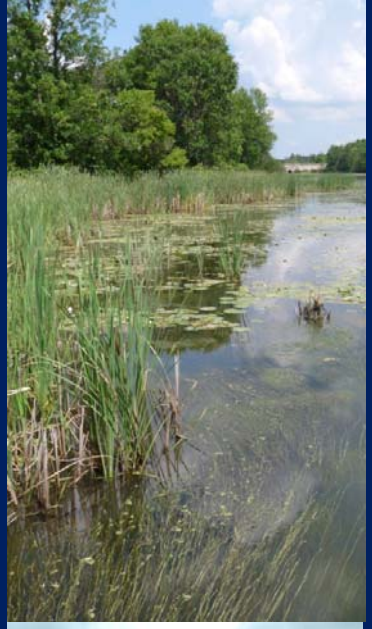








Lyons Creek East

Administrative Controls Protocol Guidance Document

A guideline for development and site alteration activities in or near upper Lyons Creek East

NIAGARA RIVER
Remedial Action Plan

January 2011

Working In or Near Upper Lyons Creek East?

What You Need to Know

Portions of the bed of Lyons Creek East, between the Welland Canal By-pass and the Buchner Street/CN Railway Crossing, contain sediments that are contaminated with Polychlorinated biphenyl (PCB).

This Guidance Document provides information to those considering any type of development or activity that may disturb contaminated sediment within upper Lyons Creek East (see map on page 3).

It provides information on the type of activities that require approval, identifies the agency(ies) to contact and outlines the review process for application(s). This document also outlines the principles for decision-making for development and other activities proposed in or near upper Lyons Creek East.

The Lyons Creek East Administrative Controls Protocol integrates the decision-making process of agencies that regulate activities on lands that drain into upper Lyons Creek East.

> *...the purpose of the Protocol and the Guidance Document is to ensure that contaminated sediment is not disturbed, exposed or re-suspended.*

In this document...

- *Why are we concerned about contaminated sediment?*
- *Where is the contaminated sediment located?*
- *What activities are we concerned about?*
- *What is the Lyons Creek East Administrative Controls Protocol?*
- *What is the process to obtain approval for development activities?*
- *What are some examples of approvals that need to be obtained?*
- *What guides an agency's decision?*
- *What legislation will likely be considered?*
- *What should be considered before submitting an application?*
- *How is a decision provided?*
- *Where can more information be obtained?*

Why are we concerned about contaminated sediment?

Polychlorinated biphenyl (PCB) contaminated sediment in upper Lyons Creek East originated from stormwater runoff that was directed to the headwaters of Lyons Creek from the 1940s through to the 1960s before the Welland Canal By-pass was constructed. PCBs were first detected in Lyons Creek West (on the west side of the Canal By-pass) in 1990 after a transformer spill. During the clean up, the presence of older PCB contamination was detected, and this led to the investigation and discovery of contaminated sediment in Lyons Creek East.

Based on detailed assessments of the area, historically contaminated sediment in the upper portion of Lyons Creek East is stable and covered with a cleaner layer of sediment. The top layer of sediment does not pose a significant human health or ecological risk. Since the contaminated sediment is situated within a Provincially Significant Wetland, it was determined that removal would cause more environmental harm than good. As a result, Monitored Natural Recovery was selected as the best approach to manage the contaminated sediment. This approach allows the ongoing burial of contaminated sediment to continue while a monitoring program periodically assesses the natural recovery of the Creek and administrative controls prevent re-suspension of the contaminated sediment.

The contaminated sediment will be managed by the Monitored Natural Recovery Strategy which leaves the sediment in place.

A monitoring program will periodically assess the natural recovery of the Creek over time.

Administrative controls will prevent the re-suspension of contaminated sediment.

Any development, site alteration or recreational activity that occurs in the Creek involving dredging, filling/covering, draining, piling, directional drilling, or scouring has the potential to disturb, expose or re-suspend the deeper, more contaminated sediment. Furthermore, any development or site alteration that alters the volume or velocity of stormwater entering the Creek bed could also result in the re-suspension of contaminated sediment.

The disturbance of the contaminated sediment may:

- ✓ Impact the aquatic and wetland environment;
- ✓ Affect fish, wildlife and their habitats, including species at risk;
- ✓ Increase risk to human health through consumption of fish;
- ✓ Impact downstream water users; and
- ✓ Impede the natural recovery process underway.



Lyons Creek East - Zone 4 - Downstream from Hwy #140

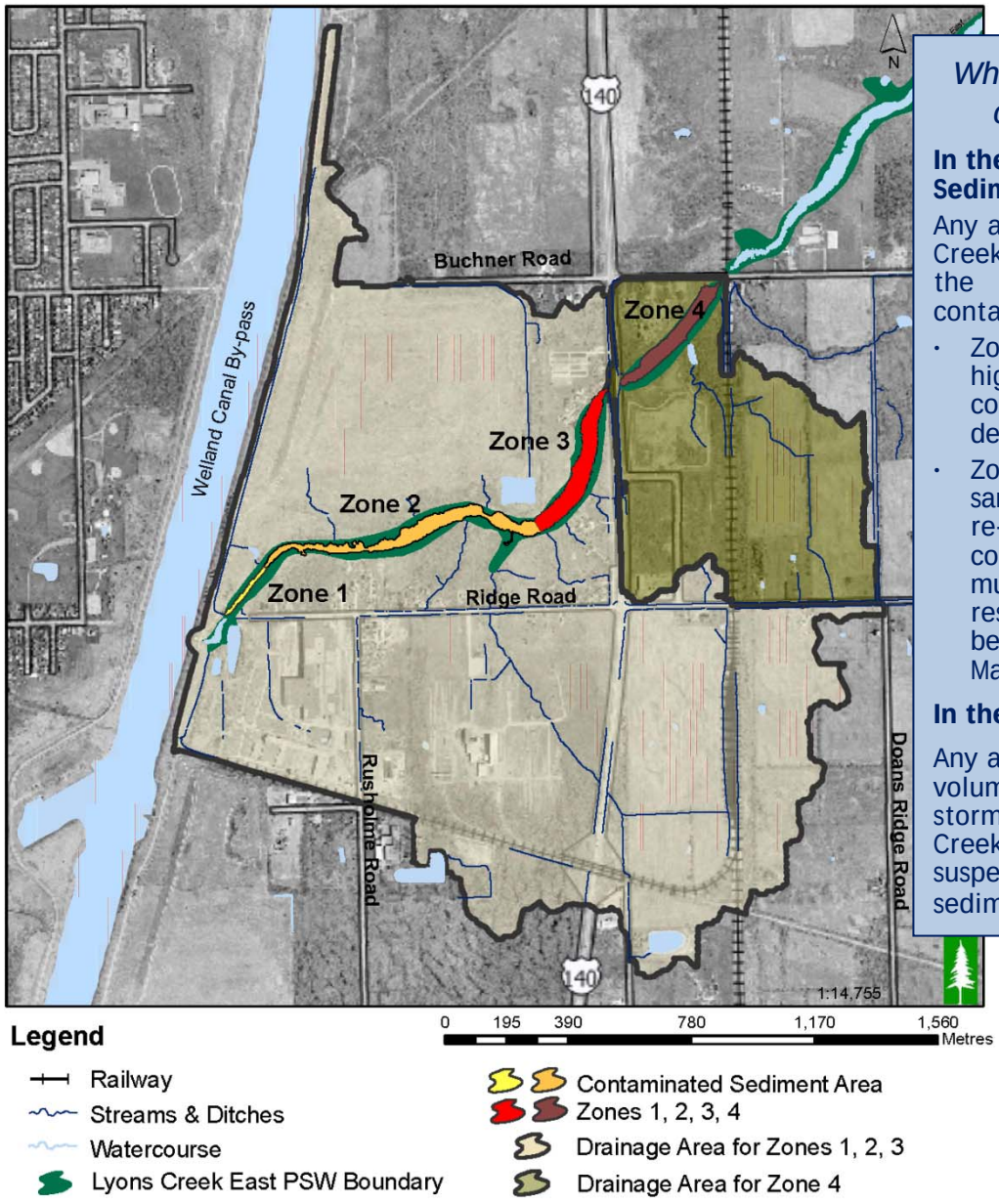
Where is the contaminated sediment located?

The PCB contaminated sediment covered by this document is located in the bed of upper Lyons Creek East in the area immediately downstream of the Welland Canal By-pass to the Buchner Street/CN Railway Crossing (as shown on the map below). The contaminated sediment is confined to the silt and detritus that has accumulated in the 20-50 cm layers of the Creek bed.

The Administrative Controls Protocol and Guidance Document apply to activities occurring in 2 areas:

Contaminated Sediment Area – Includes all land in the Creek bed where the contaminated sediment exists (Zones 1, 2, 3, and 4).

Drainage Area – Includes all land that drains into the Contaminated Sediment Area.



What activities are we concerned about?

In the Contaminated Sediment Area:

Any activity that occurs in the Creek bed that could cause the re-suspension of contaminated sediment.

- Zones 1, 2, and 3 have a high incidence of PCB contamination at a known depth and location.
- Zone 4 was not uniformly sampled and the risk of re-suspending contaminated sediment is much lower and a less restrictive approach can be applied (see Decision-Making Process).

In the Drainage Area:

Any activity that increases the volume and/or velocity of stormwater entering the Creek that could cause the re-suspension of contaminated sediment.

What is the Lyons Creek East Administrative Controls Protocol?

In 1987, Canada and the United States signed the revised Great Lakes Water Quality Agreement, in which Annex 2 described and required Remedial Action Plans to address environmental degradation in Areas of Concern around the Great Lakes Basin. The Great Lakes Water Quality Agreement identified 43 Areas of Concern and recommended that Remedial Action Plans be developed at the local level with community participation. The Niagara River is a binational Area of Concern where two Remedial Action Plans are under development separately – one in Ontario and the other in New York State.

Since 1999, the Ontario Ministry of the Environment, Ontario Ministry of Natural Resources, Environment Canada and the Niagara Peninsula Conservation Authority have worked together with the local community to develop and complete implementation of the Niagara River Remedial Action Plan, and achieve Area of Concern delisting. In order to achieve delisting the contaminated sediment issues in the Area of Concern needed to be resolved.

Lyons Creek East was one of the locations identified for further assessment in the Niagara Remedial Action Plan because contaminant(s) in sediment exceeded guidelines. Studies and input from the community open houses concluded that there is a low level of risk to human and ecological health associated with the contaminated sediment. Since cleaner sediment continues to be deposited on the site it was determined that removal was not warranted. As the sediments of interest are situated within a Provincially Significant Wetland it was also determined that removal would actually do more environmental harm than good.

Monitored Natural Recovery was selected as the best approach to manage the contaminated sediment and seven agencies have agreed to establish a special process for approvals in the Contaminated Sediment Area and the Drainage Area.

Administrative Controls Protocol

The Protocol guides key agencies in the implementation of Monitored Natural Recovery through the Lyons Creek East Sediment Strategy.

Protocol Agencies

- Niagara Peninsula Conservation Authority
- Environment Canada
- Fisheries and Oceans Canada
- Ministry of the Environment
- Ministry of Natural Resources
- City of Welland
- Niagara Region
- St. Lawrence Seaway Management Corporation

Administrative controls are the planning approval and permit control mechanisms that each agency (Conservation Authority, Municipal, Provincial and Federal) applies to regulate development and site alteration activities.

…the Administrative Controls Protocol is an inter-agency commitment to integrate their decision-making process and to collaborate on the long-term protection, monitoring and awareness efforts regarding the contaminated sediment.



Lyons Creek East - Zone 3 Upstream from Hwy #140

What is the process to obtain approval for development activities?

The primary contact is the Niagara Peninsula Conservation Authority. They will meet with the proponent to discuss the proposed activity, provide information about the contaminated sediment and identify other agencies whose approval may be required. The number of permits to be obtained will depend on the size, location and duration of the project and the requirements of each individual agency.

Every proponent must follow these steps for any development or site alteration activity in the Contaminated Sediment Area or the Drainage Area:

Step 1

Contact the Niagara Peninsula Conservation Authority (NPCA) – to determine if the proposed activity is within the Contaminated Sediment Area or the Drainage Area. The NPCA will refer all proponents to the appropriate agency(ies) and identify what information and applications have to be submitted. Initial discussions with the NPCA will help to determine the feasibility of the proposed activity.

All property owners and proponents of activities should apply best management practices when conducting activities in or near the contaminated sediment.

Step 2

Complete and Submit Applications – contact the appropriate agencies for permit applications and requirements. Become familiar with the decision-making process (page 8) and be prepared to modify the project if necessary. Complete the application(s), include any additional requirements or conditions, and submit to the appropriate agency(ies).

Step 3

Agency(ies) Review Application – each agency will review the application in accordance with their own regulatory requirements and may discuss it with other parties of the Administrative Controls Protocol.

Step 4

Agency(ies) Notify Proponent of Decision – each agency that requires an application will provide a decision to approve or deny the proposed activity. If the application is denied or the proponent disagrees with the conditions of approval, they should contact the appropriate agency(ies) to consider options in accordance with the provisions of the applicable legislation identified in the decision.

If the project is started without the appropriate permits and authorizations, or if the conditions of approval are not adhered to, you may be breaking the law.

Step 5

Monitoring Compliance – proponents are responsible for ensuring that the project meets all of the terms and conditions of approval throughout the construction and post-construction phases. Any agency may visit the site to ensure compliance.

What are some examples of approvals that need to be obtained?

The number of approvals will vary depending on the location and type of activity proposed. All proponents are responsible for determining whether or not they are in the Contaminated Sediment Area or the Drainage Area, and for completing and submitting the application(s) to the appropriate agency(ies) with all the correct information.

A permit or approval may be required for the following activities:

Activity	Type of Approvals	Agency	Legislation/Policy
Site alteration (filling, grading, dredging) or construction of buildings or structures (including docks) within the regulated area	**Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Permit**	Niagara Peninsula Conservation Authority	Conservation Authorities Act, Ontario Regulation 155/06
Building, constructing, dredging, filling, or removal of aquatic vegetation on shorelands or on Crown land under water	**Work Permit**	Ministry of Natural Resources	Public Lands Act
Lot creation, development or site alteration on land	**Subdivision/Severance** **Zoning Amendment** **Minor Variance** **Site Plan Approval**	City of Welland	Planning Act Official Plan Zoning By-law
Constructing or placing a building or structure	**Building Permit**	City of Welland	Ontario Building Code Zoning By-law
Harmful alteration, disruption or destruction of fish habitat	**Authorization for Works or Undertakings Affecting Fish Habitat**	Niagara Peninsula Conservation Authority* Fisheries and Oceans Canada	Fisheries Act
Impacts to species at risk and their habitat	**Approval**	Ministry of Natural Resources	Endangered Species Act
Impacts to aquatic species at risk or their critical habitat	**Federal SAR permit**	Fisheries and Oceans Canada	Species at Risk Act

*Note that under the DFO-NPCA partnership agreement, NPCA is the first point of contact for works and undertakings that may affect fish and fish habitat. Projects requiring authorization under the *Fisheries Act* are forwarded to DFO.



Lyons Creek East - Zone 3 - Culvert at Highway 140

What guides an agency's decision?

Each agency will review the application according to their legislation. In addition to the legal requirements, each agency will consider its approval according to the Guiding Principles (below) and the Decision-Making Process (next page).

A change in location or the type of construction technique and materials may help to avoid areas with contaminated sediment. Contact the Niagara Peninsula Conservation Authority to discuss other ways of reducing your impacts on the contaminated sediment.

Guiding Principles of the Administrative Controls Protocol

Prevent Disturbance

There must be no disturbance, exposure or re-suspension of contaminated sediments.

Apply Decision-Making Process

All activities must be assessed based upon the application of the Decision-Making Process and the following design criteria in decreasing order of priority: Relocation, Redesign and Remediation.

Mitigate Impacts of Public Infrastructure and Utility Projects

Public infrastructure and utility projects that cannot be relocated or redesigned and may potentially disturb sediment must have a remediation plan that indicates how contaminated sediment will be removed, handled and disposed of in a safe and environmentally protective manner.

Monitor and Mitigate Impacts of Emergency and Disaster Situations

When emergency and disaster situations occur in the Contaminated Sediment Area, the impacts must be monitored and appropriate actions taken to mitigate further re-suspension of contaminated sediment.

Proponent is Responsible for Worker Safety and Costs

The proponent of any activity is responsible for worker safety and all costs associated with the administrative controls process, including engineering reports and the removal, handling and disposal of contaminated sediment.

Continue the Monitored Natural Recovery Process

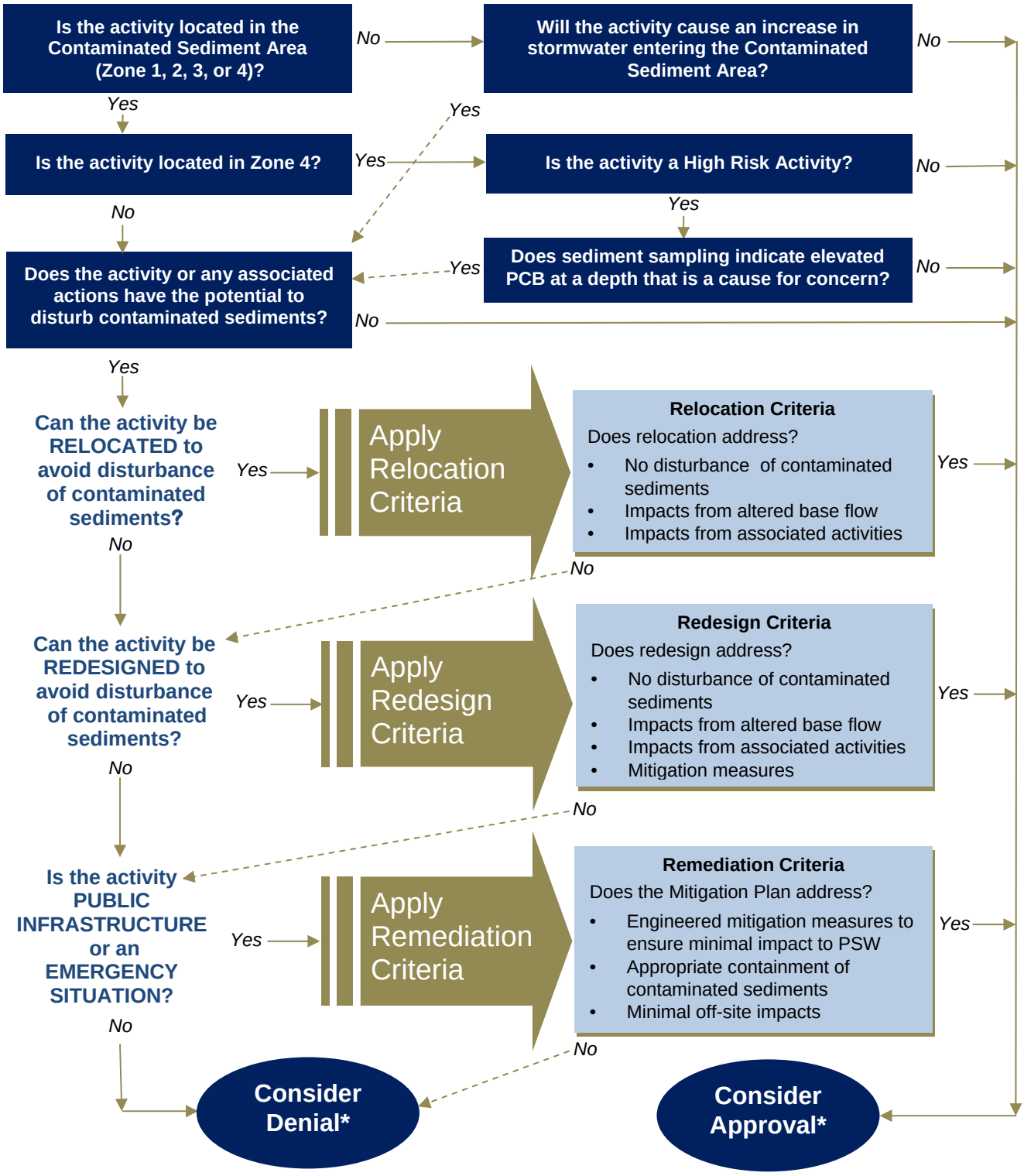
The Lyons Creek East contaminated sediment has been undergoing a natural recovery process since it was deposited over 40 years ago. Monitored Natural Recovery is the preferred management option and ensures the continuation of this natural recovery process.

Monitoring of Contaminated Sediment

It will take decades of monitoring to determine whether Monitored Natural Recovery is working. The protocol and the Decision-Making Process must remain flexible to adapt to new information and circumstances.

Decision-Making Process

All agencies of the Administrative Controls Protocol will apply the following Decision-Making Process to plan or review projects and activities located in the Contaminated Sediment Area and the Drainage Area.



* *Pending consideration of all other legislation*

What legislation will likely be considered?

- ✓ The provincial ***Conservation Authorities Act*** and the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation 155/06 (Niagara Peninsula Conservation Authority) requires approval of any activities that may result in the construction of buildings or structures, site alterations (dredging and filling) to shorelines, wetlands or the creek in the regulated area.
- ✓ The provincial ***Public Lands Act*** (Ministry of Natural Resources) provides that no person shall dredge or fill shorelands or work on Crown land without a work permit.
- ✓ The federal ***Fisheries Act*** (Fisheries and Oceans Canada) provides that no person shall carry on any work that results in the harmful alteration, disruption or destruction of fish habitat unless authorized by DFO. The Act also provides that no person shall deposit a deleterious substance of any type in water frequented by fish (Environment Canada).
- ✓ The provincial ***Ontario Water Resources Act*** (Ministry of the Environment) provides approval for the collection, treatment and discharge of water and sewage. The Act also requires a Permit to Take Water be issued before any water takings greater than 50,000 litres per day are allowed.
- ✓ The provincial ***Ontario Building Code*** requires municipalities (City of Welland) to issue a building permit for buildings and structures and to conduct inspections of the construction work.
- ✓ The provincial ***Planning Act*** provides the ground rules for land use planning in Ontario and describes how land uses may be controlled, and who may control them.
- ✓ The provincial ***Endangered Species Act*** (Ontario Ministry of Natural Resources) requires a permit to move species at risk individuals and/or encroach on their habitat. These permits are required for all activities proposed within existing or potential species at risk habitat.
- ✓ The federal ***Species at Risk Act*** requires permits (terrestrial – Environment Canada, aquatic – Fisheries and Oceans Canada) to conduct activities that may affect species listed on Schedule 1 as extirpated, endangered, or threatened and which contravene the Act's general or critical habitat prohibitions.

The contaminated sediment is confined to the Creek bed which lies within the boundaries of a Provincially Significant Wetland (PSW).

New development or site alteration in a PSW is not permitted according to the Provincial Policy Statement, the City of Welland Official Plan and is restricted according to NPCA's Policies, Procedures, and Guidelines.



Lyons Creek East – Zone 3

Penalties and Enforcement – failure to obtain the correct permits prior to placing fill, dredging, altering the waterway or constructing buildings and structures could be a violation of one or more of the above noted Acts. Violations can result in extensive fines and the proponent may be required to restore and rehabilitate the disturbed area and/or remove the illegal structure.

What should be considered before submitting an application?

Every proponent should consider the following questions before submitting an application to any agency:

1. Is the project within the Contaminated Sediment Area or Drainage Area as shown on the map on page 3?
2. Have you contacted the Niagara Peninsula Conservation Authority to discuss the proposed activity?
3. Have you applied the decision-making criteria (page 8)?
4. Have you answered all the questions on every application?
5. Is additional supporting documentation required by any agency?
6. Is a provincial or federal Environmental Assessment required?

The proponent is responsible to ensure that all applications are completed and approvals are granted before any work commences.

How is a decision provided?

Each agency will review the application in accordance with their requirements and may discuss the proposed activity with other parties of the Administrative Controls Protocol.

Each agency involved in the application process will provide the proponent with a decision to approve, approve with conditions, or deny the application. If the proponent disagrees with the decision or any of the conditions of approval they should contact the appropriate agency (ies) to consider their options in accordance with the provisions of the applicable legislation as noted in the decision.

Permits may include conditions such as the time of year when the work can be done. Read the permit carefully. If all conditions cannot be complied with, do not begin the work.

Where can more information be obtained?

For more information on the Lyons Creek East Sediment Strategy, or the Administrative Controls Protocol, please contact the Niagara Peninsula Conservation Authority at (905) 788-3135 or check their website at **www.npca.ca**.

Working in or near upper Lyons Creek East?

...Call the Niagara Peninsula Conservation Authority Before You Act



Lyons Creek East - Zone 3 Upstream from Hwy #140

Definitions

Activity – refers to construction, demolition, dredging, filling, piling, directional drilling and any action that may cause alteration to water flow.

Adjacent Areas – those areas, adjacent to the zone, where it is likely that development or an activity may disturb or expose contaminated sediment located within the zone, through associated activities or altered flows.

Area of Concern – refers to geographic areas where human activities have caused or are likely to cause impairment of beneficial uses or negatively impacted the areas ability to support aquatic life.

Contaminated Sediment Area – includes all land in the Creek bed where the contaminated sediment exists (Zones 1, 2, 3, and 4).

Covering – the act of protecting, or confining sediments by covering or enveloping them.

Development – the construction of buildings and structures requiring placement on the Creek bed or adjacent areas.

Directional Drilling – the act of drilling horizontal wells for the installation of cables, pipes or similar infrastructure.

Drainage Area – includes all land that drains into the Contaminated Sediment Area.

Dredging – the physical alteration of the creek bed by the removal of mud, sand and other sediment through suction or scooping by machinery.

Fish Habitat – the spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.

Filling – the covering of the Creek bed or adjacent areas with deposited soil, sediment, concrete, cribs, or any other material or object.

Piling – the act of driving of a beam or post into the Creek bed.

Remedial Action Plans – are developed and implemented for Great Lakes Areas of Concern according to the commitments laid out in Annex 2 of the Canada-US Great Lakes Water Quality Agreement 1987 Protocol.

Redesign – the process of making a new design or plan for a specific project to prevent the disturbance, exposure or re-suspension of contaminated sediment.

Regulated Area – refers to the area that the NPCA's Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation 155/06 applies to.

Relocation – the process of selecting another location for a development or an activity to prevent the disturbance, exposure or re-suspension of contaminated sediment.

Remediation – the containment, treatment, isolation and/or removal of contaminated sediment.

Remediation Plan – a document prepared by a qualified professional that indicates how to remove, handle and dispose of contaminated sediment in a safe and environmentally protective manner.

Re-suspension – the remixing of sediment particles and pollutants back into the water column.

Scouring – the moving or scraping of the top layer of the creek bed.

Shorelands – are defined by the *Public Lands Act* to mean Crown or private lands that are covered or seasonally inundated by the water of a lake, river, stream or pond.

Zones – there are four zones of contaminated sediment located in Lyons Creek East as shown on the map on page 3.

Acronyms

CN	Canadian National
DFO	Fisheries and Oceans Canada (Federal Department)
EC	Environment Canada
HADD	Harmful Alteration, Disruption or Destruction of fish habitat
MNR	Ontario Ministry of Natural Resources
MOE	Ontario Ministry of the Environment
NPCA	Niagara Peninsula Conservation Authority
PCB	Polychlorinated biphenyl
PSW	Provincially Significant Wetland
SAR	Species at Risk

The Lyons Creek East Administrative Controls Protocol Guidance Document was developed by the following agencies:

Environment Canada
Fisheries and Oceans Canada
Ontario Ministry of the Environment
Ontario Ministry of Natural Resources
Niagara Peninsula Conservation Authority
Regional Municipality of Niagara
City of Welland
St Lawrence Seaway Management Corporation