

BYLAW 65-2001

A BYLAW OF STRATHCONA COUNTY IN THE PROVINCE OF ALBERTA, FOR THE PURPOSE OF ADOPTING THE ALBERTA'S INDUSTRIAL HEARTLAND AREA STRUCTURE PLAN.

WHEREAS it is deemed advisable to adopt Strathcona County Alberta's Industrial Heartland Area Structure Plan;

NOW THEREFORE, the Council of Strathcona County, pursuant to the authority conferred upon it by the Municipal Government Act, S.A. 1994 c-M26.1 and amendments thereto, enacts as follows:

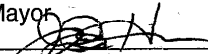
1. That this Bylaw is to be cited as "Strathcona County Alberta's Industrial Heartland Area Structure Plan".
2. That Schedule "A" attached hereto is hereby adopted as part of this Bylaw.

Read a first time this 5th day of June 2001.

Read a second time this 26 day of June, 2001.

Read a third time and finally passed this 26 day of June, 2001.


Mayor


Manager
Legislative & Legal Services

Date Signed: July 10, 2001

STRATHCONA COUNTY

ALBERTA'S INDUSTRIAL HEARTLAND

AREA STRUCTURE PLAN

Revised:
May 29, 2001

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GLOSSARY

1.0 INTRODUCTION

1.1 BACKGROUND

Alberta's Industrial Heartland is a 194 square kilometer (75 square mile) area located northeast of the City of Edmonton, Alberta (see MAP 1). It includes portions of the City of Fort Saskatchewan, Strathcona County, Sturgeon County and Lamont County. Alberta's Industrial Heartland is one of Canada's largest processing centres for oil sands, petroleum, petrochemicals and chemicals. The Heartland area provides an important processing link from the Athabasca Oil Sands in northeastern Alberta to market destinations in North America and overseas – over 30 companies in Heartland – they cannot be randomly located in a local community or regional setting and require long-term planning.

Alberta's Industrial Heartland has been identified as one of several Canadian locations with excellent potential for additional eco-industrial development.

Strategic attributes of the Heartland area include:

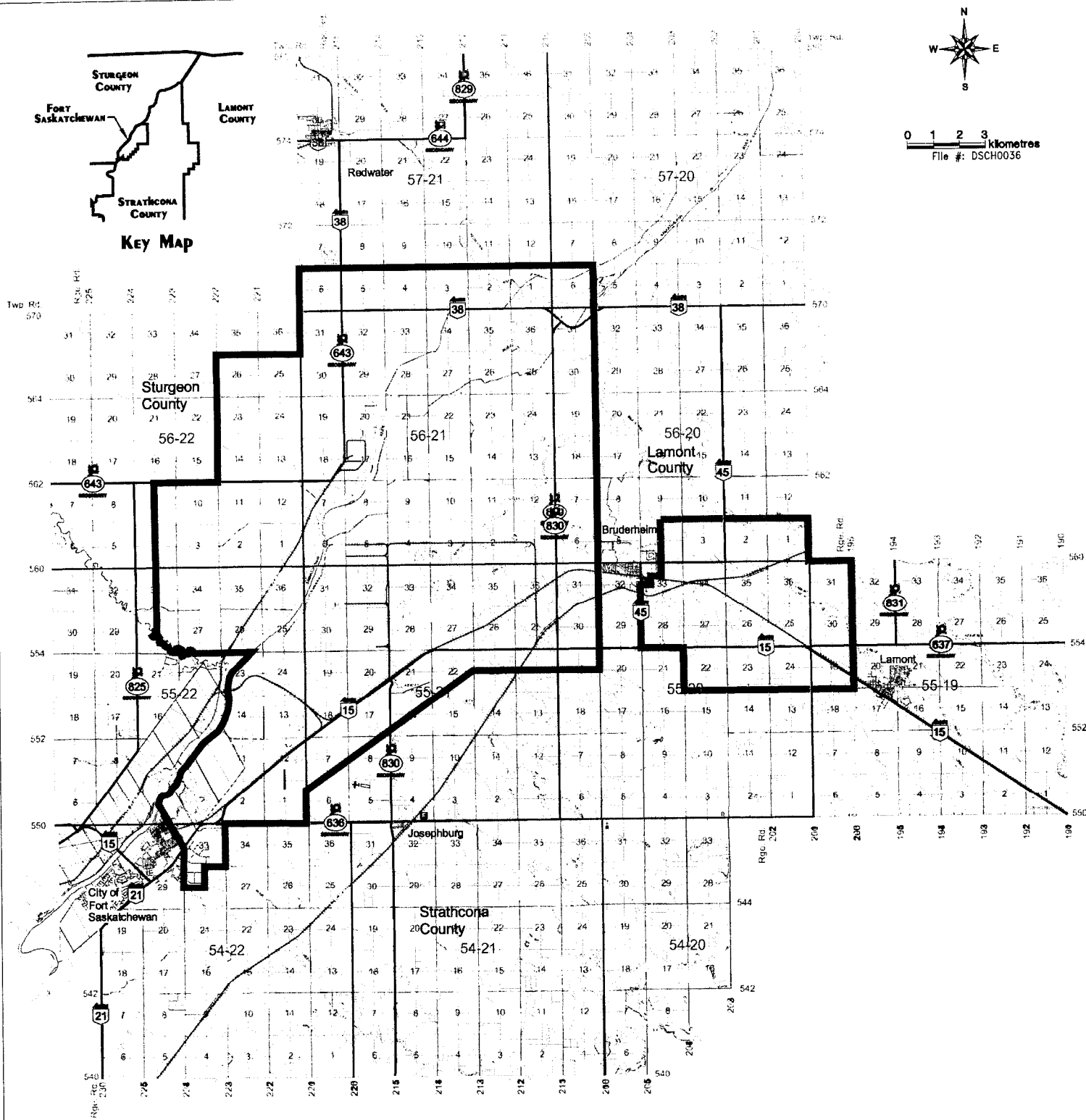
- historic investment in Alberta and Heartland of primary and secondary petrochemical industries,
 - availability of feedstocks of natural gas, oil, oilsands and salt as well as process water,
 - international educational institutions in region,
 - world scale ethane extraction facilities and gathering systems,
 - excellent transportation access,
 - industrial systems,
 - excellent transportation access,
 - industrial sites linked by existing pipelines,
 - lower cost of living and high standard of living,
 - potentially available supply of large tracts of land for large scale facilities.
- Many of the factors noted provide a context as to why industry cannot be randomly placed.

Alberta's Industrial Heartland Association (AIHA) was established in 1998 as a new model in intergovernmental and industry cooperation. Its membership includes the municipalities of the City of Fort Saskatchewan, Lamont County, Strathcona County, Sturgeon County, and the industries belonging to Northeast Capital Industrial Association. AIHA was established to develop and promote the Heartland region as a global leader in processing, manufacturing and eco-industrial development. Planning has been advanced by the four Heartland partner municipalities who understand the importance of future planning – planning is needed to define the growth area, ensure compatibility of developing land uses with industrial growth in balance with agriculture and environmental sensitive land use in the Heartland area.

1.2 METHODOLOGY

The Strathcona County Heartland Area Structure Plan, like those prepared by the other Heartland partner municipalities, used a five phase methodology. The phases included:

- familiarization
- analysis and evaluation
- development of the first Draft Plan



Study Area

Figure 1

LEGEND:

- Heartland Study Area
- Municipal Boundary
- Township Lines
- Railway



ALBERTA
INDUSTRIAL
HEARTLAND

Apr 6, 2001

- preparation of Preferred Option
- revisions and preparation of Final Plan.

The Heartland Area Structure planning process commenced in September 1999. Background materials were prepared and documented for the study area. They included information on: soils, vegetation, wildlife habitat, cultural/historical features, environmentally significant areas, Municipal Development Plan land use designations, transportation, utility and plant site infrastructure and hydrogeology.

Public consultation was an integral part of the process that started with presentations to the four municipal Councils, and stakeholder open houses in late 1999 to identify issues and concerns. Public open houses, stakeholder meetings and public hearings were held throughout the Heartland region. Alberta's Industrial Heartland Association (AIHA) distributed information about the Plans in newsletters and press releases. Information about the Heartland Area Structure Plans was available on the web sites of the municipalities and AIHA. In consideration of information and comment generated through public consultation, five successive drafts of the Plans were prepared for each municipality.

The Background Report and four Heartland Area Structure Plans were prepared largely by consultants from AMEC Earth & Environmental (formerly AGRA) and UMA, guided by a Steering Committee under the direction of the AIHA Board and the four respective municipal Councils.

In September, 1999, a consulting team was retained by Alberta's Industrial Heartland Association to work with representatives of the four municipal partners in the preparation of Alberta's Industrial Heartland Four Area Structure Plans. The ASPs were to incorporate the principles of industrial ecology and to complement one another.

This complementarity of the plans was important. It helped emphasize the consistency and linkages between the four ASPs and the establishment of mutually beneficial relationships among key stakeholders as well as to facilitate their commitment to the ASPs.

The specific objectives set for the plans included:

- minimizing land use conflicts by ensuring that appropriate land is provided for various types of development through definition of detailed policy;
- identifying infrastructure requirements including utilities and services;
- providing stakeholders and interest groups with opportunities for effective input and ongoing communication through a community consultation program; and
- identifying strategies to implement the eco-industrial ASPs.

1.3 ENVIRONMENTAL SETTING

The North Saskatchewan River forms the northern boundary of Strathcona County's portion of the plan area. Astotin Creek extends through the northeast portion of Strathcona County.

The Beverly channel is a significant hydrogeological feature that runs through the plan area in Strathcona County and roughly following the orientation of the North Saskatchewan River. Class 1 and 2 soils are found within Strathcona County's portion of the Heartland, as well as sandy soils – particularly in the northeast portion of the plan area south of the North Saskatchewan River. This northeast portion of Strathcona County is also an area with significant area of wildlife habitat and has some forested lands.

In addition to the North Saskatchewan River, portions of the Heartland in Strathcona County that are environmentally significant include Astotin Creek, the Astotin Natural Area and the Bruderheim Natural Area. Portions of the 960 acres (388.52 hectares) of the Bruderheim Natural Area are contained within the Strathcona County buffer zone of the study area. The Bruderheim Natural Area is significant for its upland sand dunes and lowland wetlands. Over 140 flowering plant species are found in the area and wildlife includes white-tailed deer, moose, elk, beaver, coyote and black bear. The area also is home to 92 recorded species of birds. These Natural Areas are provincial crown land protected and administered by the government of Alberta.

1.4 SOCIO-ECONOMIC SETTING

Within the Strathcona County portion of the Heartland Area, the portions of land are characterized as agricultural with a large cluster of heavy industrial uses in the vicinity of Range Road 215 north of Highway 15. Other areas of the Heartland within Strathcona County have strong environmental qualities and as such have been used for recreational and aesthetic purposes.

Much of the study area is privately owned land with areas used for mixed agricultural purposes such as grain farming and pasture land. Most of the homes in the Strathcona County portion of the Heartland are single-detached dwellings as accessory uses to agricultural operations with the exception of some small acreage holders primarily in the Shell Scotford Refinery area.

Industrial landowners in Strathcona's Heartland Area include: Oxy Vinyls Canada, Air Liquide Canada Inc., Shell Canada Limited and Shell Chemicals Canada Ltd. The North Western Utilities Salt Caverns are also located in the Strathcona County portion of the Heartland.

Highway 15 provides the main road access route to this area from the east and west and Secondary Highway 830 from the south. Rail access is provided by both Canadian National and Canadian Pacific Railways. The area is also serviced by several pipelines. Gas wells and gas exploration is prevalent in the northeast portion of the Heartland within Strathcona County.

2.0 LAND USE CONCEPT

A land use concept for the lands, within Strathcona County's portion of the Alberta's Industrial Heartland as one of the four municipal partners of Alberta's Industrial Heartland Association, is shown on Figure 1. As this plan is conceptual all of the areas are approximate.

The land use concept is complementary to the land use concepts prepared for the other three municipal partners of Alberta's Industrial Heartland. The plan provides the basis upon which the County can guide the future planning and development of lands within the context of processing, manufacturing and eco-industrial development at a global scale.

2.1 LAND USE CONCEPTS: PLANNING PARAMETERS

The land use concepts were determined through specific reference to the following planning parameters.

2.1.1 The Municipal Government Act, 1994 and Amendments

The Municipal Government Act (MGA), 1994 and amendments defines the purpose of an Area Structure Plan as being the definition of a framework for further development subsequent to a development plan. In defining the framework, an Area Structure Plan must address:

- proposed land uses;
- general location of transportation and infrastructure routes;
- density of population; and
- other relevant matters.

These issues must be addressed in a manner that is consistent with all other statutory plans.

The Act also requires that all municipal plans and actions be consistent with the enactment of land use policies adopted by Order-in-Council in 1996. Adopted "to help municipalities to harmonize provincial and municipal initiatives at the local land use level", the policies encourage:

- fairness, openness and equity in the planning process;
- foster cooperation and coordination between neighbouring municipalities and between municipalities, and provincial government departments;
- facilitate and promote land use patterns which coordinate the efficient development and integration of land use, infrastructure, service and facility patterns, and which can provide an appropriate mix and balance of all land uses in an orderly, efficient, compatible, safe and economical manner;
- maintain and enhance a healthy natural environment;
- make efficient use of Alberta's non-renewable resources;
- protect and utilize Alberta's water resources in a sustainable way;
- preserve, rehabilitate and re-use historical, archaeological and paleontological resources; and
- contribute to a safe, efficient and cost effective provincial transportation network.

These policies are reflective of the intent of eco-industrial planning as outlined below.

2.1.2 Alberta's Industrial Heartland Association

One of the primary goals of Alberta's Industrial Heartland Association (AIHA) as set by its participating partners, is to contribute to the coordination of municipal services. The preparation of four complementary plans for the four municipal partners is one of the objectives to realize this goal. The specific tasks associated with the implementation of this objective include:

- minimizing land use conflicts by ensuring that appropriate land is provided for various types of development through definition of detailed policy;
- identifying infrastructure requirements including utilities and services;
- providing stakeholders and interest groups with opportunities for effective input and ongoing communication through a community consultation program; and
- identifying strategies to implement the eco-industrial area structure plans.

2.1.3 Land Use Designations of the Municipal Development Plan

The land use concepts for the four complementary area structure plans are based upon current land use policies. Strathcona County's Alberta's Industrial Heartland Area Structure Plan generally incorporates the land use policies from its **Strathcona County Municipal Development Plan (MDP) Bylaw 38-98** as the basis for the land uses proposed for the Alberta's Industrial Heartland Study Area.

All four of Alberta's Industrial Heartland Associations Municipal partners stipulated that their land use designations be respected as an integral part of their area structure plans. This helps ensure continuity in the preparation and implementation of their planning and development decisions.

2.2 GENERAL DEVELOPMENT FRAMEWORK

Recognizing that Alberta's Industrial Heartland Association is a unique organization, and that the area is being introduced in its entirety to prospective industrial activities, Strathcona County Alberta's Industrial Heartland Area Structure Plan can be used in two ways.

First, when prospective industrial proponents are assessing the County as to whether it is the appropriate area for industry to locate, they will be able to refer to the development framework contained herein. By referring their initial plans to the set of considerations (municipal, provincial, federal, resource and stakeholder), the eco-industrial planning principles and goals and objectives of the plan, and their respective application to the lands within Strathcona County, these industrial interests will develop an understanding of the requirements they will have to meet to develop their planned operation. With this general knowledge, they will be able to better understand the implications of locating in that particular portion of the Heartland Area.

Once the preferred site has been selected, the second application of this Area Structure Plan can be employed. The industrial interests will be able to proceed with the detailed planning and development associated with that particular site.

This approach reinforces the responsibility of Strathcona County for the lands within Alberta's Industrial Heartland Area. It enables the County to serve as the main window in dealing with industry regarding the lands within its own jurisdiction. It also reinforces the responsibility of the County to work collaboratively with provincial and federal agencies in ensuring that industry does meet the necessary requirements of other levels of government for their development and subsequent operation plans.

2.2.1 Policies, Code of Practice, Regulations, Controls and Standards

Respecting the need for complementarity among the four Area Structure Plans prepared for each of the four Heartland municipal partners, as well as the need to respect the legislative requirements and practices that exist among municipal, provincial and federal governments and agencies, the following policies, controls and standards are common to all of Alberta's Industrial Heartland Area Structure Plans.

2.2.1.1 Policies

The land use policies and directives as described in the respective Municipal Development Plans and Land Use Bylaws of the four Heartland Municipal partners will provide the basis upon which subsequent planning and development will occur in the lands which the four partners have agreed make up the Heartland Area.

The land use and development policies of the four Heartland municipal partners will be coordinated with relevant environmental and development policies as stipulated by the appropriate provincial and federal departments and agencies. For example, conditions stated by Alberta Environment, Alberta Energy and Utilities Board and the Natural Resources Conservation Board for development of particular land uses and activities in the Heartland Area will be incorporated within the land use requirements of the particular Heartland Municipal Partner within whose jurisdiction the land use or activity is located. Although this is required under Section 619 of the Municipal Government Act, ongoing discussions among the departments, agencies, the County, and the proponent of an industrial activity will help address and resolve concerns about planning and development before they become an issue.

2.2.1.2 Code of Practice, Regulations

Guidelines developed by provincial and federal agencies will be referred to and incorporated with those of the four Municipal partners in the review and approval of proposed land use activities and developments for their respective areas. For example, Alberta Agriculture, Food and Rural Development's Code of Practice for Responsible Livestock Development and Manure Management associated with the development and operation of intensive livestock operations may be utilized in the permitting of intensive livestock operations in the Heavy Industrial Areas. As well, Regulations administered by Alberta Environment regarding maintenance, reclamation and/or restoration of landscapes associated with plant sites and areas contained within Natural Areas as defined by the Public Lands Act will be referred to in the preparation of landscape management plans required by the four Municipal Heartland Partners.

Project proponents will be encouraged by the Municipal Partners to consider establishing a buffer around their development. This buffer, based on the proponent's own assessment of potential for adversely affecting a neighbouring land use or activity due to an incident, will be in addition to any setbacks required by their respective Municipal partner. This buffer will be available for uses as defined appropriate by both the respective Municipal partner and the proponent based on their mutual assessment of risk.

Project proponent will be required to:

- consider the ecological capacity of the area paying particular attention to the assimilative capacity of the air, water, and soil to absorb emissions generated by their own activities as well as in combination with those emissions known to be associated with other established operating facilities or proposed facilities;
- consider selecting site that allows them to establish systems supporting the exchange of materials, services, and ideas with other Heartland activities;
- consider the planning, design and development of their site to optimize the conservation of heat and water, and to minimize the production of noise and light; and
- consider the maintenance of the environmental characteristics indigenous to the area (e.g. planting materials, wildlife habitat, topography) in the planning, design, development and reclamation of their site.

2.2.1.3 Controls and Standards

In addition, the controls and standards set by the respective municipal partners and set and monitored by provincial and federal agencies will be incorporated in the planning and development of land use activities and developments. This includes the establishment and maintenance of setbacks from pipelines and transmission corridors as stipulated by Alberta Energy and Utilities Board, water intake and discharge parameters associated with the North Saskatchewan River as defined by both Alberta Environment and Environment Canada, air emissions as defined by Alberta Environment and lighting requirements for towers and stacks set by the Canadian Transportation Agency and Transport Canada.

2.3 LAND USE PATTERNS

There are three land uses proposed for the Strathcona County Alberta's Industrial Heartland Area Structure Plan. They are:

- Environmental Policy Area;
- Heavy Industrial Policy Area;
- Transition Zone: Light/Medium Industrial/Agricultural/Environmental Policy Area.

These four land use activities are organized in six development cells:

- North Saskatchewan River: Environmental Policy Area;
- Scotford: Heavy Industrial Policy Area;
- Strathcona: Heavy Industrial Policy Area;
- Astotin: Heavy Industrial Policy Area;

- Sandhills: Heavy Industrial Policy Area; and
- Transition: Light/Medium Industrial/Agricultural/Environmental Policy Area.

The following outlines the intent, objectives and guidelines associated with each of the development cells and land uses.

2.3.1 North Saskatchewan River: Environmental Policy Area

Intent

The basic intent of the Environmental Policy Area is to conserve environmentally sensitive areas within the North Saskatchewan River Valley and to enhance preservation of the character of these areas through growth and development, which is congruent with the goals, and objectives of this plan. In doing so, the area will accommodate future activities in a balanced approach of sustainable development. This ongoing accommodation will be instrumental in establishing the Heartland Area as a truly eco-industrial development. The area will also continue to reinforce the North Saskatchewan River and valley as a significant regional and national, natural feature.

Objectives

- To conserve environmentally sensitive areas.
- To conserve and enhance the integrity of the North Saskatchewan River Valley.
- To conserve wildlife habitat and corridors.
- To conserve recreational and educational opportunities consistent with the setting while conserving and enhancing the river valley character.
- To allow current land uses to continue where and as appropriate.
- To permit aggregate resource extraction where feasible.

Guidelines: Below Top of the Bank

Environmentally Sensitive Areas

- Identify environmentally sensitive areas and require any developer to identify and prepare landscape management plans to effectively nurture their evolving character.
- Allow for passive recreational pursuits as determined by the biophysical capability of areas in which they are proposed and currently exist.
- Encourage existing landowners to participate in landscape management initiatives that foster appropriate conservation and enhancement of habitat and cultural significance.
- Do not permit permanent development in areas prone to erosion, subsidence or flooding particularly the 1:100 year event.
- Establish, maintain and retain a 50m development setback from shore of the river to maintain integrity of the river's edge and to accommodate possible future public access (on site confirmation is appropriate regarding future development).

Culturally Sensitive Areas

- Ensure that culturally sensitive areas are appropriately identified and information about them compiled and maintained.
- Establish landscape management plans for these areas incorporating public input.
- Consider preparation of assessment of historic artifacts either as part of an Historic Impact Assessment under relevant provincial and federal legislation and as an integral part of provincial environmental impact assessments or as part of the Municipality's review of proposed new developments.

Passive Recreation

- Provide, where possible, for the development and maintenance of corridors through the river valley that can accommodate a series of trails for hiking and biking as well connecting with other corridors within the County and adjacent to the County.

Institutional Uses

- Allow for possible and limited development of low intensity institutional uses which could be used for environmental education purposes.
- Ensure that such facilities are developed in areas not prone to hazards such as erosion, subsidence or flooding, particularly the 1 :100 year flood; and must be at least 1.6 km (1.0 mile) from the Heavy Industrial Policy Area.
- Require that an environmental assessment be prepared as part of the statutory development approval processes outlining the purpose of the use, physical description and implications of associated activity on surrounding settings and ways in which these implications can be effectively addressed and mitigated.

Agriculture

- Maintain extensive agricultural pursuits such as livestock grazing and cropping.
- Ensure that all appropriate controls and codes of practice as defined by Alberta Agriculture Food and Rural Development are utilized as need be in the continuance and modification of existing operations.
- No intensive livestock operations will be permitted.

Residential Development

- Existing residences will be allowed to be rebuilt if destroyed; but will not be permitted in areas prone to extensive erosion, subsidence or flooding particularly the 1:100 year event.
- Existing residences and their ancillary structures will be permitted to remain and to be maintained as conforming uses to allow maintenance and modifications.

- A new residence in replacement of an existing older residence will be permitted.
- No new residential subdivisions or new residences will be permitted in the area.
- This minimization of residential subdivisions will reduce potential conflict in the future between industry and residential activities.

Utility Corridors and Crossings

- Utility corridors and crossings will be reviewed and permitted on a case by case basis.
- Appropriate Environmental Impact Assessments will be prepared with input from Municipal, Provincial, and Federal agencies in accordance with their respective regulatory responsibilities. This will necessitate on a provincial level reference to Alberta's Water Act and associated regulations and codes pertaining to pipelines and telecommunication lines crossing the North Saskatchewan River. On a federal level this will include reference to the Canadian Environmental Assessment Act as administered by the Canadian Environmental Assessment Agency (CEAA), the Fisheries Act as administered by Fisheries and Oceans Canada and the Navigable Waters Protection Act as administered by Fisheries and Oceans Canada – Coast Guard.

Aggregate Resource Extraction

- Aggregate resource extraction will be permitted in areas deemed to have economic viability and subject to statutory approvals including appropriate reclamation plans.

Guidelines: Above Top of Bank

Environmentally Sensitive Areas

- Identify environmentally sensitive areas and prepare landscape management plans to effectively nurture their evolving natural character.
- Naturally occurring groves of vegetation will be maintained wherever possible.
- Surface and groundwater resources of significance will be protected through environmental protection policies.
- Allow for passive recreational pursuits as determined by the biophysical capability of areas in which they are proposed and currently exist.
- Encourage existing landowners to participate in landscape management initiatives that fosters appropriate conservation and enhancement of habitat and cultural significance.
- Do not permit permanent development in areas prone to erosion, subsidence or flooding particularly the 1:100 year event.
- Establish, maintain and retain a 50m development setback from the edge of bank to maintain integrity of the river valley's edge and to accommodate possible future public access (on site confirmation is appropriate regarding future development).

Culturally Sensitive Areas

- Ensure that culturally sensitive areas are appropriately identified and information about them compiled and maintained.
- Establish landscape management plans for these areas incorporating public input.
- Consider assessment of culturally significant areas either as a municipal initiative or as part of preparation of provincial and federal Historic Impact Assessments under relevant provincial and federal legislation and as part of a provincial and federal environmental impact assessments conducted for new developments.

Passive Recreation

- Promote, where possible, the development and maintenance of corridors through the river valley that can accommodate a series of trails for hiking and biking as well connecting with other corridors within and adjacent to the County.

Institutional Uses

- Allow for possible and limited development of low intensity institutional uses which could be used for environmental education purposes.
- Ensure that such uses are developed in areas not prone to hazards such as erosion, subsidence or flooding, particularly in the 1 in 100 year flood way and that they are set a minimum of 50m from top of bank and must be at least 1.6 km (1.0 mile) from Heavy Industrial Policy Area.
- Require that an environmental assessment be prepared as part of the statutory development approval process outlining purpose of the use, physical description and implications of associated activity on surrounding settings and ways in which these implications can be effectively addressed and mitigated.

Agriculture

- Maintain extensive agricultural pursuits such as livestock grazing and cropping.
- Ensure that all appropriate controls and codes of practice as defined by Alberta Agriculture Food and Rural Development are utilized as need be in the continuance and modification of existing operations.

Intensive Agriculture

- Intensive agriculture such as greenhouses, sod farms and market gardens will be allowed to continue to operate. Additions and modifications to current operations will be permitted on a case by case basis.
- New intensive agriculture such as greenhouses and sod farms and market gardens will be permitted upon completion of an environmental assessment considering such things as setback from top of bank, slope stability, integration with passive recreation such as trails.
- No intensive livestock operations such as feedlots will be allowed.

Residential Development

- Existing residences will be allowed to be rebuilt if destroyed; but will not be permitted in areas prone to extensive erosion, subsidence or flooding particularly the 1:100 year event.
- Existing residences and their ancillary structures will be permitted to remain and to be maintained as conforming uses to allow maintenance and modifications.
- A new residence in replacement of an existing older residence will be permitted.
- No new residential subdivisions or new residences will be permitted in the area.
- This minimization of residential subdivisions will reduce potential conflict in the future between industry and residential activities.

2.3.2 Scottford: Heavy Industrial Policy Area

Intent

The basic intent of the Heavy Industrial Area is to accommodate heavy industry such as petrochemical processing and manufacturing, oil and gas refining, and directly associated support service industries. The latter could include cogeneration power facilities, air separation units and carbon dioxide purification plants. Extensive agricultural operations may also be permitted to operate in the area. The accommodation of these activities will be done in an ecologically and economically sound ways. This will allow for processing, manufacturing and servicing industries that are seeking enhanced environmental and economic performance to work collaboratively in managing environmental and resource issues including energy, water, air and materials. Intensive livestock operations may be permitted on a restricted basis.

Objectives

- To accommodate heavy industry in an environmentally sound and economically efficient manner.
- To accommodate heavy industrial uses in areas that are characterized by low population densities.
- To maintain appropriate setbacks between industrial activities and other activities present in the area.
- To encourage maintenance and incorporation of agricultural activities with the heavy industrial activities in mutually compatible ways.
- To discourage the intensification of residential development.

Guidelines

Heavy Industrial Activities

- Heavy industrial activities will comply with all municipal, provincial, federal approvals as required. This will include preparation of an Environmental Impact Assessments (EIA) as presented in Alberta Environment's Environmental Protection and Enhancement Act

(EPEA) to fully identify all potential impacts relative to the site in question and adjacent area and regions, if need be. This includes the requirement for Conservation and Reclamation Plans under EPEA for the development and closure of plant sites and associated pipelines. Reference will also be made to the Canadian Environmental Assessment Act and Canadian Environmental Protection Act as need be. This will be for both biophysical and socio-economic impacts. The assessment will also contain mitigative measures to be implemented in a manner that incorporates the active input of the County in effectively addressing impact management and benefit enhancement. The assessment will be coordinated with other provincial and federal departments and agencies as need be, such as the Alberta Energy and Utilities Board (EUB).

- Heavy industrial activities in this policy area are required to develop lower capability land for industrial uses (whenever possible) and to retain good agricultural land as a buffer for lease to agricultural purposes. Development approvals will require an EIA in which industry will need to address the conservation of Canada Land Inventory Classes 1 and 2 (CLI 1 and 2) agricultural capability soils. Conservation and reclamation plans will be required by provincial regulatory agencies. Stockpiling and reuse of good capability soils will be required through the municipal development process.
- Tax assessment policies of Strathcona County (and other municipalities) are related to use of the land. If land in the buffer is used for agriculture, then it will be assessed and taxed that way.
- Heavy industrial activities will have to comply with all Alberta Environment and EUB regulations, approval conditions, codes of practice and standards and guidelines such as those pertaining to surface water quality guidelines and deepwell disposal of wastewater, discharge to the North Saskatchewan River, and maintenance of airshed.
- Industrial services ancillary and/or integral to the heavy industrial activities such as air separation units and cogeneration power units will comply with Alberta Environment in a manner similar to heavy industry, also with the Energy and Utilities Board (EUB) for noise related matters, power transmission and pipelines. This will include establishment and maintenance of necessary rights of way and setbacks for all lines in accordance with set standards. Consideration will be actively given in consultation with proponents of pipelines, the EUB, Alberta Environment and other government agencies to the development and maintenance of corridors to accommodate pipelines.
- Industrial activities will be encouraged to establish and maintain a buffer around their facility that provides undeveloped space between them and adjacent residential development. The need for and size of the buffer will be determined by the County, utilizing the guidelines of the Major Industrial Accidents Council of Canada (MIACC), after a review of the risk assessment of the facility as provided by the proponent.
- The buffers will be subject to a landscape management plan prepared by the proponent to the satisfaction of the County. The buffer will be able to accommodate a variety of low

risk prone activities as agreed to by the proponent and the County such as grazing, cropping or wildlife habitat.

- Heavy industry will be encouraged to explore how they might share infrastructure such as pipelines, transmission lines, telecommunication, district heating and cooling, waste management initiatives with one another and with agricultural activities in the area.
- Heavy industry's access to the North Saskatchewan River should consider existing agricultural uses and river accesses and maintain access in strategic locations wherever possible.
- Strathcona County will require Emergency Response Plans of each industry proponent as a condition of the development permit. When appropriate, Strathcona County will enter into interim agreements with Heartland partners and industry to provide service for emergency response. Location, safe storage and handling of hazardous chemicals and explosive materials will be included in these emergency response plans.
- Activities permitted include light/medium industrial activities related to and compatible with heavy industry

Agricultural Activities

- Extensive agriculture (grazing, cropping) and intensive agriculture such as greenhouses and market gardens will continue to be permitted in the area. Future expansions will concur with all regulations and codes established by Alberta Agriculture Food and Rural Development.
- Intensive livestock operations may be permitted to continue and to expand as opportunities warrant. Current and new operations will be subject to all pertinent agricultural management guidelines and controls such as the Code of Practice for Responsible Livestock Development and Manure Management for the safe and economic handling of animal manures. These controls are in place to reduce potential conflict with adjacent non-agricultural land uses as a result of such issues as run-off and odour control.
- All agricultural activities will be permitted to expand their operations through the development of additional support structures in maintaining the operations' viability. The structures can not be subdivided from the farm site.
- Agricultural activities will be encouraged to work with adjacent heavy industry in attempting to define mutually beneficial operating procedures. This could include shared waste management treatment facilities and procedures or utilization of waste heat or steam.

Residential Development

- Existing residences will be allowed to be rebuilt if destroyed; but will not be permitted in areas prone to extensive erosion, subsidence or flooding particularly the 1:100 year event.
- Existing residences and their ancillary structures will be permitted to remain and to be maintained as conforming uses to allow maintenance and modifications.
- A new residence in replacement of an existing older residence will be permitted.
- No new residential subdivisions or residences will be permitted in the area.
- This minimization of residential subdivisions will reduce potential conflict in the future between industry and residential activities.

Environmental Protection

- Strathcona County will encourage the appropriate landowners or jurisdictions to identify and protect environmentally sensitive areas (native flora, fauna or habitat). Clearing or development may be discouraged on a site where native vegetation is important for soil conservation, water resource protection or wildlife habitat.

2.3.3 Strathcona: Heavy Industrial Policy Area

Same as 2.3.2 Scotford: Heavy Industrial Policy Area

2.3.4 Astotin: Heavy Industrial Policy Area

Same as 2.3.2 Scotford: Heavy Industrial Policy Area with added policy as described in the following sections.

Astotin: Heavy Industrial Policy Area Transition Zone Coverage

Intent

The intent of this transition zone is to provide a transition between the Astotin Heavy Industrial Policy Area and residential activity to the east of the County in the Town of Bruderheim. This internal transition separates heavy industry from agriculture activities and light/medium industrial activities by introducing a special buffer. An Astotin Land Use Bylaw TZ Transition Overlay District to restrict development within the Astotin Heavy Industrial Policy Area boundary will be developed as part of the preparation of a New Land Use Bylaw for Strathcona County in 2001. Public Consultation is part of the preparation process and landowners in the area to be covered by the transition zone will be contacted and consulted. The purpose of the TZ Transition Overlay District is to restrict development located within 1.6 km (1.0 miles) of the nearest proposed heavy industrial development within Astotin Heavy Industrial Policy Area. Such a proposed industrial development could produce significant nuisances and during a major accident, could also result in significant loss of adjacent properties and possibly lives.

Objectives

- To maintain agricultural activities in the area.
- To provide a transition between heavy industry and the presence of residential activity to the east of the Heartland in the Town of Bruderheim.

Guidelines

- Land use regulations are to be prepared which ensure appropriate review of proposed uses given the interface of residential development adjacent to the County in this area. All activities related to heavy industry should be restricted to development where only a few persons would assemble. (Large assemblies of people may present difficulties in the event of a requirement for evacuation).
- Activities permitted include light/medium industrial activities related to and compatible with heavy industry.

2.3.5 Sandhills: Heavy Industrial Policy Area

Same as 2.3.2 Scotford: Heavy Industrial Policy Area.

2.3.6 Transition Zone: Light/Medium Industrial/Agricultural/Environmental Policy Area

Intent

The intent of the transition zone is to allow for significant spatial separation between the heavy industry within the Heartland Area and those activities that surround it. Incorporating the currently designated land uses, the transition zone in Strathcona County allows for a gradient of land uses from heavy industry within the Heartland Area to conservation areas, light/medium industrial activities and agri-business to residential acreages and farms outside of the Heartland. The continuation of agricultural activities is allowed and encouraged as indicated in the following guidelines.

Objectives

- To provide a zone of transition between the heavy industrial activities within the Heartland Area and those less densely developed activities located outside of the Area.
- To provide and maintain a diversity of land uses that reflect those types of land uses both within the Heartland Area as well as those adjacent to it.
- To minimize conflict between land uses on either side of the transition zone as well as within it.
- To recognize the inherent value of the land uses within the transition zone.

Guidelines

Light/Medium Industrial Activities

- Activities permitted include warehousing related to agribusiness and industry, industrial and agricultural vehicle and equipment repair, rental and sales, animal businesses including veterinarian clinics, animal hospitals and grooming facilities, kennels, minor eating and drinking establishments, temporary storage, utility services, and warehousing.
- Consideration could be given to establishing rural industrial parks addressing specific site users' needs for on-site water and sewage disposal in a coordinated manner.
- A landscape management plan could identify how the industries could be accommodated in a practical yet aesthetically pleasing layout. This would illustrate storm drainage management, on-site vehicular movement as well ingress from and egress to Secondary Highway 830, the provision of utilities such as power and gas, and the spatial relationship between adjacent land uses such as established farming operations.
- Encouragement could be given to the development of rural industrial parks in such a way that they explore ways in which storm water could be managed in a mutually beneficial way with adjacent land uses. This could apply to traffic management and waste management as well.

Agricultural Activities

- Extensive agriculture (grazing, cropping) and intensive agriculture (green houses, market gardens) will continue to be permitted in the area. Future expansions of such activities will concur with all regulations and codes established by Alberta Agriculture Food and Rural Development.
- All agricultural activities will be permitted to expand their operations through the development of additional support structures such as an accessory dwelling for staff employed in maintaining the operations' viability. The structures can not be subdivided from the farm site.
- The Agricultural Policy Area "first parcel out provisions" shall not be applicable within 1.6 kilometres (1.0 Miles) of heavy industrial lands (Same as 1998 Strathcona County Municipal Development Plan.).
- One additional parcel of 80 acres for agricultural purposes is allowed thus allowing an existing farmstead to be part of an 80 acre parcel notwithstanding a first parcel has been removed from the quarter section.
- Agri-business policies apply to those lands south of Highway 15. Agri-business uses including primary and secondary agricultural production and processing and minor service storage and repair will be encouraged provided that they are accessible, serviced, or serviceable locations and they are not located on environmentally sensitive areas.

- Agricultural activities will be encouraged to work with adjacent heavy industry in attempting to define mutually beneficial operating procedures. This could include shared waste management treatment facilities and procedures of utilization of waste heat or steam.
- No intensive livestock operations such as feedlots will be allowed.
- No medium industry will be accommodated in the Agricultural Policy Area.

Residential Development

- Existing residences will be allowed to be rebuilt if destroyed; but will not be permitted in areas prone to extensive erosion, subsidence or flooding particularly the 1:100 year event.
- Existing residences and their ancillary structures will be permitted to remain and to be maintained as conforming uses to allow maintenance and modifications.
- A new residence in replacement of an existing older residence will be permitted.
- No new residential subdivisions or residences will be permitted in the area.
- This minimization of residential subdivisions will reduce potential conflict in the future between industry and residential activities.

Environmentally Sensitive Areas

- Identify environmentally sensitive areas and prepare landscape management plans to effectively nurture their evolving natural character.
- Naturally occurring groves of vegetation will be maintained wherever possible.
- Surface and groundwater resources of significance will be protected through environmental protection policies.
- Allow for passive recreational pursuits as determined by the biophysical capability of areas in which they are proposed and currently exist.
- Encourage existing landowners to participate in landscape management initiatives that fosters appropriate conservation and enhancement of habitat and cultural significance.
- Do not permit permanent development in areas prone to erosion, subsidence or flooding particularly the 1:100 year event.
- Establish and maintain a 50m development setback from the edge of bank to maintain integrity of the river valley's edge and to accommodate public areas.

Culturally Sensitive Areas

- Ensure that culturally sensitive areas are appropriately identified and information about them compiled and maintained.
- Establish landscape management plans for these areas incorporating public input.
- Consider preparation of an assessment of historic artifacts either as part of an Historic Impact Assessment under relevant provincial and federal legislation and as an integral part of a provincial environment impact assessment or as part of the Municipality's review of proposed new developments.

Passive Recreation

- Promote, where possible, the development and maintenance of corridors through the river valley that can accommodate a series of trails for hiking and biking as well as connecting with other corridors within and adjacent to the County.

Institutional Uses

- Allow for possible development of low intensity uses which could be used for environmental education purposes.
- Ensure that such uses are developed in areas not prone to hazards such as erosion, subsidence or flooding, particularly in the 1:100 year flood way and that they are set a minimum of 50m from top of bank and must be at least 1.6 km (1.0 mile) from the Heavy Industrial Area.
- Require that an environmental assessment be prepared as part of the development permit application.

Utility Corridors and Crossings

- Utility corridors and crossings will be reviewed and permitted on a case by case basis.
- Appropriate Environmental Impact Assessments will be prepared with input from municipal, provincial and federal agencies in accordance with their respective regulatory responsibilities. This will necessitate on a provincial level reference to the Alberta's Water Act and associated regulations and codes pertaining to pipelines and telecommunication lines crossing the North Saskatchewan River. On a federal level this will include reference to the Canadian Environmental Assessment Act as administered by the Canadian Environmental Assessment Agency (CEAA), the Fisheries Act as administered by Fisheries and Oceans Canada and the Navigable Waters Protection Act as administered by Fisheries and Oceans Canada – Coast Guard.

Aggregate Resource Extraction

- Aggregate resource extraction will be permitted in areas deemed to have economic viability and subject to statutory approvals including appropriate reclamation plans.

2.4 CIRCULATION

Intent

The existing transportation network within the Strathcona County portion of the Heartland consists of five main roads. Secondary Highway 830 traverses the eastern portion of Strathcona from Highway 15 in the south to the North Saskatchewan River in the north; Range Road 212 is an industrial arterial road and Range Road 214 runs northward from Highway 15 to the North Saskatchewan River. Primary Highway 15 has been upgraded to a four lane divided highway from Fort Saskatchewan to west of Range Road 213. Highway 15 is the major

vehicular corridor to and from the Heartland Area. As the major corridor, it plays an integral role in the circulation of traffic throughout the rest of the Heartland. Also included in the existing transportation network is Primary Highway 38 and Vinca Bridge.

Similarly, Range Road 214 is being improved from a rural standard road to a paved four lane divided highway between Highway 15 and heavy industrial facilities approximately 5 km north of Highway 15. Secondary Highway 830 south of Highway 15 has been upgraded by Strathcona County.

These roads are complemented by a series of rural, local gravelled roads. As traffic increases within the Heartland Area of Strathcona County, attention will have to be given to how the circulation system can be improved to attend to the greater number and types of vehicles, particularly heavy industrial vehicles.

Objectives

- To provide an efficient linkage of road and rail connections within the Strathcona County portion of the Heartland Area to service heavy industrial and agricultural activities.
- To provide an effective linkage with the other municipal partners of Alberta's Industrial Heartland Association to ensure the timely sharing of emergency services.

Guidelines

Heartland Transportation Planning

- Strathcona County is working cooperatively with the other three Municipal Heartland Partners on issues of transportation planning for internal circulation within the Heartland Area as well as considering the connections within each municipality and between the Heartland Area and adjacent regions.
- Transportation planning needs to consider the roles of Range Road 214 and Secondary Highway 643 in moving traffic within Heartland as well as connecting that portion of Strathcona County with other areas of Heartland and regions external to Heartland.
- A hierarchy of roads needs to be formalized for Strathcona County with the formerly mentioned primary and secondary highways and Range Road forming the basis of the County's Heartland circulation system (need to integrate with Strathcona's Transportation Master Plan).
- Strathcona County's hierarchy of roads has to be compatible with that of Sturgeon County's. This is particularly important relative to the possible establishment of a bridge crossing over the North Saskatchewan River connecting Secondary Highway 643 with Range Road 214 in Strathcona County. This bridge would provide quick access to/from Heartland Hall for fire and emergency services.

- Functional planning studies must be initiated with Alberta Infrastructure in determining the feasibility of establishing such a corridor in the vicinity as illustrated on Figure 1. These functional planning studies must also include reference to the needs as required by Fisheries and Oceans Canada under the Fisheries Act, the Canadian Coast Guard under the Navigable Rivers Protection Act, and Alberta Environment under the Water Act.
- The development of this proposed functional planning study must be advanced in a coordinated manner with the regional needs of other Heartland Municipal partners. Most notably are the City of Fort Saskatchewan and its established need to expand the Highway 15 bridge, and Strathcona County's upgrade to Secondary Highway 830 as an extension of Range Road 214 south of Highway 15. (Which will be under the jurisdiction of Alberta Transportation on September 1, 2001) There is also the need to consider the regional implications of Highway 15 upgrading on the crossing of the North Saskatchewan River.
- Circulation within Strathcona County area of the Heartland Area, with the exception of the aforementioned roads is currently accommodated to rural roadway standards. Consideration should be given to the efficiency and safety of these standards as heavy industry enters into the area and traffic changes not only in intensity but also by type of vehicle. While local roads should be upgraded as required to maintain a safe standard of service, consideration should be given now to possible ways in which the upgrade to standards accommodating industrial traffic can be done.
- Any business or industry that will generate more than 100 peak hour trips, in the short term construction period or shut down periods, as well as the long term operation, is required to undertake a traffic impact analysis complete with recommendations on how the proponent plans to accommodate the traffic generated.

2.5 UTILITY SERVICING

Intent

Currently the heavy industrial activities in Strathcona County are serviced primarily by the Capital Region Vegreville Corridor Water Service Commission Line. The presence of the Capital Region Vegreville Corridor Water Service Commission Line to Dow in the City of Fort Saskatchewan provides one viable option to industries' continued withdrawals from the North Saskatchewan River. Consideration is being given to extending the line eastward beyond Dow to include Amoco, Chevron and plants in Strathcona County. Consideration still has to be given, however, to increased water demands as the number of industries attracted to the area increase.

Similarly, consideration has to be given to the growing need to accommodate increased sewage needs. While many facilities are continuing to treat their effluent on site and discharge treated effluent to the North Saskatchewan River, or in some cases have it trucked to the Capital Region Sewage Treatment Centre, increased attention has to be given to coordinating the

efforts and resources of industries in developing and operating centrally located facilities for the Heartland industries.

A coordinated inventory and continued assessment of infrastructure requirements and initiatives of industry in the Heartland portion of Strathcona County with those of the three other Heartland Partners is required to maintain the complementarity of the area structure plans for the Heartland area. This coordinated approach presents the infrastructure characteristics and capabilities unique to each of the partners' respective areas, reinforcing the range of locational options from which industrial activities interested in Alberta's Industrial Heartland has to choose.

Objectives

- To ensure that there is adequate water supply for the industry being attracted to the Heartland Area of Strathcona County and the existing agricultural activities already operating in the area.
- To ensure that sewage of both existing agricultural and industrial activities and those being encouraged to locate in the area is treated with appropriate care and environmental sensitivity.
- To ensure that there is adequate water supply for the industry being attracted to the Heartland Area of Strathcona County and the existing agricultural activities already operating in the area.
- To ensure that sewage of both existing agricultural and industrial activities and those being encouraged to locate in the area is treated with appropriate care and environmental sensitivity.

Guidelines

- Representatives of Strathcona County staff will participate with similar representatives of the other three Heartland municipal partners as well as industrial representatives from the Northeast Capital Industrial Association in a Heartland Infrastructure Working Committee.
- The Committee will initiate and maintain an inventory of existing and planned infrastructure expansions and extensions from both municipal and industrial sources.
- The Committee will actively consider marketing demands and opportunities defined by Alberta's Industrial Heartland Association in identifying options for the extension and expansion of water and sewer facilities throughout the Heartland area.

Water Supply Management

- Consideration will be given to the long term plans of Heavy Industry and light/medium industry when locating in Strathcona County and in particular their need for water and the means by which they intend to gather it, use it and treat it.
- Heavy industry, when developing their water management plans, will be encouraged to work with other industrial and agricultural activities in the area about the possibility of developing and operating central water management systems.

- Agricultural activities will also be encouraged to work with industry in attempting to define mutually beneficial water supply management schemes.
- Such water management schemes will require the direct involvement of Strathcona County, Alberta Environment, Alberta Agriculture Food and Rural Development, and the Capital and Lakeland Regional Health Authorities.

Sewage Management

- As with water supply management initiatives, heavy industry and agricultural activities in Strathcona County will be encouraged to work together with the intent of developing mutually beneficial sewage treatment facilities and measures.

Stormwater Management

- As new developments – heavy industrial, light/medium industrial and agricultural activities are being attracted to the area, increased attention will be given to developing and implementing innovative means to manage stormwater runoff and ultimate discharge into the North Saskatchewan River. These means will require the involvement of existing industrial and agricultural activities where and when feasible.

3.0 IMPLEMENTATION – STRATHCONA COUNTY

3.1 IMPLEMENTATION MEASURES

This Area Structure Plan will be implemented through a range of statutory and non-statutory mechanisms available to the municipalities and through the respective statutory and regulatory instruments of provincial and federal governments.

Applicable statutory planning mechanisms under the Municipal Government Act include:

- Municipal Development Plan;
- Land Use Bylaw;
- Subdivision Development and Review Process;
- Development Permitting Process; and
- Development Agreements.

3.2 DEVELOPMENT STAGING

Staging of development in all policy areas will be determined by the locational preferences and site selection processes of individual firms and organizations and by the availability of required infrastructure.

3.3 AMENDMENTS TO THE LAND USE BYLAW

The Land Use Bylaw will be reviewed in light of the policies of Section 2.0. Specific area to be considered include:

- Clarification in the heavy industry district of what new development requires a development permit and any relationship to processes and approvals required by other regulatory agencies. Development permits must require industry to maintain emergency preparedness and response capabilities compatible to their specific industry;
- revising land use district names to provide consistency with those of Heartland municipalities;
- creation of an appropriate land use district or revision of an existing district to implement the North Saskatchewan River Transitional policy areas;
- inclusion of a comprehensive range of agricultural activities within the existing Heavy Industrial policy area;
- revisions to the site requirements for existing Land Use Districts to limit further residential intensification within the Light/Medium Industrial, Transitional and North Saskatchewan River policy areas; and
- revisions to the permitted and discretionary use provisions relating to residential and agricultural uses in existing Land Use Districts to clarify policy intent with regard to the continuation of existing residences.
- Inclusion of a TZ Transition Overlay District for 2.3.4 Astotin Heavy Industrial Policy Area.

3.4 AMENDMENTS TO THE MUNICIPAL DEVELOPMENT PLAN

Section 638 of the Municipal Government Act requires that all statutory plans must be consistent. This Area Structure Plan has been prepared to be consistent with the respective Municipal Development Plan. However, should a major amendment to this Area Structure Plan be proposed, such a proposal should be considered relative to the MDP, and an amendment made to the MDP if the proposal is found to have merit.

The Strathcona County Municipal Development Plan will be reviewed relative to the other Heartland MDP's to determine the merits of providing consistent terminology and policies for comparable policy areas.

3.5 AMENDMENTS TO THE AREA STRUCTURE PLAN

An amendment to the Area Structure Plan shall be required, if in the opinion of the County, a development proposal results in a significant change in the general land use pattern of an area or site.

3.6 SUBDIVISION

The subdivision approval regulations and approval processes will be reviewed relative to the policies stated in Section 2.0.

3.7 ADVOCACY WITH OTHER APPROVAL AUTHORITIES

The primary authority for approval of new industrial development in the Complementary Area Structure Plans Study Area may rest with Provincial agencies (Alberta Energy and Utilities Board and Alberta Environment) and in some cases, also federal agencies (as National Energy Board); however, it is important that the Heartland Municipalities provide input and liaise closely with these bodies both during and outside of specific development approval processes.

This is particularly important when balancing industrial development objectives with the potential concerns of existing residents and other stakeholders about industrial encroachment. The resolution of such concerns must rest with the industrial proponent; however, it is important to all parties that there be recognized objectives and a consistent framework for assessing the extent of mitigative action required relative to the proximity and level of impact of the industrial development proposal.

To this end, and in order to facilitate an orderly transition in use and to ensure compatibility between major new heavy industrial developments and existing residential uses, the Heartland Municipalities support and encourage the development and application of quantitative, cumulative, hazard and nuisance impact assessment procedures and standards by other regulatory authorities with approval jurisdiction. This should be done in consultation with affected municipalities and other stakeholders.

Where any source(s) within a major new heavy industrial development may present a risk of fire, explosion or chemical release to an existing residence in its vicinity, the risk(s) should be quantitatively assessed by the proponent and mitigated to reduce the cumulative risk to an acceptable level at the location of the residence. Such assessments should be carried out in accordance with Major Industrial Accidents Council of Canada (MIACC), US Environmental Protection Agency, Canadian Standards Association, or similar procedures as deemed appropriate by the EUB or other applicable regulatory agency.

Where any source(s) within a major new heavy industrial development may create an impact associated with noise, light, odor or other nuisance to an existing residence in its vicinity, the level of nuisance should be quantitatively assessed and mitigated to reduce the cumulative impact of each nuisance factor to a level below a standard which, in the opinion of the regulatory authority with jurisdiction, does not present a significant impediment to the residential use and enjoyment of property at the location of the residence.

3.8 RECOMMENDED FUTURE PLANS AND STUDIES

A number of non-statutory mechanisms are available to implement a consistent approach to addressing issues which have arisen through the preparation of the Heartland Complementary Area Structure Plans. A number of these are listed below.

- A Heartland Transportation Plan may be prepared to address the particular transportation challenges of the Heartland area. These challenges could include, but not be limited to the following:

- the characteristics of industrially related traffic patterns;
 - specific transportation needs of industry;
 - the rationale for, implications of and planning steps required for a road crossing of the North Saskatchewan River;
 - requirements for a comprehensive transportation network for Heartland; and
 - provisions for comparable levels of rail service on both sides of the North Saskatchewan River.
- It is suggested that existing residents within the Heartland area be involved in discussions on any matters, which are of mutual concern to residents and industry.
- Strathcona County will encourage environmental management of the land, water and air of the Heartland. Alberta Environment is the responsible regulator under the Environmental Protection and Enhancement Act (EPEA) of air quality, land and water and enforcement actions related to non-compliance with EPEA are their responsibility. Strathcona County will work with the other three municipal partners and Alberta's Industrial Heartland Association collaboratively with the regulators and other stakeholders to ensure environmental effects of industry are mitigated. Strathcona County will also work with senior levels of government to ensure communication with and compliance by industry to all regulatory requirements.
- Heartland and Strathcona County are concerned about any environmental effects of industry to its citizens. Heartland with its four municipal partners is an active participant and supporter of Fort Air Partnership. FAP will provide credible relevant information to be used to manage air quality, to protect environmental health and influence policy. FAP is establishing a regional air monitoring network of existing and new sites (2001-2006). FAP will assist in the Fort Saskatchewan and Area Community Exposure and Health Effects Assessment Program starting June 1, 2001. Strathcona County and Heartland encourages the regulators, Alberta Environment and the AEUB to support active air monitoring and continuous improvement on air quality. Strathcona County and Heartland will continue to support FAP in their program.
 - Pipeline and utility corridor planning is a concern for Strathcona County and a multi-stakeholder workshop is being planned for the near future in cooperation with Alberta's Industrial Heartland.

3.9 PLAN MONITORING AND AMENDMENT

- The Heartland Complementary Area Structure Plans should be monitored with respect to all policy initiatives and implementation mechanisms addressed in the Plan documents. This monitoring could include such items as: successes in the application of eco-industrial principles, ongoing land use, infrastructure and other issues, emerging environmental issues and cumulative effects of industrial development.
- The primary purpose of the MDP and associated ASP is to provide policy and processes regarding land uses that are appropriate for the Heartland area. Through the implementation phase, stakeholders including public, industry and regulators with

Strathcona County will identify strategies to work together on matters of mutual concern. Mitigative measures are identified in provincial Environmental Impact Assessments (EIAs) prepared by industry. Relocation policies may be included.

3.10 PLANNING FRAMEWORK

To meet the goals and objectives of the assignment, a planning framework was developed. Applicable to the entire Heartland Area, it is intended first to help prospective industrial parties identify and assess potential sites upon which they might locate. The framework would be used as a “check list” in determining what had to be considered in locating at any of these sites. An initial comparison of the framework applied to these sites, would help the parties select the site they wished to consider in more detail.

The framework would then be used to help guide industrial parties or proponents through the detailed preparation of material necessary to support their applications to develop their facilities where they desired.

The framework consists of a spatial component and six sets of considerations. The spatial component consists of potential development areas in each of the land areas, which the four municipal partners have dedicated to the Heartland Area. These potential development areas were defined through reference to biophysical characteristics and natural features, current land uses, public concerns and suggestions, possible circulation patterns, existing transportation routes, and aesthetics.

The six sets of considerations were defined in accordance with the aspects that would have to be taken into account when planning the development of an industrial facility for any one of the potential development areas. These considerations are in essence performance criteria. They refer to particular standards with which an industrial activity has to comply. For example, under Provincial Considerations reference is made to airshed. If the operation of a proposed industrial activity can not be shown to be able to operate, and its operation maintained within the limits established for the release of NOX (nitrogen oxide) and/or VOC (volatile organic compounds), permission for this industrial activity to be developed will not be given. Similarly, within the Municipal Considerations, if a proposed industrial activity does not or cannot respect the setbacks established for local watercourses, permission for development will not be granted.

Each set of the considerations is arranged in a matrix with the development cells. They are illustrated in the following figures. Strathcona County will utilize a general development framework with any new industry, the Matrix of Performance Criteria.

Performance Criteria

Performance Criteria

[illegible][illegible]

Performance Criteria

Eco-Industrial Considerations

Development Cell	Maintenance of ecological functions	Lowering of overall level of material use	Reduction of toxic and hazardous materials	Use of renewable resources rather than disposable resources	Waste prevention as an underlying design criterion	Diversification of industries, products, materials, businesses and services within the capacity of natural systems	Creation of physical, financial infrastructure for cycling of waste materials	Encourage products and services which have no undue environmental impact
1. Sturgeon								
2. Sturgeon (E.P.A.)								
3. Strathcona (E.P.A.)								
4. Strathcona Sandhills								
5. Strathcona Astotin								
6. Strathcona								
7. Strathcona Scottford								
8. Fort Saskatchewan								
9. Fort Saskatchewan (E.P.A.)								
10. Lamont								

Performance Criteria

Development Cell	Provincial Considerations							Federal Considerations						
	Alshed for all partnership activities for NOX and VOC	Surface Water release, treated sewage and discharge to Fort and Saskatchewan River.	Groundwater injection, quantity, water quality, Fort and Saskatchewan River.	Process water, process waste and effluent, Fort and Saskatchewan River.	EUB pipeline setbacks.	Energy and Utility Board Noise Standards information, Fort and Saskatchewan River.	Department of Fisheries and Oceans of water, habitat, health and salmon creeks.	Coast Guard Navigation, Fort and Saskatchewan River, location and design of bridge.	National Energy Board (alliance, pipelines, Fort and Saskatchewan River, location and design of bridge).	Environment Canada National Pollutant Release Inventory.	Canadian Transportation Agency Location of all new rail lines.	Canadian Assessment Agency for environmental assessment for sustainable development projects.		
1. Sturgeon														
3. Sturgeon (E.P.A.)														
4. Strathcona (E.P.A.)														
5. Strathcona Sandhills														
6. Strathcona Astotin														
7. Strathcona														
8. Strathcona Scofield														
9. Fort Saskatchewan														
10. Fort Saskatchewan (E.P.A.)														
11. Lamont														

- Non-sour wells: 100m from permanent dwelling
- Sour wells (level 1): 100m
- Sour pipelines and facilities (level 1): edge of right of way or edge of facility base lease boundary
- Sour wells, pipelines and facilities (level 2): 100m (minimum); for high release rate well at least 3 to 4 times minimum distance
- Sour wells, pipelines and facilities (level 3): 100m (minimum from permanent dwellings), 500m (minimum to unrestricted county development); 1500m (minimum to public facility of urban centre)
- Abandoned wells; 5m
- All EUB licensed pipelines; Edge of right of way
- High vapour pressure and large diameter/high pressure hydrocarbon pipelines: 200m from centre line of these pipelines
- Permanent flaring facilities/tank dykes: 60-100m from surface improvements such as railway, pipeline, or right-of-way, etc.
- Overhead electrical transmission lines and communications cables
- 22 kV(kV): 3m(horizontally), 5m (vertically)
- 138 kV: 3.6m (horizontally), 5.6m (vertically)
- 240 kV: 4.2m (horizontally), 6.2m (vertically)

Glossary

Agriculture – means all forms of farming except for intensive livestock operations.

Agricultural Land Use – means the use of lands, buildings or structures for the raising of non-domestic animals and/or the growing of plants for food or other production.

Airshed – means a geographic area where air pollutants from sources "upstream" or within the area flow and are present in the air.

Archaeological Resource – means "...a work of man that (i) is primarily of value for its prehistoric, cultural or scientific significance, and (ii) is or was buried or partially buried in land in Alberta or submerged beneath the surface of any watercourse or permanent body of water in Alberta." As recognized by Alberta Community Development.

Area Structure Plan – means a plan adopted by Council as an area structure plan bylaw pursuant to the Municipal Government Act that provides a framework for future subdivisions and development of an area.

Buffer – means a landscaped or natural area set aside or maintained that may include a row of trees, shrubs, earth berm, setback, or fencing to provide visual or physical separation and/or noise attenuation between lots or a public roadway.

Cogeneration – means joint generation of electricity and thermal energy (usually steam). A steam turbine may be bedded to produce more energy from high-pressure steam recovered for the hot flue gases from first stage gas turbine. (Note that for use of the G.T. heat hot oil, hot water, direct process heating or other heat energy purposes are also cogeneration).

Commercial – means development that includes those activities that are principally for either the sale of goods or the provision of services, or both.

Community – means two or more neighbourhoods which share infrastructure and a broader range or magnitude of facilities including those typical of neighbourhoods as well as churches, emergency services, libraries, business ventures, expanded commercial opportunities, drop-in centers, seniors facilities and/or a variety of schools.

Contiguous – means adjacent to existing urban development.

Corridor – means a continuous strip of land connecting two geographically separate points and containing two or more facilities for the conveyance of people, energy, information or materials. Such a definition covers railways, highways, pipelines, communication, and transmission facilities.

Density – means the number of dwelling units or the square metres of floor space in commercial and industrial buildings per acre (or hectare).

Discretionary Use – means the use of land or a building provided for in the Municipal Land Use Bylaw for which a development permit may be issued upon an application

having been made and subject to enabling conditions for each discretionary use being satisfied.

Eco-Industrial Development - means a community of manufacturing and service businesses seeking enhanced environmental and economic performance through collaboration in managing environmental and resources issues including energy, water and materials. By working together, the community of businesses seeks a collective benefit which is greater than the sum of the individual benefits each company would realize if it optimized its individual performance only (source: Lowe, Moran and Holmes, 1996).

Environmentally Sensitive Area – means an undisturbed or relatively undisturbed site that, because of its natural features, has value to society and ecosystems worth protecting, but is susceptible to further disturbance.

Extensive Agriculture – means agricultural activity which depends on large areas of land for either the raising of crops or grazing of animals. Extensive agricultural uses also include structures integral to farming activities.

Feedstock – means material converted to principal product(s), byproducts and/or waste. Does not include energy inputs to processor plant.

Goal – means an idealized end towards which planned action is directed, and which provides an indication of what is to be achieved.

Heavy Industry – means a manufacturing or processing activity,

- (a) that may consume larger amounts of land, energy, water, or other natural resources in its operation, or which requires access to transportation facilities capable of handling bulk materials or commodities, or
- (b) that may have a detrimental effect on the environment through the following: high volumes of heavy vehicle movement; pollution of air, soil or water; nuisance as a result of noise, smoke, odour, dust, fumes, glare or humidity; or hazard arising from fire, explosion, radiation or contamination.

Historic Resource - means any work of nature or of man that is primarily of value for its paleontological, archaeological, prehistoric, historic, cultural, natural, scientific or aesthetic interest. As defined by Alberta Community Development.

Industrial – means development that includes those activities that are principally for the processing of materials or the manufacture, assembly, service, repair, storage or transportation of materials, goods or equipment.

Industrial Development – means all activities and infrastructure associated with the development of an industrial base to accommodate and service the extraction, removal and processing of nonrenewable resources.

Infrastructure – means the services and facilities in which the municipality has capital investment and maintenance responsibilities, including roadways, sidewalks, bridges, street lights and traffic signals, transit buses, solid waste management systems, potable water distribution system, storm sewers, sanitary sewers, sports fields, playgrounds,

arenas, pools, police and emergency response stations, vehicles and equipment, civic buildings, parks, boulevard trees and computer and telecommunications equipment.

Intensive Agriculture – means an agricultural activity that is capable of being economically successful within a confined area such as greenhouse activities and/or sod farming.

Intensive Livestock Operation – means a facility that is capable of confining a specified minimum number of livestock for growing or finishing for market at a housing density of more than one livestock manure unit per 2,000 ft².

Land Use Bylaw – means the bylaw that divides the municipality into land use districts and establishes procedures for processing and deciding upon development applications. It sets out rules that affect how each parcel of land can be used and developed and includes a zoning map.

Land Use District – means an area designated for a particular type of use as designated in the Land Use Bylaw.

Linkage – means a physical way of pedestrian related connection of one building or activity centre with another, by means of walkway, pedway or sidewalk.

Low Risk Prone Activities – means those activities that are permitted in the buffer zones surrounding plant sites. They minimize the exposure of dense human populations to potential upset events (i.e., release of chemicals, explosions) associated with petrochemical and other manufacturing/processing plants by restricting permanent human habitation.

Municipal Development Plan (MDP) – means a plan adopted by Council as a municipal development plan pursuant to the Municipal Government Act.

Natural Area – means remnant or self-sustaining areas with native vegetation, water, or natural features.

North Saskatchewan River Valley – means the North Saskatchewan River Valley, its banks and the banks of its tributary system.

Objective – means directional statements that are usually phrased in measurable terms for given time frames.

Paleontological Resource – means “...a work of nature consisting of or containing evidence of extinct multicellular beings and includes those works or classes of works of nature designated by the regulations as paleontological resources.” As defined by Alberta Community Development.

Passive Recreation – means recreation activities that require limited physical exertion on behalf of the participant. Examples of passive recreation activities include bird watching, walking or photography.

Policy – means a statement identifying a specific course of action for achieving objectives.

Recreational Use – means a public or private athletic or recreational facility or amenity, a joint-use site or a park or playground that serves the surrounding neighbourhood or community.

Residential – means development that includes all manner of dwellings intended for habitation by persons and their associated ancillary uses.

Risk - refers to a measure of the probability and severity of an adverse effect due to a hazard.

Risk Assessment– refers to the characterization of the likelihood and importance of risks. Risk assessments involve estimating:

- a) the likelihood or expected frequencies of undesirable events;
- b) consequences to people of these undesirable events; and
- c) the associated risk in quantitative terms.

Site – means one or more lots of parcels for which an application for a development permit is being made, and may include streets, lanes, walkways and any other surface upon which development is proposed.

Statutory Plan – means a Municipal Development Plan, Area Structure Plan, Area Redevelopment Plan or Inter-Municipal Development Plan adopted by Municipal Council pursuant to the Municipal Government Act.

Stormwater – means surface run-off that is the result of precipitation.

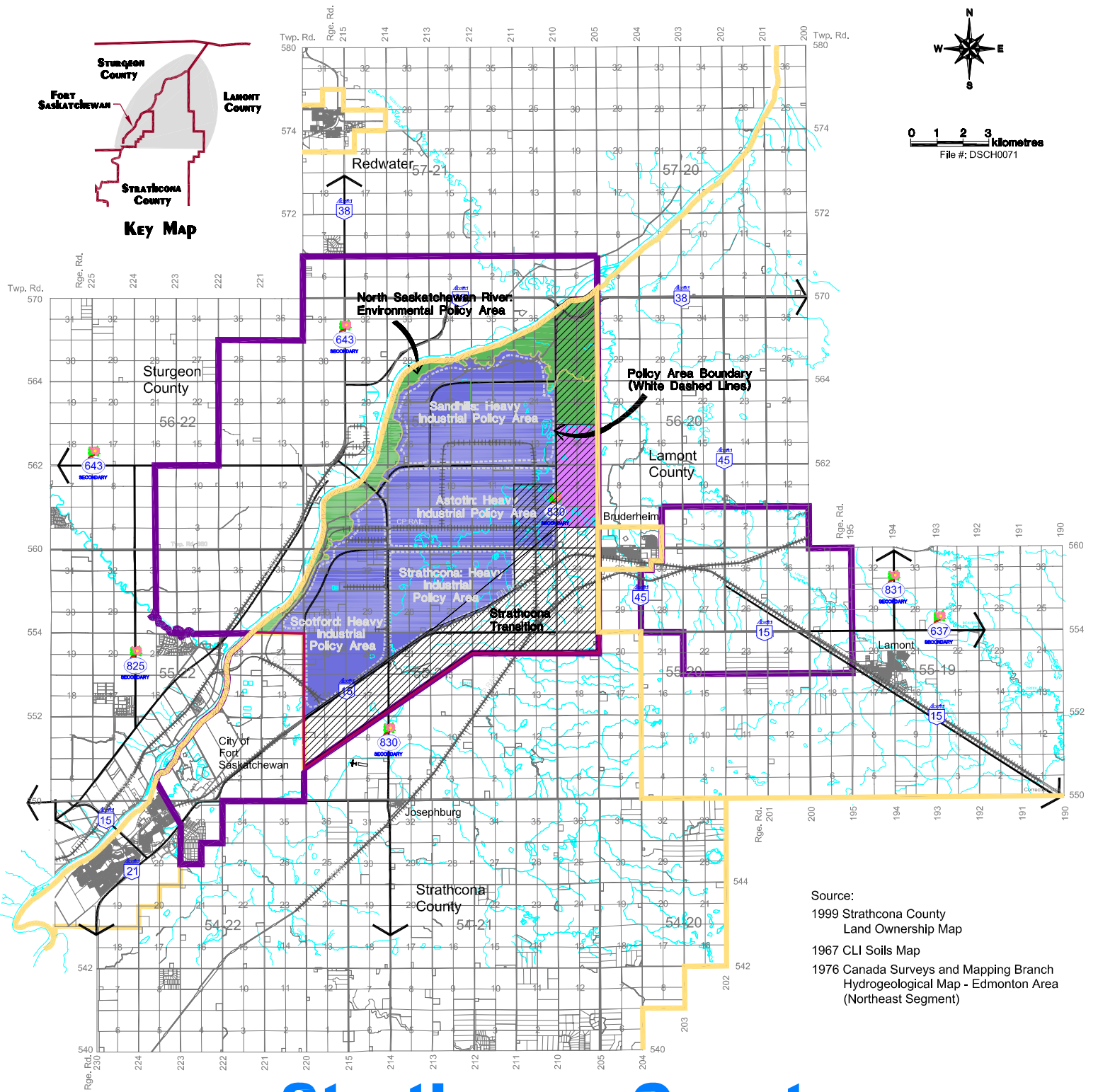
Sustainable Development – means development which meets the needs of the present without compromising the ability of future generations to meet their own needs (definition by the World Commission on Environment and Development).

Top of Bank - means the bank of the body of water as defined under the Alberta Surveys Act, Chapter S-29.1, Sections(2) which states that “when surveying a natural boundary that is a body of water, the surveyor shall determine the position of the line where the bed and shore of the body of water cease and the line shall be referred to as the bank of the body of water” Top of bank is a key element in the management of hazards lands. (ie. Flooding, erosion, slope, instability.)

Trail – means a linear recreation corridor and associated facilities that are marked, mapped, and maintained and allows for travel by people in one or a combination of non-motorized and motorized modes.

Transition – means a land area where compatible land uses buffer heavy industrial development from other land uses such as residential, institutional and agricultural. Appropriate transitional land uses such as agri-business and light/medium industrial.

Wetland – means areas in the landscape where water is the primary factor controlling the environment and associated plant and animal life. Wetlands are transitional habitats between upland and aquatic environments where the water table is at or near the surface of the land, or where the land is permanently or temporarily inundated by water.



Source:
 1999 Strathcona County
 Land Ownership Map
 1967 CLI Soils Map
 1976 Canada Surveys and Mapping Branch
 Hydrogeological Map - Edmonton Area
 (Northeast Segment)

Strathcona County Alberta's Industrial Heartland Area Structure Plan

Figure 2: Plan Location and Concept Plan

LEGEND:

- | | |
|-------------------------------------|--------------------|
| Strathcona County ASP Bylaw Area | Transition |
| Heavy Industrial Policy Area | Top Of Bank +50m |
| Light/Medium Industrial Policy Area | Municipal Boundary |
| Agricultural Policy Area | Township Lines |
| Environmental Policy Area (E.P.A.) | Major Roadway |
| Heartland Study Area | Railway |

