with riverine and Lake Ontario flooding. It is important that shoreline protection works do not provide a false sense of security against the flooding hazards that will continue to exist for the area.

### **3.3 Recommendations**

Given the threats to people and property from both erosion and flooding hazards, a solution should be selected that addresses all risks in their totality as the safest and most cost effective approach. Accordingly, an incremental long-term voluntary disposition program approach for lands where natural hazards pose an unacceptable risk, and cannot feasibly be prevented, is recommended and discussed below in Section 5.4.

However, if comprehensive erosion protection is to be considered further, a next step would be the Municipality of Clarington in collaboration and with the support of CLOCA staff and the Working Group, informally polling the landowners on Cedar Crest Beach Road to determine whether or not they wish to proceed with a formal petition for a Local Improvement. Municipality of Clarington staff, with the support of CLOCA staff, would be engaged in preparing the information required as part of a petition made under Ontario Regulation 586/06.

Advancement of shoreline erosion works would require time and is dependent of securing funding. In the absence of the larger shoreline protection project, landowners should be permitted to continue to erect and maintain shore walls. New walls should be designed by coastal engineers to maximize the effectiveness of the works and to ensure works do not aggravate adjacent shoreline.

#### **4 Report on Flooding (CLOCA, November 2018)**

The Cedar Crest Beach and West Beach areas were defined as flood damage centres with significant flood risk in the CLOCA Flood Risk Assessment (CLOCA 2016). These areas along the Lake Ontario shoreline are prone to flooding from both Lake Ontario and riverine flooding from the Westside Creek and Bowmanville/Soper Creek respectively.

The report on flooding further analysed the flood risk by looking at flood depths and velocities for various storm events, and comparing these values to limits for vehicle access, property damage, and public safety. The analysis showed that flooding during less severe flood events could prevent access to the subject area, while less frequent and more severe storms would cause structural damage to homes and be a risk to public safety.

The greatest flood depths and risk to public safety exists at the West Beach area, where flood depths for the Bowmanville/Soper Creek could exceed 2 metres during regional storm conditions, causing extensive damage to homes and risk of loss of life.

The riverine flood depths at Cedar Crest Beach are 0.5 metres during regional flood conditions, but flood depth-velocity products still provide unsafe conditions for people.

Flood events cause a multitude of problems in these sand spit areas, including contamination of water wells, inundation of septic systems, and flooding of basements and crawlspaces through surface drainage or through groundwater seepage. During lake based flooding or more frequent riverine flood conditions, both areas would lose the ability to access or leave the neighbourhoods by personal vehicle due to flood depths on the roadways. The 2017 flooding events demonstrated the demands these events create for emergency responders and the social strain on residents.

The Report on Flooding looked for flood mitigation opportunities. It is noted that the wave uprush component of the Lake Ontario flooding could be reduced at Cedar Crest Beach with the off shore breakwater alternative for shore protection proposed by Baird, but that the lake level and storm surge components could not be reduced. The Baird study notes "...while shoreline protection measures can mitigate erosion at this site, they will not address the flood hazard from inland, and flooding from Lake Ontario will continue to be a concern at high water levels."

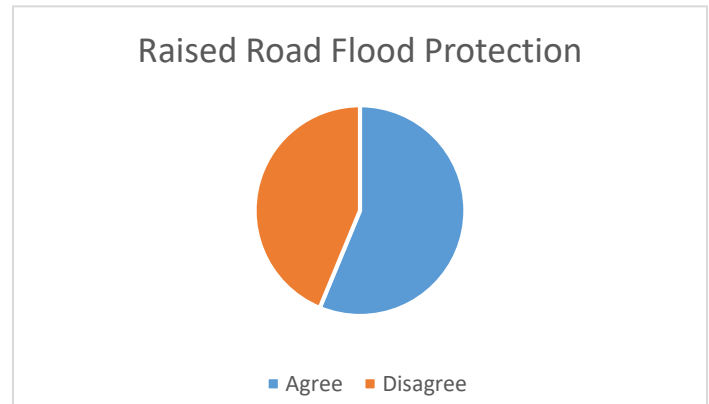
Safe access conditions could be improved by elevating flood prone roadways. The study analysed possible flood risk reduction that could result from elevating portions of West Beach Road and Cedar Crest Beach Road to improve access and act as a flood barrier from riverine flooding. The analysis found that vehicle access could be improved during more frequent flood events by this measure, but safety risks and lack of access would continue to exist during regulatory flood events.

#### 4.1 Public comments:

A slim majority of respondents supported the concept of raising the roadways to reduce riverine flood risk. Several noted that this appears to be a practical and effective improvement that could be advanced quickly.

Respondents that did not support the raising of the road profiles noted concerns with impacts to driveways, and the possibility of trapping water during lake flood events.

Some commenters suggested that the St Marys overflow channel should control riverine flooding of the Westside Creek, or that a piped outflow or similar system could be created to divert floodwater away from the area.



#### 4.2 Discussion

Raising certain road segments will reduce flood risk by improving access to the West Beach and Cedar Crest Beach areas during flood events that are predicted to occur relatively frequently. The cost of the work, although significant, could be completed as a municipal road reconstruction project.

Concerns raised are valid, and the benefit of reducing riverine flood risk must be weighed against the risk of trapping lake based flooding. More detailed survey of existing driveways and property will be needed to fully understand the impacts on driveway grading. More detailed assessment of the flood impacts and benefits would be required with the detailed design process. It is important that all concerns, especially concerns about trapping lake flood water, are fully explored and addressed prior to undertaking the work.

While the focus is on the possible reduction of riverine flood risk through raising the local roads, the reality is that large flood events will completely inundate the subject area creating significant damage including severe and unacceptable risk to public health and safety.

The St Marys overflow channel was designed and constructed to offset the impact of the removal of a significant portion of the Westside Marsh (as approved through aggregate licensing) and the flood storage that the Marsh provided. It was not intended to prevent or even reduce the pre-existing flooding conditions of the Marsh and Cedar Crest Beach area; the channel was designed to provide a supplementary outflow to maintain the Marsh water levels through a full range of flood events. The Hydrotechnical Report that supported the overflow channel design has been re-examined in recent times, and found to be appropriate. During the 2017 lake flooding, beach build-ups at the Westside Marsh barrier beach outlet and at the overflow channel outlet had to be removed numerous times to allow the Marsh and overflow channel to drain to the lake. Jetties, as described in the Baird report could prevent the build-up of beach sediments in the overflow channel outlet. A Maintenance and Monitoring Plan has been detailed and endorsed by CLOCA and St Marys to document annual monitoring of the channel and all maintenance activities, and water level gauging has been added to the Westside Marsh and incorporated into the CLOCA Flood Forecasting and Warning system.

The Municipality of Clarington developed a Flood Emergency Plan for the Lake Ontario shoreline based on their experiences during 2017 elevated lake levels, and invested in supplies and equipment that will assist with future flood events.

#### 4.3 Recommendations

While concerns have been raised with the raising of road profiles, the majority of respondents approve of this work as a practical action that will provide a reduction of flood risk in the near future. It is recommended to advance this project into the design process. Detailed surveys, hydraulic assessments, road design, and consultation will be required. Pending a positive outcome of the design process, cost estimates can be completed for the work and the project added to municipal capital works program.

It is recommended that St Marys be approached to investigate the potential for placement of a jetty to protect against beach build-up at the St Marys overflow channel outlet.

### **5 Port Darlington (West Shore) Shoreline Management Report (Aqua Solutions 5 Inc., December 2018)**

This study characterized the study area by physical shoreline feature. From west to east, the shoreline can be characterised by:

- A bluff and fillet beach parallel to the Watson Crescent area. Much of this area is owned by the Municipality of Clarington and St Marys Cement, with one home on Watson Crescent well removed from the shoreline, and outside of flood and erosion hazards.
- A dynamic barrier beach between Lake Ontario and the Westside Marsh extending from Watson Crescent to the east approach to the Cedar Crest Beach bridge. This sand spit was developed with cottages between the 1930's and 1960's, and has progressed into approximately 39 all season dwellings. Much of the shoreline has shoreline protection walls and revetments of armour stone and similar materials to protect the rear yard areas from lake erosion. These walls provide protection, but require frequent maintenance and disrupt the natural dynamic beach process.
- A bluff and dynamic beach exists along the Cove Road area. Homes within this portion of the study area are generally located beyond the riverine and lake flooding hazards, but some homes along the shoreline are within the erosion hazard limit of Lake Ontario.
- A dynamic barrier beach between Lake Ontario and the Bowmanville Marsh along the shoreline portion of West Beach Road and extending to the Bowmanville Harbour entrance. This sand spit includes approximately 14 homes, and a municipally owned public beach area. Many of the homes are setback from the shoreline and are not presently utilizing shoreline protection measures, and a natural dynamic beach exists.

The report provided history of the development of the area and planning processes and regulations that have managed the development. It also builds on the recommendations of the Baird report on shoreline erosion, and the CLOCA report on flooding to provide a number of directions and recommendations related to planning and regulation policy and incremental long-term voluntary disposition that will be discussed later in this report.

#### **5.1 Public Comments**

A small minority of respondents supported strengthened development regulation on lands subject to natural hazards in the Port Darlington area. Opinions were expressed that development in the area was not the issue but rather the shoreline erosion issues should be focused upon exclusively. With respect to the consideration of strengthened development regulation, concerns were expressed that new requirements might not allow for normal improvements of the properties to mitigate risks from flooding or erosion or that a rebuild due to a fire or other emergency may not be permitted. Many owners expressed concern regarding the need to maintain the value of their property. Finally, objections were raised regarding any approaches that might seek to restrain development as a precursor to expropriation or public acquisition.

#### **5.2 Discussion**

Under long-established provincial law and land use planning policy, both CLOCA and the Municipality of Clarington have an obligation to recognize and plan for the natural hazards and attendant risks to people and property where they exist in the Port Darlington area. This involves ensuring that an effective regulation of development is established that is calibrated to the severity of risks present and which respects private property rights to the extent possible.

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### 5.2.1 Municipal Land Use Controls and Regulation

The following is a summary of the evolution of land use planning controls in the Port Darlington Area:

- In 1959, the former Township of Darlington enacted a Comprehensive Zoning by-law, which established development controls via zoning for the first time. The portion of the Port Darlington area within the township was zoned “A - Agricultural.” Permitted uses in this zone included a single detached dwelling. This by-law established the single detached dwelling land use on all lots that were located in the former Township of Darlington. At the time of the enactment of this by-law, most structures on Cedar Crest Beach were seasonal cottages.
- In 1976, the first Regional Official Plan was adopted by Regional Council. This plan designated the Lake Ontario shoreline in Port Darlington as “Hazard Lands.” As at the time there was no local Official Plan in place for the Port Darlington area, the Regional Official Plan was the guiding land use policy document. However, an implementing zoning by-law had to be enacted by the local municipality to give effect to the Regional Official Plan Hazard Lands designation.
- In June 1984, the former Town of Newcastle Comprehensive Zoning By-law was drafted, which would implement the 1976 Regional Official Plan. The consultation draft of the by-law called for an “EP – Environmental Protection” zoning classification for the portions of Cedar Crest Beach Road and West Beach Road that are subject to flooding and erosion hazards. While consistent with the Regional Official Plan, this zoning change would have removed the single detached dwelling permitted land use from the lands on Cedar Crest Beach Road and West Beach Road. Existing residential dwellings and cottages, as they existed in 1984, would have continued as “legal, non-conforming uses.” Further development of residential dwellings in hazard lands would have ended under the June 1984 draft by-law.
- At a July 3, 1984 public hearing to consider the draft comprehensive zoning by-law, various comments were received by Cedar Crest Beach landowners objecting to the proposed Environmental Protection zone.
- On July 16, 1984, municipal planning staff responded to resident requests by removing the Environmental Protection zone, replacing it with a Residential Shoreline zone that continued the 1959 residential permissions, which was finally enacted by the Council of the former Town of Newcastle on September 10, 1984. This zoning is currently in effect.
- In 1996, the Municipality of Clarington included strong land use natural hazard policy directions in the municipal Official Plan following a period of public consultation in which many shoreline land owners objected. A new “Regulatory Shoreline” policy was established along the Lake Ontario shoreline, including the Port Darlington area. This policy provided that: “The construction of new buildings or structures of any type within the Regulatory Shoreline Area shall not be permitted.” The policies also provided for one garage and a “one-time expansion, up to a maximum of 20% of the ground floor area living area or 30m2...” subject to various criteria. Similar to the Hazard Lands designation in the 1976 Regional Official Plan, the 1996 Clarington Official Plan Regulatory Shoreline policy was not implemented into the zoning by-law.
- In June 2017, the Region of Durham approved the Municipality of Clarington’s comprehensive Official Plan update (Official Plan Amendment No. 107 – adopted by Clarington Council on November 1, 2016). The current Municipality of Clarington Official Plan contains an Environmental Protection land use designation for the portions of Port Darlington area subject to shoreline and riverine natural hazards and continues a strengthened set of Regulatory Shoreline Area policies.

It is clear from the history of land use planning controls in the Port Darlington area that once permanent residential uses where enshrined in zoning in 1959, implementing natural hazard considerations in zoning has not been achieved despite past efforts. One final consideration is that the *Planning Act* was amended in 2006 to require municipalities to implement their Official Plans through municipal zoning by-laws following a comprehensive official plan update within three years (s. 26 (9) of the *Planning Act*). It is important that the Municipality of Clarington meet its statutory obligation as part of the current zoning by-law review with respect to shoreline natural hazards.

### 5.2.2 CLOCA Planning and Regulation Policy

CLOCA obtained comprehensive board-endorsed policies for the review of development applications and permit applications in April of 2013 when the Board approved the *Policy and Procedural Document for Regulation and Plan Review* (PPD). The PPD consolidated previous CLOCA planning and permit review practices that had evolved over time into one document for the purpose of guiding CLOCA's review, commentary and advice on planning applications and environmental assessments. The PPD was also designed to provide policy directions for decision making for permit applications under the newly expanded regulatory authority provided by Ontario Regulation 42/06.

Chapter 4 of the PPD provides policy direction for Great Lakes shoreline hazards. Policy direction was incorporated into the PPD specifically for the Shoreline Flood Hazard, the Shoreline Erosion Hazard, the Dynamic Beach Hazard and Lake Ontario Shoreline Protection Works (such as seawalls and revetments) using policy guidelines for conservation authorities established by the provincial government and Conservation Ontario.

The policy direction established in the current PPD seeks to identify and manage risks in a pragmatic fashion, particularly where existing development is present. For example, minor additions to existing buildings/structures may be permitted in the Shoreline Erosion Hazard "if it has been demonstrated to the satisfaction of CLOCA that: there is no feasible alternative site outside of the erosion hazard" in addition to the application of several other criteria. With respect to dynamic beaches, the current PPD policy provides that "new development" is only permitted for reconstruction of an existing building/structure within the shoreline dynamic beach hazard, subject to conditions that among other matters ensures that the reconstruction will result in a lower risk of hazards.

#### 5.2.2.1 Proposed Policy Amendments

Staff have prepared an amendment to the PPD to consolidate and implement the planning and regulatory recommendations of the *Port Darlington (West Shore) Shoreline Management Report* (Aqua Solutions 5 Inc., December 2018). The proposed amendment creates a new section specific to the Port Darlington Area and is presented in Appendix 4.

The proposed amendment takes into consideration comments made by residents to continue to allow for reconstruction of dwellings due to unforeseen events not related to flooding and erosion; the continued maintenance and upkeep of property, including interior renovations, repairs and replacements to sewage systems; continued private shoreline protection works and the construction of accessory structures such as decks and gazebos. Provision is made for moving existing structures in order to mitigate exposure to flooding and erosion hazards. Essentially all existing development would be carried forward with flexibility for continued upkeep and improvements as long as the footprint of dwellings is not increased given the presence of natural hazards.

Finally, the proposed amendment consolidates and clarifies all of the shoreline natural hazard policy relevant to the Port Darlington area into one section of the PPD document to provide clearer direction to development proponents, CLOCA staff and the CLOCA Board of Directors when making future decisions on permit applications made under Ontario Regulation 42/06.

### 5.3 Recommendation

It is recommended that the Municipality of Clarington be requested to update its zoning by-law for the Port Darlington Area to implement the Official Plan and the related CLOCA Board-endorsed planning and regulation policy.

It is recommended that the proposed amendments to the CLOCA *Policy and Procedural Document for Regulation and Plan Review* contained in Appendix 4 be adopted in order to implement the planning and regulatory elements of the *Port Darlington (West Shore) Shoreline Management Report*.

## 5.4 Voluntary Disposition

### 5.4.1 Summary

The background studies propose several measures to management the risk of natural hazards on the subject shoreline area. Nevertheless, homes will continue to be within dynamic beach environments experiencing coastal erosion, will be prone to flood damage from lake water levels and storms, and could be devastated by riverine floods. As long as people are living in these damage centres, the risk of loss of life to a resident or first responder due to another natural disaster will continue.

The only solution that will remove the risk to human life in the portion of the area that does not have safe access in the event of an emergency is to ensure that people are not living on hazardous lands. Incremental voluntary disposition is an approach to gradually shift the land from private ownership to public ownership by paying fair market value at the time the land owner chooses to sell. Voluntary disposition was recommended as the long term solution to resolve the high risk associated with flooding and erosion hazards for land where there is no safe access in the event of an emergency.

### 5.4.2 Comments Received

The majority of the respondents do not support a voluntary disposition program, primarily due to fear that actual value of the property will not be realized in the process. Others noted the loss of homes will diminish the vibrancy of the area.

Among the supporters of a disposition plan, some noted that all options should be considered, but possibly as a last resort.

### 5.4.3 Discussion

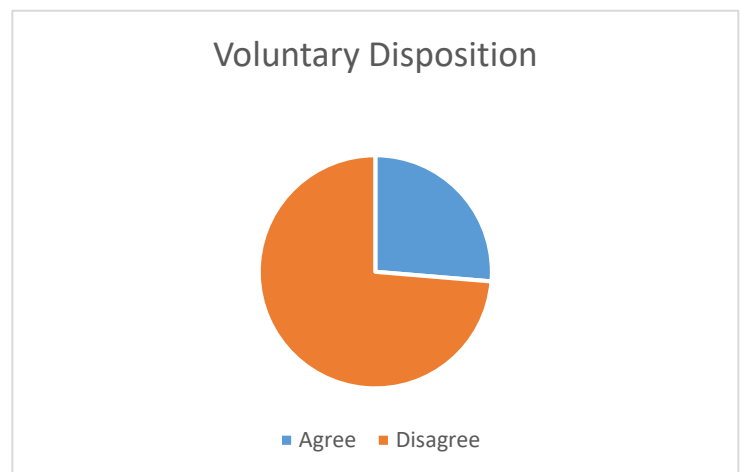
The concern from residents that property values won't be fully realised is understandable but cannot be verified. More time and effort should be taken to develop a program and allow for involvement of the area residents, to gain more understanding and trust, and to ensure the program is fair and reasonable.

Despite past efforts to manage these developments and associated risk, homes continue to be put on the real estate market, and new homeowners move into the area, perpetuating the issue of people living and investing in this area with significant and unacceptable risk of flooding and erosion. This program may be a long term effort, but it provides a means for home owners to liquidate their property investment without passing the hazard risk to a new home owner.

Incentives should be considered for the voluntary disposition plan including lease-back and life estate options that would allow the current owner to stay on for some period of time, but would ensure that further conveyance of the lands is ended. It is anticipated that this would be a long process with a small number of annual acquisitions into public ownership. This program would, however, be effective in terms removing risk to human life and cost associated with property damage. This program also allows a property owner to get the current value from the property. After a major flood event, the value may be substantially less.

### 5.4.4 Recommendation

A voluntary Port Darlington disposition program should be developed for the lands that are determined to have an unacceptable level of risk from flooding and erosion, and where it is not feasible to adequately mitigate the risks in the future. The program should define eligibility criteria based upon level of hazard risk, should ensure fair market value for acquisitions, be based on a willing seller willing buyer principle and should include incentives for willing sellers. Funding for the program should be researched but should be provided at least in part by senior levels of government. Federal funding may become available through special programs, and additional municipal funding would need to be in reserve.



## 6. Summary

Three reports have been completed to document the natural hazards within the Port Darlington area, and explore measures that may be effective to reduce the risk. Mitigative measures include efforts to manage flooding and shoreline erosion, as well as managing development within the flooding and erosion hazards. The study included a public process with well attended meetings and submission of public comments that demonstrated good involvement of the area residents.

Two areas within the study limits; West Beach, and Cedar Crest Beach, are sand spits sandwiched between Lake Ontario and coastal wetlands. These locations are prone to flooding from both riverine systems and Lake Ontario as well as Lake Ontario shoreline erosion. Although measures can be employed to reduce the level of risk, these locations will continue to be unsafe, with flooding conditions that will prevent access and be hazardous for residents and emergency responders.

A voluntary disposition program should be developed for the lands within the Port Darlington area that are identified as having unacceptable risk from natural hazards, and where it is not feasible to adequately mitigate the risks in the future. The program should define eligibility criteria based upon level of hazard risk, should ensure fair market value for acquisitions, be based on a willing seller willing buyer principle and should include incentives for willing sellers. Funding for the program should be researched but should be provided at least in part by senior levels of government. Federal funding may become available through special programs, and additional municipal funding would need to be in reserve.

Shoreline erosion protection alternatives have been presented in the Baird study, with the preferred alternative consisting of beach creation, jetties and off-shore breakwaters. An Environmental Assessment will be required to move this project forward. The significant cost of the works and lack of public benefit beyond the local area may make funding of the project difficult. In the absence of public funding, private funding could be considered via a Local Improvement Charge as provided for in the Municipal Act, 2001 and (Ontario Regulation 586/06) or via a Stakeholder Cost Sharing Agreement. Other private contributions to shoreline erosion projects are possible, and St Marys should be consulted regarding possible participation with shoreline protection works.

Flood risk can be reduced somewhat by elevating Cedar Crest Beach Road and West Beach Road, thereby providing safe access during smaller flood events. This measure will not ensure safe access during major storm events, but will reduce the frequency of flooding and provide an effort to improve safety on an interim basis while the voluntary disposition program unfolds. This work can be incorporated into municipal road reconstruction projects.

St Marys Cement/Votorantim Cimentos should be consulted as a potential participant with support to protect people and property in the Port Darlington Area through potential supply of sediment and participation in financially supporting implementing recommended programs and projects.

## 7. Final Recommendations

1. ***THAT the final Port Darlington (West Shore) Shoreline Management Report, Report on Flooding and Port Darlington Shore Protection Concepts Report be Received;***
2. ***THAT the amendments to the CLOCA Policy and Procedural Document for Regulation and Plan Review contained in Appendix 4 be adopted;***
3. ***THAT the CLOCA Board of Directors Recommends to the Council of the Municipality of Clarington that consultations be commenced, to be led in collaboration between the Municipality of Clarington, Region of Durham and CLOCA, for the development of a Long-Term Incremental Voluntary Land Disposition Program for lands in the Port Darlington Area that are deemed to have unacceptable risk from natural hazards , based on the principle of willing seller-willing buyer;***
4. ***THAT the CLOCA Board of Directors Requests that the Municipality of Clarington Implement the Clarington Official Plan Regulatory Shoreline Policies, as amended by Official Plan Amendment 107, and the CLOCA Policy and Procedural Document for Regulation and Plan Review, through a Zoning By-law enacted under the Planning Act;***
5. ***THAT the CLOCA Board of Directors recommends that the Council of the Municipality of Clarington consider the options to improve safe access along municipal road in the Port Darlington area as part of capital planning and budgeting and that the implementing road works be constructed where feasible and appropriate.***

Cont'd

6. *THAT the CLOCA Board of Directors Requests that St Marys Cement/Votorantim Cimentos support efforts to protect people and property in the Port Darlington Area through supporting implementing programs and projects as recommended in Staff Report #5630-19;*
7. *THAT Port Darlington residents and all contributors to the Study be thanked for their participation and contribution to the study process;*
8. *THAT Staff Report #5630-19 be circulated to participants in the Study Consultation, Watershed Members of Parliament and Provincial Parliament, the Region of Durham and the Ontario Ministries of the Environment, Conservation and Parks, Natural Resources and Forestry, and Municipal Affairs and Housing.*

*Alternative Recommendation To Item No. 3*

*In the event that the Board of Directors does not support staff recommended Item No. 3 in the recommendations above, staff would recommend the following as an alternative TO RECOMMENDATION Item No. 3:*

9. *THAT The CLOCA Board of Directors Recommends to the Council of the Municipality of Clarington that in collaboration with Municipality of Clarington, Region of Durham and CLOCA staff, landowners on Cedar Crest Beach Road be polled as to whether or not they wish to proceed with a formal petition for a Local Improvement for the purposes of conducting an Environmental Assessment and establishing comprehensive erosion protection works along the Lake Ontario shoreline.*

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## UNFINISHED BUSINESS

#	Subject	Origin	Direction	Responsible	Expected Response
1.	Lake Ontario Shoreline Management at Port Darlington, Municipality of Clarington	<a href="#">5538-17</a> PSSG4177, PSSG212 <a href="#">Sept. 19/17 Meeting</a>	THAT CLOCA staff be directed to report back to the Board of Directors with the completed study with options for implementation in conformity with the recommendations of the study and provincial Great Lakes shoreline natural hazard management policy; THAT the Council of the Municipality of Clarington be so advised in response to Resolution C-203-17.	Chris Jones P. Sisson	Mar. 2019
2.	Docking facilities at St. Mary's Cement	<a href="#">Sept. 19/17 Meeting</a>	THAT staff report back on the history of CLOCA's position regarding the docking facilities at St. Mary's Cement	C. Jones	Mar. 2019