

# 6.0 General Policy Recommendations

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## 6.1 ACCESS

### Observation

The Town of Lacombe is surrounded by primary transportation corridors, including Highway 2 to the west and north, and transected by Highway 2A in a north-east direction and Highway 12 east and west. Within this general area these primary, secondary and tertiary roadways cross the landscape forming part of an existing built urban environment. It is generally recognized that roadways directly impact ecosystems by fragmenting and isolating the natural landscape. The goal of any community is to plan and construct roadways, which are effective and efficient, while considering the effect on the natural environment.

The Town on an ongoing basis commissions Traffic Studies to determine how any new or planned roads will alleviate any pre-existing safety issues, flow or connectivity to existing road systems and congested areas, as part of the traffic analysis. This in turn is developed as policy in the Land Use Planning documents of the Town. The balance between efficiency and environmental considerations for the engineering and/or placement of the roadway should require that steps be taken to mitigate any environmental considerations in the roadway construction. What measures are taken are site specific and should promote landscape connectivity and decrease further fragmentation and isolation. Aside from the environmental benefits of a well designed connected series of roadways, there is a potential for decreased maintenance costs.

### Existing Policy or Practice

- Traffic Studies prepared by professional engineers that examine the Town system as a whole, as well as detailed or site specific studies in relation to the development of a land use plan or development proposal.

### Recommendations

- 6.1.1 Where animal fatalities are occurring, the Town will consider erecting wildlife crossings signs to alert motorists of the potential for animal crossings in the area
- 6.1.2 That the planning and development of future roadways be evaluated, and where they are proposed within or adjacent to Rank 1 priority areas as identified in Appendix A, shall require a process to mitigate environmental

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issues. Where practical, unnecessary roadways and accesses into natural areas should be limited.

### 6.2 PLANNING AND DEVELOPMENT

#### Observation

Development is inevitable, especially in the face of increased residential development adjacent or in proximity to natural areas and the industrial interest within the Town of Lacombe. Environmentally based planning and development is always preferred, which incorporates the various policies of the statutory land use documents and the provisions of the various legislation to which all development decisions are based. Most land developers contact the Town prior to submitting a proposal to determine what the standard requirements are and what additional considerations may be required because of site specific constraints. The following are some of the planning considerations with regards to future land uses and planned open space provisions in the town, and also demonstrate the Town's long-range approach to planning in the sensitive environmental areas in general.

#### Existing Policy or Practice

- The Municipal Development Plan (MDP) is the “umbrella” plan and all subsequent plans adopted by the Town must conform to it. The purpose of this plan is to determine future land uses, growth patterns, and the co-ordination of supporting infrastructure; such as roads and utilities, and other municipal services and facilities. The Municipal Development Plan contains a number of environmental and conservation policies, namely clauses 6 and 6.1, which affects the lands shown on Map 1 of that Plan.
- The Town has adopted a number of statutory plans that contain policies that determine how the land is to be used for either public recreational pursuits and/or protection. These plans include the following: the North Area Structure Plan, clauses 5.6.1 through to 5.6.9 and the lands depicted on Figure 4; the South East Area Structure Plan, Section 6.8 - Open Spaces and Linkages; and within the West Area Structure Plan, Section 5.4 - Open Spaces and Conservation.
- The Town requires residential land developers to prepare an Outline Plan prior to any subdivision applications being considered. These plans are non-statutory, but are approved by Council. They provide an intermediate step between the Area Structure Plan and the Tentative Plan of Subdivision. The Outline Plan is the vehicle used for discussions between the Developers/Landowners and the Town. The Plan determines the housing types and densities in relation to site-specific constraints and engineering servicing details, so that all development issues are sufficiently addressed prior to Development Agreement negotiations.

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As well, a detailed slope analysis of the landscape is part of the development of every Outline Plan prepared or reviewed by the Town. Typically a slope analysis identifies all slopes in excess of 15% as Environmental Reserve. Depending on the characteristics of the area covered by the Outline Plan and the specific land use goals, the slopes up to 15% are for the most part taken as Municipal Reserve, although sometimes slopes in the 10%–12% range are suitable for development, especially for walk-out basement lots. Outline Plans allocate land as Open Space, which consists of both environmental reserve and municipal reserve.

- This dedication of land ties into the second process, which is the application for subdivision, in the form of a Tentative Plan of Subdivision. This process surveys all the lots to be created and once approved by the Municipal Planning Commission, the subdivision authority for the Town, these lots are registered with the North Land Titles Office. The Municipal Government Act defines environmental reserve as land consisting of a “swamp, gully, ravine, coulee or natural drainage course, or land that is subject to flooding or is, ...unstable.” It is important to note that the taking of environmental reserves (ER) and the requirement for municipal reserve dedication are legislated, and the municipality is bound by the regulations, however, where there is flexibility in the Act, the Town has increased the requirements. The provision of the MGA, subsection 664(c) states that an environmental reserve parcel consists of “a strip of land, not less than 6 meters in width, which abuts the bed and shore of any lake, river, stream or other body of water for the purpose of preventing pollution, or providing public access to and beside the bed and shore.” The Town’s Municipal Development Plan varied this provision by policy 5.6.1 (a) which requires a minimum of 15 meters around most water bodies. The legislation does not provide for the protection of the natural environment, trees or vistas and these values can be expressed in any statutory plan so that developers should consider them in their development proposals. The existence of slopes under 15%, does not preclude the development of them.
- The Town encourages developers of land to accommodate the conservation and dedication of municipal reserves in excess of the legislation, to better serve the residents of the community. When a plan is registered, the Town has title to all land shown as environmental reserve (ER) and municipal reserve (MR).
- The last component of securing land for public use and/or conservation is by reclassifying the use of the land to an appropriate district. The Environmental Open Space District (EOS) would be a suitable District for the uses anticipated surrounding the “natural areas” and any developed or groomed park is typically contained within the overall district, as an example a residential or industrial district.

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### Recommendations

- 6.2.1 That the development of Rank 2 or Rank 3 lands conform to the recommendations contained within Appendix A, and that developers be encouraged to follow the following environmentally based development/construction guidelines:
- a. Topsoil removed from a development site should be located where it can be subsequently recovered and reapplied on the same site or used for a naturalization project in order to maintain the seed bed and reduce revegetation costs;
  - b. Retain vegetation buffer zones, specifically when open water is a landscape feature (natural or constructed);
  - c. If natural areas are destroyed during construction, a provision to restore or create a natural areas within the vicinity should, where practical, be included; and
  - d. Retain natural areas as marketing features, adjacent lots may have higher prices or taxation levels.

### 6.3 TRAILS

#### Observation

The use of trails through the Town of Lacombe is a primary recreation activity. The trails observed included multi-use, hiking, mountain biking, motorcycling, running and walking. Planning of additional trails and expansion of the current trail system is underway. With the expansion of the trail system and potential for increased trail usage, several issues should be addressed in order to preserve the natural areas, which are a focus of the trail system.

The types of trails should be considered from potential user requirements and environmental issues. Trails may be provided for multiple uses, but constructed in such a way as to limit any negative environmental impacts. This may require restricting certain activities, such as mountain biking or motorcycling. The impact of the trail on a natural area should be minimal. There are instances where trails adjacent to wetland areas have disturbed the shoreline and have been built within the vegetation buffer zone (willows or cattails). At certain points along a shoreline trail, it may be appropriate to limit access.

Trails accessing upland forest areas should be developed so as to reduce potential erosion issues. Instead of having a trail meander up and down a slope, promoting slope degradation, develop a trail running perpendicular to the slope, thereby

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decreasing potential erosion issues. It should be noted that drainage features would be required in the trail system in order to facilitate appropriate downslope drainage and discourage cross slope drainage or trail wash-outs. This can be accomplished by installing mini-culverts or drainage pipes beneath the bed of the trail and providing appropriate rip-rap in order to stop channelization.

Providing maintained, easily accessed trails should discourage users from striking off into the vegetation. It should be stated by signage that detouring from the developed trail is discouraged, due to potential negative environmental impacts.

Appropriate signage showing the trail and the overall landscape will provide users with an adequate sense of direction and purpose. Providing seating or look-out areas at appropriate locations is a positive feature. In addition, it has been documented that circular trails, or loops, are more widely used, compared to one-way trails. For example, users prefer looping around a feature, such as a lake, and returning to the starting point. If a complete loop around a feature is not feasible, due to landowner issues or environmentally sensitive areas, providing a shoreline/upland trail in a loop configuration would be appropriate.

Another consideration is the retention or protection of certain natural areas from trail development. It is not necessary to provide a trail into every distinct plant community, this activity would quickly promote ecosystem fragmentation. Some areas should be left to the wildlife and human contact should be limited. This is important when dealing with present wildlife corridors. Wildlife corridors should act as natural connections between natural areas, but the primary users should be the wildlife. Human users can use existing roadway connections.

One issue which will be addressed in the next section, deals with maintenance and safety along the trail system. Procedures for proper maintenance and policing are recommended. It may even be necessary to initiate a monetary fine system for natural area destruction or vandalism. The trail system is not for providing access to natural areas to promote illegal activities, it is for the use and enjoyment of the residents and visitors of the Town of Lacombe. This increases the responsibility placed on the Town regarding safety and maintenance.

#### **Existing Policy and Practice**

- Lacombe Trail/Sidewalk Development Plan
- Traffic Bylaw which states that “no person shall operate an off-highway vehicle within the Town except” for loading or unloading an off-highway vehicle from or onto a trailer, or for use by peace officers or authorized Town employees.

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- Although the Town prohibits motorized vehicles on the trails, enforcement of this is augmented by the public in the form of reporting and awareness of the inappropriateness of vehicles from a safety and environmental perspective.

#### Recommendations

- 6.3.1 That no off-highway vehicles be allowed on the Town trails and that appropriate signage be posted
- 6.3.2 That a program involving the general public be initiated to educate and assist the policing of the trails to prevent use of off-highway vehicles
- 6.3.3 That trail design beside wetlands provide for adequate space for a vegetation buffer zone and where appropriate provide direct access to the open water by providing “lookout” points
- 6.3.4 That trail design minimize erosion by taking into consideration the location of the trail and surface water drainage
- 6.3.5 That signage be provided on the natural trails that encourages trail users to stay on the developed trail, and an educational awareness program citing the negative environmental impacts of this action be developed
- 6.3.6 That use of the “lookout” points be prohibited during critical periods of wildlife nesting

#### 6.4 SAFETY

##### Observation

Safety issues are important with respect to the existing and proposed trail system. Annual reconnaissance surveys should be conducted in the spring to recognize hazards along the trails, specifically trees or slope erosion. Through the high use months, and during the summer months, when wind storms or lightning storms may cause damage to trees and understory vegetation or promote significant erosion, the Town will encourage the users of the trails to report such hazards to the Town. In addition, identification and removal of wasp nests or bee hives may be required. If users are made aware of a proper reporting procedure, the safety inspections could more effectively be conducted by the Town.

Signage is an efficient way of advising users of potential safety issues, for example drainage culverts or stormwater outfall systems.

With respect to policing the trail system or implementing a reporting system safety issues, several factors should be considered. The remoteness of certain trails from

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human activity and development can result in increased wildlife interactions. The wildlife in Lacombe does not pose a major threat, but startling a white-tailed buck or a protective badger may pose a significant threat. For some people with allergies, coming into contact with certain insects may also be a safety issue.

Wildlife crossing signs should be considered, especially when wildlife corridors are being enhanced. Wildlife crossing signs would be appropriate along all the major highways surrounding Lacombe, especially Highway 2. Within Lacombe, C & E Trail and 58<sup>th</sup> Street have the potential to be wildlife crossing areas. The wildlife crossing does not only include deer, but is often porcupines, coyote, geese and ducks. The potential for accidents increases when the wildlife viewing opportunities increase. Three potential wildlife crossing sites have been identified in Appendix A.

#### **Existing Policy or Practice**

- Town staff conduct snow removal and general maintenance on designated paved trails in the winter to allow for safe walking

#### **Recommendations**

- 6.4.1 That the general public be encouraged to report any safety concerns on the trails
- 6.4.2 That the Town conduct regular seasonal assessments of the condition of the trails and address any safety issues arising from use or weather related events

### **6.5 PUBLIC EDUCATION**

#### **Observation**

Public education programs can be active or passive. Passive programs include interpretive trails, appropriate signage, flyers and information pamphlets. Active programs include seminars and guided wildlife viewing. An important aspect to promote is the concept of succession and the variability of natural systems. Residents who live adjacent to a wetland, for example, should have an understanding of wetland cycling processes, including variable water levels and the importance of retaining wetland vegetation.

School programs or community seminars focussing on the effects of vandalism and promoting the safe use of the natural areas would be valuable. Natural areas in proximity to schools (Cranna Lake, for example) should be used during physical education or science classes. Promoting or establishing a link between humans and the natural world is often not part of formal education and the idea that we are separate from the environment eventually leads to disruptive behavior. Fostering a

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relationship between young people and the natural environment is always a benefit to the community.

Annual or seasonal clean-up activities, already in place, could be combined with guided wildlife tours. A group of people could be guided along a certain trail, with the objective of cleaning it up and identifying hazards, but focusing on species identification.

The biggest initial challenge is to get people onto the trails and to promote an appreciation of the natural areas with the Town of Lacombe. Education generally comes passively from that point.

#### **Existing Policy and Practice**

- Signage is being developed outlining the etiquette for trail use
- A trail brochure has been developed but is presently outdated

#### **Recommendations**

6.5.1 That an education program be developed

6.5.2 That an interpretive program in conjunction with the trail system be developed that focuses on the attributes and natural history of the area

6.5.3 That the existing annual clean up program be continued and enhanced to involve more groups

#### **6.6 PUBLIC STEWARDSHIP**

##### **Observation**

Public stewardship programs generally start as public education programs. People have questions or concerns, education is provided, and a feeling of responsibility occurs. This is particularly important for residents adjacent to natural areas or the landowners themselves. What has been regarded as a dumping ground in the past should be identified as a natural area. The form and function of the specific natural areas should be provided, in order to discourage improper use of certain areas. Water quality issues are a major concern at present, and the benefits provided by the various water bodies within the Town of Lacombe directly result in increased water quality. Promote naturalization activities which ultimately have lower maintenance costs.

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#### Existing Policy and Practice

- No current policy existing policy

#### Recommendations

- 6.6.1 That local organizations and adjacent landowners be encouraged to become involved in revegetation or conservation projects identified in the various natural areas

### 6.7 CONTAMINANTS

#### Observations

Contaminants refer to a range of man-made substances that have the potential for polluting natural areas. With an urban setting, contaminants may include waste oil and gasoline, nutrients, stormwater runoff, pesticides and herbicides, insecticides, heavy metals, fertilizers, household waste, salts, sediment, construction debris and general garbage debris. Providing proper disposal and recycling options may reduce the input of contaminants into the environment. From a maintenance perspective, municipal pesticide and/or herbicide use is generally unnecessary and could be restricted to specific areas, such as sports fields. Biological controls could be substituted. As well, deviating from the normal maintenance program may be an option. Park grass maintenance is a large expense and is not environmentally sensitive. Modifying the cutting schedule (longer grass is actually more healthy and weed resistant) and the cutting area are fairly easy procedures. Areas of long “unkept” grass are havens for wildlife, many of which control insects and urban pests.

The Town of Lacombe conducts an annual “Toxic Waste Roundup” and has recycling program in place.

The responsibility of protecting the environment lies with the residents; therefore, if they are aware of the damage certain activities may cause, and if appropriate alternatives are available, there should be little resistance.

#### Existing Policy and Practice

- Environmental Overlay Consolidation (12 214.95) See end of Section 6 for complete text.
- Toxic Roundup occurs annually in September involving the Town and Lacombe County. Goods collected include expired prescription drugs, oil products, paints and solvents, explosives which are shipped and disposed of in Swan Hills.

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- Recycling efforts include solid yard waste of over 400 tonnes of grass and leaves that are turned into compost and used in flowerbeds or on reclamation sites (gravel or sand pit) and newsprint, paper, cardboard and plastics which are all recycled in cooperation with Canadian Waste in various amounts.
- Through local recycling firms, the Town disposes used motor oils, filters and anti-freeze from Town owned equipment as well as metals, tin and vehicle batteries. Asphalt and concrete are all crushed and re-used as well as other industry produced wastes.
- The use of herbicides and/or pesticides has been converted to manual control for weeds and pests within the general lagoon area and Wolf Creek. The costs are similar and weed control appears to be more effective. Impacts to the habitat and wildlife are minimized.

### Recommendations

- 6.7.1 That a review of the Environmental Overlay Consolidation be undertaken to ensure it is in keeping with current best practices

## 6.8 NATURAL LANDSCAPING

### Observation

Natural landscaping initiatives are implemented primarily to decrease maintenance and secondarily to facilitate public awareness of native plants and animals. Deviating from the high maintenance heavily manicured, chemically laden urban lawn towards a low maintenance natural landscape dominated by perennial native plants is a "wild" idea. This method of restorative gardening is slowly being adopted throughout urban areas. Gardening seminars on the use of native plants or even the reduction of chemicals would provide a boost to the community towards the alternative gardening. If these activities were initiated by the Town of Lacombe, through naturalizing boulevards or restoring grassland or wetland vegetation, the community would benefit from witnessing the transformation.

Naturalization of areas can enhance connectivity of natural areas, for example, utility rights-of-way, road allowances, shelterbelts, residential yards, and boulevards respond to naturalization. The naturalization process may even act to eliminate or control non-native weedy species, which generally dominate in previously disturbed areas, specifically road allowances.

Historically, the grassland/forest transition zone across the prairies had a disturbance regime of natural fire. Fire would be sparked by lightning and would consume the grassland and forest stands. The native vegetation has adapted to this disturbance

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and in effect depends on it for successional process. Current fire suppression techniques and an altered landscape have all but eliminated the historic disturbance from the landscape. The effect can be observed in grassland remnants, currently characterized by a shrub layer and developing poplar forest community. Fire would have suppressed the shrub and forest layer, while the grasses which have adapted to the disturbance would have persisted. This is evident within the grassland natural areas identified in the Subject Area. While the grass species remain dominant, shrub and tree species are invading. Restoring a disturbance regime, either through prescribed/controlled burns or mowing, would eliminate the shrub and tree species and promote grass growth.

#### **Existing Policy and Practice**

- The Town's current policy 75/711 01 Sports Field Maintenance Policy outlines the levels of maintenance for ball diamonds and soccer fields. During periods of low use user groups have been advised that grass cutting will be less frequent.

#### **Recommendations**

- 6.8.1 That the Open Space Plan review the present mowing practices and identify areas having potential to be reverted to a more natural vegetation which requires lower maintenance and may provide a cover for animal movement
- 6.8.2 In areas where shrub and tree species are encroaching on grassland areas and where restoration of natural disturbances is required, these areas be mowed annually, during the period from July 15 to August 15 which would allow any nesting to be completed and still allow grass time to recover in time for next spring.

### **6.9 STORMWATER MANAGEMENT FACILITIES**

#### **Observation**

Natural wetlands and constructed wetlands can be designed for surface water/stormwater management. It is well known that "the best wetland management practices are those that enhance the natural processes of the wetland ecosystem". In order to accomplish this, conditions should be maintained to mimic the natural hydrology of a natural wetland. This generally translates into water level manipulation. Potential management recommendations for prairie pothole freshwater marshes for multipurpose wildlife enhancement that mimic the natural cycles within a freshwater marsh have been proposed by several researchers. Management of a constructed wetland is an important issue with respect to providing the dynamic conditions characteristic of a natural wetland. The inclusion of

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disturbance regimes and fluctuating water levels are necessary for maintaining the form and function of a constructed wetland.

The protection of wetlands on the landscape is generally based on their water quality role. The application of wetlands for treatment of domestic, industrial, agricultural, urban and rural wastewater and runoff is based on taking advantage of the nutrient sink capacity. Studies have been conducted to determine the degree to which natural wetlands act as sinks for certain chemicals, specifically sediments and nutrients. Initial studies have found that the effectiveness of the wetland in removing ammonia-nitrogen and total phosphorus was extremely high and long term. Other major research showed that wetlands filtered nutrients, heavy metals, microbes and viruses from the wastewater, with an increase in productivity.

A constructed wetland or stormwater management pond is an engineered structure placed on a landscape to function as a storage unit required for increased run-off characteristic of urban areas. Through engineering these ponds can mimic a natural wetland in form and function. From this perspective, all can benefit from this configuration. In the short term, these structures can imitate the form, but it is the function of these ponds that is the primary goal for managers.

The design of a wetland for pollution control, wildlife habitat or wastewater treatment, should begin with a definite objective. The goal should be to maximize the ecosystem form and function, in order to minimize costs. Various goals for wetland construction include flood control, wastewater treatment, stormwater pollution control, water quality improvement, wildlife enhancement, and mitigation habitat replacement. In general, a design that uses natural processes to achieve the objectives will yield a less expensive and more satisfactory solution over the long term.

**Hydrology** – the most important variable in wetland design, if properly developed, the chemical and biological conditions will be appropriate. The hydrologic condition depends on climate, seasonal surface water and groundwater flow. Ultimately the hydrologic conditions determine the wetland function.

**Chemical Inputs** – Water inflow into the wetland brings chemical that may be beneficial or detrimental. In urban areas these include, nutrients (nitrogen and phosphorus), sediments and pesticides, plus oils and salts.

**Substrate** – important to overall functioning of a wetland is primary medium supporting vegetation, provide habitat for microorganisms. Some characteristics of substrates that are important in wetlands are organic content, soil texture, subsurface flow, depth and layering of substrate, nutrients.

**Vegetation** – Vegetation to be introduced depends on the type of wetland, region, climate and design. Common plants for freshwater marsh wetland creation and

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restoration include reed grass, bulrush, cattails, and sedges. Exotic or non-native plant species should be avoided, including water hyacinth which can escape from domestic ornamental ponds, and purple loosestrife. The planting program and seeding techniques are an important consideration that depends upon the overall design.

**Wildlife** – generally thought that maintaining a 50% open water policy will attract wildlife, and the integration of diversity in habitats (live and dead vegetation, islands, floating structures) encourages wildlife use. Some difficulties may occur if wildlife becomes destructive (beaver and muskrat borrowing and vegetation removal) also herbivory of newly planted vegetation may be a concern.

Multiple benefits are provided by the multiple functions of the constructed wetland system. Water quality benefits include removal of BOD, suspended solids, disinfection by-products, metals, nutrients and organisms of significance in public health. It should be recognized that wetland treatment effectiveness is a function of retention time and the ability of the vegetation and sediment to retain and/or cycle pollutants.

Community benefits from a constructed wetland include low-cost recreation for bird watchers, nature lovers, fishermen, walkers, joggers, picnickers, meditators and tourists. A common reason for investing in property adjacent to a constructed wetland was its value as a sanctuary and as a place to enjoy the natural setting and ecology of a natural marsh.

Constructed wetlands for wastewater treatment are relatively low cost technology and yield benefits beyond water quality improvement. One of the most important benefits is the provision of wildlife habitat. Proper planning, construction and maintenance can enhance the value of the wetland for wildlife habitat. The primary goal is generally wastewater treatment and stormwater storage, but the secondary benefits include habitat construction or preservation and sustainability of biodiversity. The basis of allowing for the secondary benefits is establishing appropriate vegetation which will attract wildlife for food and cover.

Public consultation and education is an issue that should be addressed early in the design and construction processes and should continue throughout the operation and maintenance. Public acceptance is required for the appropriate functioning of the constructed wetland. Increasing public awareness and education will increase overall acceptance of this technology in the urban setting.



#### Existing Policy and Practice

- The lagoons and storm ponds are operated as wetlands for waterfowl production. Nesting cover has been created or is naturally occurring at the site. Mowing is delayed until after July 15 (Ducks Unlimited recommendation) and the habitat is

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allowed to re-grow from September 1 on to provide for the upcoming years' nesting habitat.

- Lagoon sludge is land applied through strict environmental guidelines.

#### Recommendations

- 6.9.1 That where possible existing natural wetlands be incorporated into the subdivision design and consideration be given to connectivity to adjacent natural areas
- 6.9.2 That where storm water ponds are constructed to mimic natural wetlands and are integrated into a residential development, an education program may be required to inform the residents regarding the function and importance of the emergent vegetation in filtering contaminants.

### 6.10 NATURAL AREA CONSERVATION

#### Observation

Natural area conservation opportunities require co-operation between municipal and private landowners. The identification of environmentally sensitive areas is the first step and the second step is a negotiation between all those concerned. If the overall goal is consistent with conservation, then a plan can be realized. Variations of conservation activities are common and range from restricting all human use and development within and adjacent to the natural area, to actively promoting the use and development of specific features within the natural area. Conservation goals and procedures are very site specific.

Conserving, establishing or enhancing naturally vegetated wildlife corridors should be a primary focus. Connectivity of the natural areas with the Town of Lacombe boundaries and to the surrounding landscape is essential. It should also be recognized that connectivity also results in vulnerability between natural areas. For example, vegetation removal or alteration of surface water drainage in one area adjacent to Whelp or Wolf Creek will affect what happens downstream, either by increasing sedimentation loads or decreasing surface water runoff.

Conservation efforts should also be focused on the landscape level. The conservation of landscape diversity will promote overall ecosystem stability and resilience. The more diverse is a landscape, the greater its resistance to development and human modifications. Maintaining a variety of connected habitat patches within a development matrix will result in a variety of habitat nodes. Interconnected ecosystems across a landscape are more ecologically favorable than isolated ecosystems surrounded by urban development. The Town of Lacombe

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landscape includes grassland, upland, wetland and lake ecosystems, which provide habitat and movement corridors, largely from southwest to northeast.

As the major manipulators of the landscape, we owe it to the future generations to conserve the remaining natural habitats across the landscape, but more importantly to ensure the sustainability of the natural areas within our communities. The benefits to local homeowners and municipalities can be directly related to economics, but the social and education benefits provided by the proximity of natural areas cannot be quantified.

#### **Existing Policy and Practice**

- Conservation of natural areas is a direct result of the desire and values of the private landowner, and many choose to adopt environmental farming practices when the land is in production. At the time of the conversion to an urban use, a subdivision or development proposal must conform to the policies contained within a statutory plan. During discussions with the landowner/developer at the time of the evaluation of a specific proposal, the Town will encourage municipal reserve dedication to the maximum extent possible, especially if these natural areas do not meet the definition of environmental reserves, as found in the MGA.

#### **Recommendations**

- 6.10.1 That the landowners within the Subject Area be made aware of the conservation options available

### **6.11 TOURISM**

#### **Observation**

Tourism benefits the community economically and is usually based on the environmental resources of the community. The opportunity for tourism with the Town of Lacombe is great. Various promotional activities could be adopted, such as bird counts, plant identification seminars, and outdoor physical activities. The trail system, with appropriate signage, maybe even trail names, with an accompanying field guide for wildlife or plant identification would be beneficial to tourism and the community. Tours or information pamphlets explaining naturalization activities would promote the Town of Lacombe as an environmentally conscience community. Organized outdoor sporting events, including cross country running, skiing or canoeing, would bring people into the community and would provide residents with community sponsored activities.

#### **Existing Policy**

- Lacombe Tourism Initiative presently being prepared

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#### **Recommendations**

- 6.11.1 That the tourism potential of Lacombe becoming destination for bird watching and other outdoor pursuits be investigated

## **EXISTING POLICIES**

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### **TOWN OF LACOMBE ENVIRONMENTAL OVERLAY**

The following policy was initially adopted in 1993 with revisions in 1995. This policy provides the basis of environmental practices followed by the Town.

#### **General Principles**

Under the direction of the Town of Lacombe Council, administration has undertaken the writing of Environmental Overlay Policy. A sub committee was struck by council comprising of three Councilors and the Assistant Town Manager. This policy will cover such areas as Town operations, municipal development, construction and public participation in the environmental awareness process.

Council has determined that in the best interest of the community that the Town operate in such a manner as to develop environmental awareness. It has become apparent that the climate exists for the implementation of a program/policy which attempts to limit the degree of damage to the environment and is therefore to the benefit of all residents. This policy should not adversely affect the operating expenses or increase taxes for the rate payers in the Town of Lacombe. Therefore it is in the best interest of all parties involved that a reasonable, pragmatic and just environmental policy be enacted.

#### **General Policies**

##### **1. Energy Conservation**

All departments operating within the Town of Lacombe will operate in such a manner as to reduce the total amount of energy used. Reductions will be identified from energy audits being done by private consultants or suppliers of energy to the Town of Lacombe. The following areas of energy conservation will be adhered to:

##### Electrical Energy

- A) Wherever possible light fixtures will be turned off and rooms will not be lit when not occupied.
- B) As it becomes reasonable fixtures that require replacements bulbs are replaced with bulbs of a high energy efficiency low power usage.
- C) It will be the responsibility of all staff members to ensure that no electronic equipment is left on after hours.
- D) Where ever it is practical and reasonable, vehicles will be turned off instead of left idling unattended. This of course will occur generally in the milder months of the year and it is not expected that vehicles will be shut off when a person leaves their vehicle unattended for 30 seconds or less.

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- E) Administration will determine the financial impact of renovating existing structures to make them more energy efficient.
- F) Town of Lacombe participate in TransAlta Utilities Enviro-Partnership Program.

It is hoped that an effort can be made by all individuals to become more aware of energy efficiency. We will not impose any sort of penalty to an individual who unknowingly leaves a vehicle running or leaves a light switch on. It is the desire of administration and members of council that employees make a reasonable effort in becoming more energy efficient.

## 2.                    Recycling

- A) Where it is possible and practical each department will create a recycling bin for used paper. It is asked that all individuals please deposit any good quality recyclable paper in these bins and an assigned staff member on a monthly basis will retrieve paper from these bins, bundle and ensure that it is forwarded to the recycling depot. Paper that can be recycled for internal use shall be collected and bound for note pads.
- B) The Town of Lacombe will limit it's use of styrofoam cups and will in virtually all cases make an attempt to use cutlery and dishware that is washable as opposed to being disposable.
- C) That office supplies will be used in such a manner as they have been fully used and not partially used. That orders for new office material will only occur will it is deemed a necessary need for replacement.

## **Specific Departmental Policies**

### **12 Administration**

- A) If economically feasible environmentally safe cleaning products should be used for janitorial functions.
- B) Recycled paper products be used if they can be purchased for a reasonable price.
- C) Council ensures that they themselves are environmentally conscience in regards to their council packages and where possible all excess paper be forwarded for recycling.
- D) That all members of administration and office staff ensure that they make an honest effort to not waste electricity ie. electronic equipment left on after hours, lights left on after hours, and power saver cords used for vehicle plugins.
- E) Examine feasibility of renovating Town office to become more energy efficient.
- F) New facilities constructed should incorporate energy efficiency products and methods of construction.

# NATURAL SPACES MANAGEMENT PLAN

## GENERAL POLICY RECOMMENDATIONS

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### Public Works Department

It has become apparent through interviews with the Public Works Superintendent that efforts are being made to become more environmentally friendly. It is the desire of this policy that public works maintain and strive to become environmentally friendly in their activities wherever it is deemed to be reasonable. Areas for consideration are:

#### 31 Common Services

- A) Minimization of chemicals used by the department.
- B) Switchover from gasoline to diesel fuel for larger units.
- C) Recycle all oil plus provide service for ratepayers oil.
- D) Maintain green areas on shop property.

#### 32 Transportation

- A) Minimize use of chemicals in day to day operations.
- B) Use calcium lignosulphate in dust control as it is the most environmentally friendly agent in production.
- C) Minimize the use of salt in sanding operations but still maintain enough salt content to efficiently melt the ice. Restrict areas to be sanded as much as possible.
- D) Operate gravel and sand mining operation to minimize reclaimed area, also operations adjusted where possible to minimize disturbance to wildlife. Gravel and sand mined in as efficient manner as possible to reduce waste.
- E) Wolfe Creek maintenance done as late in the year as possible to minimize disturbance of young wildlife.
- F) Weed control is done by hand picking in gravel pit to eliminate the excessive use of chemical sprays.
- G) Tree nursery created at lagoon site for parks trees to continue in operation.
- H) Conserve topsoil in projects by using loam and salvage loam wherever possible.

#### 41 Water

- A) Changed computer logic in pump houses to utilize standby generator to set a ceiling on energy demand thereby reducing electrical usage.
- B) Promote water conservation.

#### 42 Sewer

- A) Use only chemicals necessary in base operation.
- B) Delay grass maintenance at lagoon site until waterfowl has hatched.
- C) Enforce lagoon area as a waterfowl sanctuary.
- D) Designing of Habitat improvements at the lagoons.
- E) Operate within the Department of Environment guidelines.
- F) Inject sludge from anaerobic cells into the ground rather than spray sludge on surface apply or dry on site.
- G) Control sewage dumps to create the lightest possible impact on the environment and the Battle River. This will now be co-ordinated with Wolfe

## **NATURAL SPACES MANAGEMENT PLAN**

### **GENERAL POLICY RECOMMENDATIONS**

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Creek Golf Course to supply them with water and reduce amount of treated water introduced back to the environment.

- H) Maintain Wolfe Creek to prevent flooding of agriculture land.
- I) Weed control done by hand picking to eliminate as much as practical the use of chemicals
- J) Accept compatible sewage from neighboring communities.

#### **43 Garbage**

- A) Continue with implementation of grass bins and compost program
- B) Provide a spring and fall cleanup in which all recyclable and locally disposable items are sorted and handled properly
- C) Provide toxic roundup for citizens
- D) Cooperate with Staying Green group in their special recycling days at the IGA parking lot

#### **Recreation Department**

It has become apparent through interviews with the Recreation Director that the department is going in a direction of environmental awareness and that it is the desire of council that continuous improvements be made with regards to awareness to the environment. That the following areas be of concern:

#### **71 Recreation Office**

- A) Documents to be double sided.
- B) Re-circulation of agenda envelopes.
- C) That an ongoing effort be made by the administrative staff to ensure that education is properly delivered to staff members with regards to energy efficiency.

#### **72/73/74 Facilities Operations**

- A) Full energy efficiency is met by all staff members with regards to operation of equipment and facilities.
- B) Should the Town construct a new aquatic center, a solar blanket should be purchased for conservation of natural gas and evaporation of chemicals.
- C) Recycling barrels be installed in all of the recreational facilities.
- D) In an attempt to reduce usage of paper products (ie: toilet paper and hand towels) electric dryers can be installed in the existing facilities. The washroom/shower facility at Michener Park will have electric hand dryers.
- E) All new facilities should have water conserving fixtures installed. And where feasible these fixtures can be installed in existing facilities.
- F) Use oil based paints that will be enviro-friendly.
- G) Recycling containers will be provided for cans and bottles where such beverages are available. Recycling barrels be installed in all of the recreational facilities.

## NATURAL SPACES MANAGEMENT PLAN

### GENERAL POLICY RECOMMENDATIONS

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#### 75 Parks and Playgrounds

- A) If possible the recreation department use environmentally friendly herbicides and pesticides as they become available that can be purchased for a reasonable price without any unreasonable increase in expenditure in that department.
- B) Utilization of Pesticides - "Spraying Program"  
The Town is concerned about human health and environmental pollution and will implement the following practices whenever feasible to reduce pesticide usage:
  - a) Physical - hand pulling weeds
  - b) Mechanical - rototiller
  - c) Organic - the use of mulch in shrub beds and around the base of trees (03/27/95)
- C) Selection of pesticide to address weed management program control as a financially responsible approach with minimal risk to our environment, our citizens and to our pesticide applicators. (03/27/95)
- D) The Urban Forest Management Program continues with the support of council.
- E) That certain areas where deemed suitable be returned to natural vegetation to reduce cost of maintenance.
- C) Determine the financial impact of implementing a tree mulching program. Mulching of Town trees along with Christmas trees would be carried out with the mulch spread around tree wells and flower beds to control weeds and water evaporation.
- D) Planting new varieties of grasses that grow more slowly requiring minimal cutting and maintenance.
- E) Implement a tree chipping program for Christmas trees.