



**Guidelines for the  
Protection of Natural Areas  
in the  
Timberlea Neighbourhood**

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# GUIDELINES FOR THE PROTECTION OF NATURAL AREAS IN THE TIMBERLEA NEIGHBOURHOOD

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# 1 INTRODUCTION

## 1.1 What is a Natural Area?

The City of St. Albert Municipal Development Plan states that a ‘natural area means the presence of one of the following: natural vegetation; naturally-occurring water; some other natural feature. In some instances, natural areas may be disturbed’.

Natural areas may include wetlands, stands of trees or other natural features that may be identified as part of a Natural Areas Assessment. For the purpose of these Guidelines, natural areas are those areas identified for preservation and protection in Section 2.1.5 of Timberlea Area Structure Plan Bylaw 26/2005. The protected natural areas and their corresponding buffers are shown on **Attachment C**.

## 1.2 Why Protect Natural Areas?

The City of St. Albert values its natural areas, and strives to protect those natural areas that can remain sustainable even with urban development on its fringes. Natural areas are valuable to the community for many reasons:

- Recreation - natural areas provide a respite from the urban environment. Natural Areas are a place to hike, bike, bird watch, fish, create art, write, or just enjoy some quiet time outdoors.
- Education - natural areas are an outdoor classroom for students of every age.
- Scientific - natural areas are used by scientists to collect data.
- Economic - natural areas make St. Albert an attractive business and tourism destination.
- Cultural - natural areas protect traces of our past.
- Ecological - natural areas filter our water and air, prevent flooding and provide habitat for wildlife and native plants.
- Aesthetic - the opportunity to hear the wind whistle through the trees or water flowing, see a bird soaring, watch the sun reflect off a dewy plant, or smell a wildflower.

As identified in the City’s Municipal Development Plan, each new Area Structure Plan must be accompanied by a Natural Areas Assessment that identifies natural areas that can remain viable upon development of the neighbourhood and still provide value to the surrounding area. Based upon the results of a Natural Areas Assessment, the Timberlea Area Structure Plan identified specific natural areas that must be retained during the development process, and specified buffers for those areas that have wildlife habitat or other environmentally sensitive attributes. This Document, *The Guidelines for the Protection of Natural Areas in the Timberlea*

*Neighbourhood*, promotes the protection of natural areas designated for preservation so that they can be enjoyed by future generations.

### **1.3 Purpose of the Guidelines**

The Guidelines for the Protection of Natural Areas in the Timberlea Neighbourhood include best management practices to be used during construction activities within the Timberlea area to avoid or mitigate potential impacts to natural areas. The Timberlea neighbourhood is generally described as that area between the CN Rail line on the north and east, Big Lake and the Sturgeon River on the south and the city limits on the west.

This document provides guidance regarding standards for protection of natural areas, riparian areas and water bodies within and adjacent to the Timberlea neighbourhood with the intent of mitigating impacts from development on these natural assets. These Guidelines are in accordance with direction provided in the Timberlea Area Structure Plan (Bylaw 26/2005), and will be implemented through the Subdivision, Development Agreement and Development Permit processes.

### **1.4 Applicability**

All subdivision, park and infrastructure development within the Timberlea Area Structure Plan area shall comply with the Guidelines, with the exception of those activities related to the construction of the West Regional Road, which shall comply with the mitigation measures identified within the West Regional Road Environmental Impact Assessment<sup>1</sup> as approved by Fisheries and Oceans Canada.

Construction within the Red Willow Park boundaries shall meet the minimum standards within this document. In addition, construction of permanent recreation trails and other amenities shall not occur until such time that the Master Plan is revised and approved for this section of the park.

Future construction on subdivided lots will meet any requirements of the subdivision approval conditions or other caveats, as applicable.

### **1.5 Approving Authority**

As indicated in Section 1.3, these Guidelines will be implemented through the Subdivision, Development Agreement and Development Permit processes. Where the text of these Guidelines refers to the 'Approving Authority' or 'City of St. Albert', it shall be interpreted that the person or persons that has the authority to approve the underlying permit also has the authority to make a decision on the regulations within these Guidelines. As an example, if compliance with these Guidelines is a condition of approval for a Development Permit, the Development

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<sup>1</sup> West Regional Road Environmental Impact Assessment, Volumes 1 – 4, Spencer Environmental Management Services Ltd., September 2003.

Approving Authority would also act as the 'Approving Authority' for the under the Guidelines. However, if the Guidelines are part of a Development Agreement, the City Engineer or their designate would fill the role of 'Approving Authority'.

## **2 PRE-CONSTRUCTION APPROVALS**

### **2.1 Permits Required**

Prior to any grading or grubbing activities, the developer or his/her authorized agent must complete the applicable Development Agreement or Development Permit process, as required by Land Use Bylaw 9/2005. All activities and the extent of earthmoving must be shown on a plan accompanying either the Development Agreement or Development Permit application.

### **2.2 Environmental Construction Operations (ECO) Plan Required**

Subsequent to approval of a Development Agreement or Development Permit authorizing grading or clearing activities, and prior to the commencement of earthmoving or construction activities, the developer shall submit an Environmental Construction Operations (ECO) Plan to the City of St. Albert for review and approval. The approved ECO Plan will be followed until completion of construction. It is the developer's responsibility for ensuring that the contractor is aware of his/her responsibilities under the ECO Plan, and that all mitigation measures are adhered to.

### **2.3 ECO Plan Elements**

The ECO Plan shall include:

- a description of the proposed construction activities to occur;
- a description of environmental issues anticipated from construction activities;
- environmental protection and mitigation measures to be implemented;
- the person(s) responsible for addressing environmental issues and ensuring mitigation requirements are fulfilled;
- lighting details during winter months;
- emergency phone numbers and emergency spill plans;
- site plan showing root zone, prepared by a certified arborist; and
- a monitoring program for the mitigation measures.

Certain environmental issues may require plans or other materials submitted as part of the ECO Plan, which are further addressed in the individual sections of this document.

The following is an example ECO Plan outline:

1. Environmental Policy Statement
2. Project Information (General Overview, Environmental Approvals and/or Reviews, Project components)

3. Site Activities (Potential Environmental Impacts, Site Security, Portable Toilets, Smoking Areas)
4. Material Management (Construction Materials, Equipment Maintenance, Waste Management)
5. Emergency Response Procedures (Spill Procedure, Reporting Spills, Fire Extinguishers, Emergency Procedures, Training and Awareness)
6. Monitoring and Reporting (Spill Reporting, Incident Reporting, Documentation)

## **2.4 Amending an Approved ECO Plan**

Any changes to the ECO Plan are to be approved by the City of St. Albert. It is the contractor's responsibility for ensuring that all changes are communicated and understood by all personnel.

## **2.5 Training and Awareness**

All personnel on a project or site have the potential to create a significant impact on the environment and therefore require appropriate training. This includes all staff and subcontractors. All personnel will be familiar with the ECO Plan as it relates to their activities and the protection of the environment.

Training sessions will be held prior to the start of earthmoving or construction activities and personnel must attend the sessions and demonstrate knowledge and understanding of the ECO Plan. New or replacement personnel must also be trained.

- 2.5.1 A copy of the ECO Plan, along with any environmental approvals, shall be posted in a site trailer or made available to all personnel at all times.
- 2.5.2 Documentation of the ECO Plan orientation with each personnel will be kept onsite with the ECO Plan.
- 2.5.3 The City of St. Albert Engineering Supervisor or their designee may monitor the ECO Plan's availability on the construction site and the thoroughness of orientation and training records throughout the construction of projects.

### **3 SEASONAL CONSTRUCTION LIMITATIONS**

In order to avoid disturbing nesting birds in the White Spruce Forest (Natural Area 'B' of the Timberlea Area Structure Plan), no construction activities shall occur within 200 m of the White Spruce Forest between May 1 to July 31 of each year. The 200 m limitation area is measured from the drip line of the forest, and not from the outside edge of its related buffer.

Regular maintenance activities, such as picking up refuse, that does not involve mechanized equipment, may be approved by the Approving Authority.



## 4 TREE PROTECTION DURING CONSTRUCTION

### 4.1 Fencing Required Prior to Development Activities

Temporary protective fencing at least 1.2 m in height shall be in place around any trees or natural areas to be retained prior to any clearing, grubbing, grading or other construction-related activities. Placement of the fencing shall be determined by a certified arborist, and shall be shown on a site plan submitted with proposed Development Agreement or Development Permit applications, and shall be included in the ECO Plan.

- 4.1.1 Protection barriers must be erected and inspected by the Approving Authority prior to any construction activities.
- 4.1.2 At a minimum, protective fencing shall be placed outside of the rootzone for those trees that will be retained on the site. Where a buffer is required around a natural area per the Timberlea Area Structure Plan Bylaw 26/2005, the protective fencing shall be located on the outside of the buffer setback.
- 4.1.3 Fencing shall be in place until completion of construction activities adjacent to natural areas and protected trees.
- 4.1.4 Failure to erect the protective barrier may result in a fine being issued or stop order issued against the property owner.

### 4.2 Construction Activities Near Natural Areas

In order to protect the roots, and therefore the health of the trees, no activities, including grading or placement of soil, storage of materials or equipment, shall occur over the roots of any tree designated for protection. In addition, activities within the designated buffer zones of natural areas identified in the Timberlea Area Structure Plan Bylaw 26/2005 shall be limited to remediation of those buffers and augmentation of vegetation as directed by a certified arborist.

- 4.2.1 Any existing accesses within buffer areas, such as the Hogan Road right-of-way and gas regulating station access road, may continue to be used until alternate accesses are available; however, these accesses shall not be used for construction or staging purposes and shall not be widened or otherwise altered from their current state.
- 4.2.2 Where construction activities *must* occur within a natural area's buffer or within a tree root zone, such as the extension of a drainage channel or required main utility line, additional mitigation measures and a specific plan for those construction activities must be prepared by a certified arborist and submitted for review and approval by the City of St. Albert prior to construction. All construction activity should be done by hand-held equipment or by small equipment on a track, as approved by the Approving Authority. The use of heavy equipment in these areas is

discouraged. Mitigation measures associated with work within a buffer area or tree zone shall also be included within the required ECO Plan.

### 4.3 Maintenance Requirements and Reporting

- 4.3.1 If the required boundary fencing has been damaged, it shall be repaired or replaced immediately.
- 4.3.2 Disturbance of a natural area, buffer or any other area to be left undisturbed shall be reported to the City for resolution.

### 4.4 Permanent Fencing Required

Permanent fencing shall be placed between future residential development and preserved natural areas once earthmoving activity has ceased and infrastructure, such as utilities, street lighting, streets, etc. to serve the development is in place. Fencing may be placed prior to all improvements on the site are completed, upon approval of the Approving Authority, if the remaining work will not impact the permanent fencing.

- 4.4.1 Permanent fencing shall be located at the outside boundary of the rootzone, or on the outside boundary of the buffer zone for those natural areas that have a designated buffer in the Timberlea Area Structure Plan.
- 4.4.2 Fencing design and location shall be approved by the City of St. Albert. Deer-friendly fencing will be encouraged in areas to the north of the White Spruce forest or in areas where animal movement will be encouraged. Deer-friendly fencing shall not be over 1 m in height, with a hard top for visibility purposes.
- 4.4.3 Gates between individual residential lots and natural areas are prohibited, and a caveat to that affect shall be placed on the title of all single family lots.

Required fencing shall be shown on engineering and grading plans.



**Photos Show Examples of Deer-Friendly Fencing**

#### **4.5 Permanent Signage Required**

Metal signs shall be posted along the border between natural areas and any existing or future public property and shall be shown on a plan to be reviewed and approved by the Approving Authority. The signs shall be as shown in **Attachments A or B**, dependent upon the type of natural area that is being protected.

## 5 EROSION & SEDIMENT CONTROL

This section provides guidance regarding best practices to control erosion during construction activities. Erosion and Sediment Control shall be addressed in the ECO Plan and required grading plans.

### 5.1 Relationship to City Standards

All construction activity and permanent sediment control measures shall meet current City of St. Albert standards as a minimum. Where there is a conflict between City standards and these Guidelines, the more restrictive regulation shall prevail.

### 5.2 Minimizing Soil Disturbance Area and Exposure Duration

Grading activities shall be limited to those lands needed for construction of a specific stage of development. No pre-grading of future stages shall be allowed, unless those stages are to be developed within the next building season and would result in few than 100 subdivided lots. Soil exposure shall be limited to the least duration possible to help control runoff sedimentation and wind erosion. Grading for infrastructure or utilities, such as stormwater management facilities that serve multiple subdivisions, may occur outside of these timeframes, upon approval by the Approving Authority.

- 5.2.1 Where soils will be left exposed for more than 30 days during non-winter months, temporary cover shall be provided in the form of temporary grass, mulch, straw, erosion control blankets, plastic or other acceptable cover, as approved by the City of St. Albert.
- 5.2.2 Where soils will be left exposed over the winter season, erosion control measures shall be in place to handle sedimentation and erosion from snowmelt.
- 5.2.3 Where slopes are 3:1 or greater and have not been vegetated, plastic, straw, erosion control nets or other suitable cover, as approved by the City of St. Albert, shall be used to protect slopes during any rainy periods, even if work is to commence shortly after the rainfall.
- 5.2.4 Stockpiles of fine materials shall be covered during periods of rain or when sustained winds or gusts exceed 45 km/h.
- 5.2.5 All surfaces shall be permanently seeded or otherwise stabilized prior to Construction Completion Certificate issuance.

Installation of temporary and permanent cover shall be addressed in an erosion control plan, which must accompany any proposed grading or Development Agreement applications. Installation shall follow accepted practices for the slope of the land, soil composition and drainage pattern. Contingency measures for periods of rain and high wind shall be addressed in the ECO Plan.

### **5.3 Request for Exemption from Final Stabilization Requirements**

Notwithstanding the requirements of Section 5.2.5, the developer may make a written request to the Approving Authority for an exemption from final soil stabilization prior to the issuance of a Construction Completion Certificate. When reviewing an exemption request, the Approving Authority shall consider the following in its decision:

- expected start date of lot grading or building construction;
- soil type in terms of the risk of wind, water or other erosion; and
- seasonal conditions or weather that may affect soil erosion.

### **5.4 Approval of Soils from Offsite Sources**

Any subsoil or topsoil that is not from onsite-salvaged stockpiles and that will be placed within 100 m of any natural area or buffer zone shall be tested for suitability and/or contamination. Testing shall be the responsibility of the developer and shall include a standard nutrient analysis and soil quality criteria for landscaping materials. In addition, soils must be tested for BTEX (Benzene, Toluene, Ethylbenzene and total Xylenes) and CCME metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Tin Vanadium and Zinc).

Soils tests shall be submitted to the City of St. Albert for review, and the City shall determine suitability of the soils from offsite sources prior to placement within the setback referenced in this section.

### **5.5 Limitations to Grading Activities**

- 5.5.1 Grading and construction activities shall be limited to those hours specified in the City of St. Albert Noise Bylaw, as amended, or as identified on an approved Development Permit.
- 5.5.2 Grading and other earthmoving activities shall be suspended during periods of high wind, where wind gusts exceed 45km/h.

### **5.6 Perimeter Protection and Runoff Control**

Perimeter protection to filter sediment from sheet flow shall be provided downstream of all disturbed areas prior to upslope grading activities.

- 5.6.1 Silt fencing may be used downslope of disturbed areas, although it is not intended to treat concentrated flows, nor is it intended to treat substantial amounts of overland flow. Any concentrated flows must be conveyed through the drainage system to a sediment trap or pond.
- 5.6.2 Check dams and dikes, sediment traps and sedimentation ponds shall be used to control runoff from disturbed areas, as approved by the City of St.

Albert. Design of such improvements shall be in accordance with City standards and shall be appropriate for the slope, soil composition and size of the applicable disturbed land area.

- 5.6.3 Where new streets with stormwater catch basins have been installed, said catch basins shall be protected by a permeable barrier to reduce sediment infiltration.

## **5.7 Traffic Area Stabilization**

Areas of vehicle traffic on a construction site, including unsurfaced entrances, roads, and parking areas used by construction traffic shall be stabilized to minimize erosion and tracking of sediment off-site. All construction traffic shall be limited to these stabilized surfaces.

## **5.8 Roadway Cleaning**

Public roadways adjacent to a construction access shall be cleaned by the developer or their contractor regularly in accordance with City of St. Albert Standards, or as directed by the Engineering Services Branch.

## **6 MACHINERY MAINTENANCE & OPERATION**

### **6.1 Maintenance and Operation of Machinery and Vehicles**

- 6.1.1 All trucks hauling construction and demolition debris from the site shall be covered.
- 6.1.2 Traffic speeds on unpaved roads shall be restricted to 20 km/h.
- 6.1.3 Equipment engines shall be maintained in proper working condition per manufacturers' specifications, and any fluid leaks shall be fixed and reported immediately.
- 6.1.4 All motorized equipment will be maintained and inspected prior to arriving on site. Equipment will be inspected to be free of external grease, oil and mud.
- 6.1.5 Equipment will be serviced on site only when absolutely necessary. If necessary, servicing or refuelling will be done at least 100m away from natural or sensitive area. Any oil or fluid waste shall be disposed of off site in accordance with Occupational, Health and Safety Chemical Hazard Regulations.
- 6.1.6 Where feasible, the construction equipment shall use cleaner fuels, ad-on control devices and conversion to cleaner engines.
- 6.1.7 All construction equipment shall use properly operating mufflers. In addition, to mitigate potential noise impacts to wildlife, combustion equipment such as pumps or generators shall be located a minimum of 100 m away from natural areas, and shall be located a minimum 150 m from any natural area that has a designated buffer in the Timberlea Area Structure Plan.
- 6.1.8 Diesel pumps and generators shall be placed inside a sealed pan to contain fuel or oil leaks.

## 7 MATERIALS STORAGE & SPILL RESPONSE

### 7.1 Hazardous Material Storage

Fuel and other hazardous materials shall not be stored onsite in quantities greater than 500 L. Quantities greater than 500L will be stored at least 100 m from natural areas and drainage courses, and refuelling of vehicles or other machinery shall occur outside of these areas.

### 7.2 Emergency Response Procedures

- 7.2.1 Appropriate spill response kits must be kept at designated locations onsite at all times.
- 7.2.2 A spill response procedure specific to the site must be outlined as part of the ECO Plan. An example is provided below.

#### Sample Spill Response Outline

In the case of a spill, overflow or fluid release, do what is practical and safely possible to control the situation and then get help.

1. STOP THE FLOW
  - Shut down equipment
  - Close valves and pumps
  - Plug hoses
2. REMOVE IGNITION SOURCES
  - Shut off vehicles
  - Do not allow vehicles, torches, smoking or other sources of ignition near the area. Keep a fire extinguisher on hand, but keep it a safe distance away from the potential ignition source (if a fire starts you must be able to access the extinguisher)
3. CONTAIN THE SPILL
  - Dike around the spill to contain the material
  - Spread absorbent or place a spill blanket on the spill
  - Notify your supervisor

#### 4. NOTIFICATION

*All appropriate parties are to be notified of the spill:*

- St. Albert Fire Department 459-7021
- City of St. Albert Office of Environment 459-1746
- Environmental Agencies
  - DFO 1-800-222-6514
  - AE 1-800-222-6514



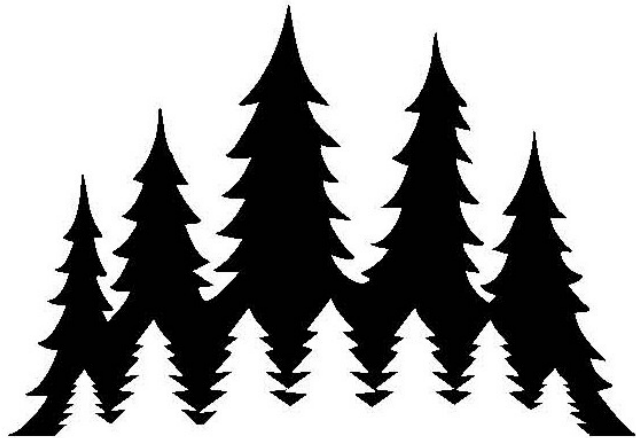


## PROTECTED CONSERVATION AREA

The native trees and plantings in this City-owned area provide a natural habitat for wildlife, filter pollutants in the air and help stabilize area soils. Existing plant material within this Conservation Area should be left in a natural state and no clearing or removal of vegetation in this area may occur. Dead trees or branches provide an excellent habitat for native wildlife and should not be removed from the conservation area.

**Please stay on marked trails to protect this fragile environment.**

THE CITY OF  
**St. Albert**



## CITY NATURAL AREA

This is a protected Natural Area. The native plantings in this area provide shoreline stabilization, reduce erosion, improve water quality by filtering water pollutants, and provide a natural habitat for wildlife. Property adjacent to ponds or wetlands should be left in a natural state and no mowing or clearing of vegetation in this area may occur. Dead trees or branches and native grasses provide an excellent habitat for native wildlife adjacent to ponds and wetlands and should not be removed from the natural area.

**Please stay on marked trails to protect this fragile environment.**



# ATTACHMENT C: PROTECTED NATURAL AREAS

