

# TOWN OF STONY PLAIN ENVIRONMENTAL MASTER PLAN









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# LAND ACKNOWLEDGEMENT

Stony Plain is located on Treaty 6 territory, the traditional meeting grounds, gathering space, and travel route of the Cree, Saulteaux, Blackfoot, Dene, and Nakota Sioux and the homeland of the Métis Nation.

The Town of Stony Plain respectfully acknowledges all the many First Nations, Métis, and Inuit communities whose footsteps have marked this landscape since time immemorial.

We acknowledge the deeply rooted relationship between Indigenous heritage, culture, language, spirituality, and history to Stony Plain's land, water, and air. We thank the many past, present, and future Indigenous groups who have protected and thrived in this environment for millennia.

As Treaty people, we commit to ensuring the wellbeing of our environment by acknowledging this rich Indigenous cultural legacy through the Environmental Master Plan.

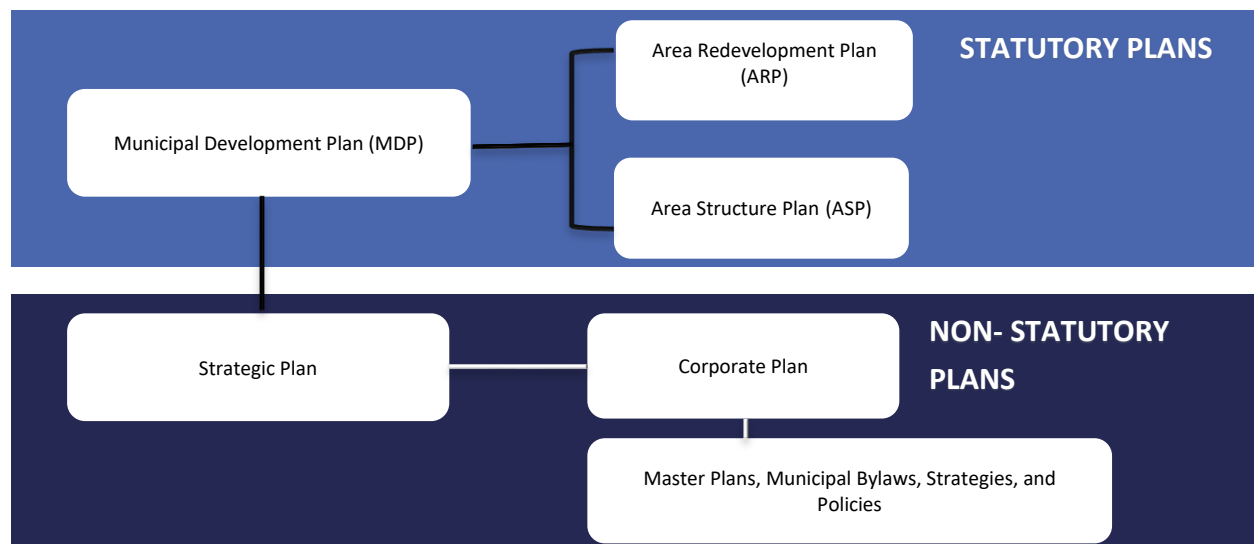


# EXECUTIVE SUMMARY

The Environmental Master Plan (EMP) sets the direction for Stony Plain to become a leader in environmental stewardship and take actions for the benefit of future generations. With proper environmental governance and management, we can achieve a healthy, self-sustaining environment, while providing the necessary ecosystem services that society relies on, such as fresh drinking water, clean air, and food. The EMP will set the stage to guide a renewed Environmental Stewardship Strategic (ESS) to establish standards for Stony Plain to monitor and reduce environmental impacts, and support the achievements of our residents, the land development industry, and the business community. With cohesive direction, Stony Plain can be resilient and adaptative to environmental challenges and improve its ecological footprint.

The EMP re-evaluates and unites previous environmental documents to deliver unified guidance for Stony Plain's environmental framework. As seen in Figure 1, Uniquely Stony Plain Municipal Development Plan (MDP), alongside other statutory and non-statutory plans, encourage and influence the EMP's direction. The MDP identifies environmental responsibility as an essential theme to structure and direct planning decisions for the next 30 years. As Stony Plain continues to grow, consideration for the environment is necessary for all aspects of planning to promote sustainable growth patterns.

**Figure 1. Relationship between municipal documents.**



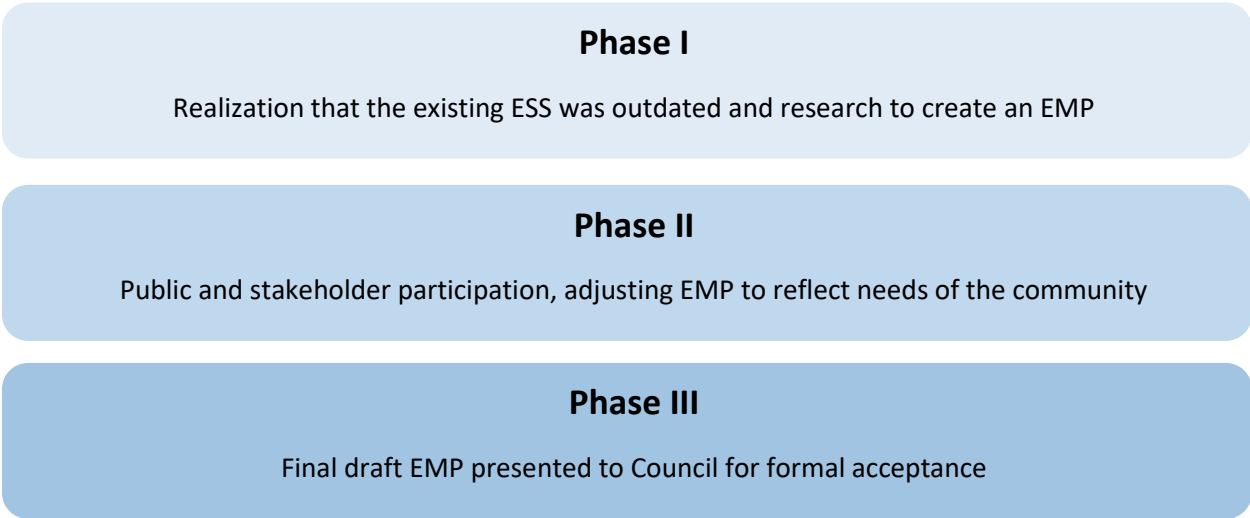
Stony Plain is taking a proactive role to accomplish its environmental goals by taking local responsibility to foster environmental stewardship, while thinking globally. To think globally and act locally as a community, we will focus on local environmental responsibility and take actions that support the Stony Plain's strategic vision to have a positive global impact.

The EMP proposes a framework inspired by community efforts and knowledge to continue working towards a resilient future. To successfully implement the EMP, continued support and collaboration with community members and stakeholders are vital. Public participation opportunities help shape Stony Plain's environmental values by providing a diverse range of information and perspectives.



The EMP encapsulates Stony Plain’s environmental priorities through policies that will be achieved through the actions outlined in the ESS; a living document subject to regular updates, ensuring that Stony Plain maintains a progressive approach to environmental action. Figure 2 illustrates the three phases of developing the EMP that began with the realization that Stony Plain needed an updated environmental framework. An internal literature review of existing plans in Stony Plain was conducted, accompanied by an external and scholarly literature review to establish an environmental framework. Once the environmental framework was confirmed, it was presented to the community for feedback through a variety of public participation methods. The EMP was then adjusted to include the public’s input before it was presented to Council for acceptance.

**Figure 2. Three phases by which the EMP was created and adopted.**



The EMP framework is displayed in Figure 3 to represent the relationship of document components. The vision states the overarching aim and purpose for the EMP. It encompasses the environmental mission of Stony Plain and is the roadmap that defines the direction of environmental action in the municipality. The vision is followed by themes to guide key areas of action and policies that state Stony Plain’s environmental priorities. The ESS will include goals and themes that will be used to achieve the vision and policies of the EMP.



## ENVIRONMENTAL FRAMEWORK IN STONY PLAIN

Stony Plain's environmental framework guides the structure of the EMP and ESS. It separates environmental stewardship into two interrelated and complementary categories: environmental policy and environmental action. The environmental policy framework is encapsulated in the EMP and outlines Stony Plain's environmental priorities at a higher level. It outlines Stony Plain's long-term environmental commitments. The environmental action framework occurs in the ESS and focuses on specific elements of these policies for the near future with actions to achieve these goals. In other words, the sole objective of the ESS is to incrementally achieve the vision and policies of the ESS.

**Figure 3. Stony Plain's Environmental Framework.**



### Relationship between the MDP, EMP, and ESS

As outlined in Figure 4, the EMP was created to address the environmental aspects of sustainable growth and development outlined in the MDP. While the MDP pertains to all aspects of sustainability (social, economic, cultural, and environmental), the EMP focuses on Stony Plain's unique environmental context and encapsulates the community's environmental priorities. The ESS is an action document that will ensure the EMP is achieved through progressive environmental action alongside goals to ensure accountability. The ESS is a living document that will undergo regular updates to reflect current environmental opportunities for Stony Plain to prioritize. Used together, the EMP and ESS will guide future environmental policies and initiatives in Stony Plain for current and future generations.



Figure 4. Relationship between the MDP, EMP, and ESS.



The five themes displayed in Figure 5 are five areas of environmental action. While there will be significant overlap between these themes, they cover the major environmental priorities of Stony Plain.

Figure 5. Stony Plain's environmental themes.







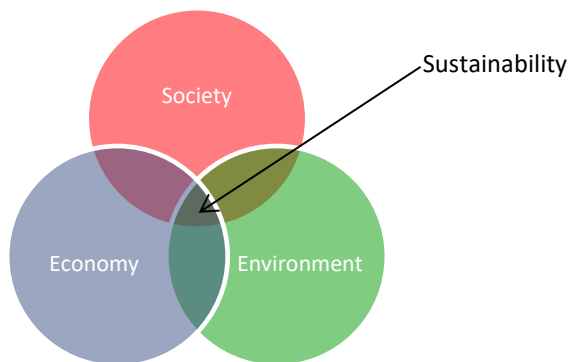


# CONTEXT SETTING

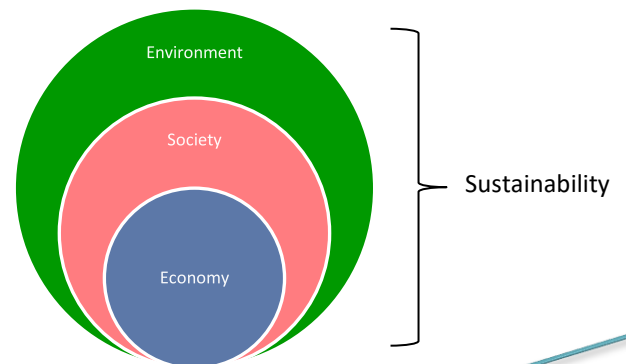
## SUSTAINABILITY MODELS

The MDP emphasizes the role of environmental responsibility in current and future planning measures to promote sustainable development. It is therefore crucial to comprehend sustainability within the context of a municipality and land use planning. Sustainability is defined as meeting the need of the present without compromising the ability of future generations to meet their needs. Historically, sustainability has been understood as balancing the needs of the environment, society, and economy (Figure 6); this is commonly referred to as the overlapping model of sustainability. However, this model is overly simplified and assumes that each component is separate but equal. It assumes that loss in one area could easily be offset by gains in other area. A rooted model of sustainability (Figure 7) displays a framework in which economic and social well-being cannot be achieved without appropriate environmental governance and management.<sup>1</sup> This model suggests that if the natural environment is unable to sustain itself and the ecosystem services it provides, it will have a negative impact on the society and the economy.<sup>2</sup>

**Figure 6. Balanced sustainability model.**



**Figure 7. Rooted sustainability model.**



<sup>1</sup>Doppelt, B. (2012). *The power of sustainable thinking: How to create a positive future for the climate, the planet, your organization and your life*. Routledge.

<sup>2</sup> Senge, P. M., Smith, B., Kruschwitz, N., Laur, J., & Schley, S. (2008). *The necessary revolution: How individuals and organizations are working together to create a sustainable world*. Currency.

## UNIQUELY STONY PLAIN

Stony Plain faces environmental challenges that call for cohesive direction and decisive action to work towards our environmental stewardship goals. While other plans broadly address environmental management, the EMP focuses on providing a strategic plan for Stony Plain's environmental future. The EMP re-evaluates and unites previous environmental documents to deliver unified guidance for the Stony Plain's environmental framework. The Uniquely Stony Plain MDP is the overarching framework for community sustainability and captures five themes; these include environmental responsibility, community development, economic opportunity, supportive infrastructure, and community governance and partners. The EMP reflects environmental responsibility and harmonizes land use and growth management practices to set a transparent framework that offers stable, long-term, and desired outcomes for local environmental management.

Through research on Stony Plain's distinct environmental context and the incorporation of community feedback, this EMP has been designed to be unique to Stony Plain. It is a synthesis of Stony Plain's environmental policies into a unified document that provides a cohesive framework for environmental accountability. It identifies the needs and desires of the community, our progress thus far, and imminent and long-term local, regional, and global challenges to set the path for Stony Plain to become a leader in environmental stewardship.

## IMPORTANCE OF THE EMP

The EMP sets the course toward a healthy and prosperous future for Stony Plain. We acknowledge that as humans, we depend on goods and services provided by the natural ecosystem and recognize that our actions directly affect ecological processes.

Environmental responsibility is an integral element of planning because our quality of life depends on the health of the natural environment. This includes the quality of the air we breathe, the waste that we produce, the water we drink, the natural systems, greenspaces, and vegetation that we enjoy, and the overall sustenance of biodiversity that we need to maintain a healthy ecosystem. Effective environmental planning provides appropriate environmental management to create an equilibrium between natural and human systems for the benefit of future generations.

The National Collaborating Centres for Public Health recognizes that the natural environment provides benefits to human health and wellbeing. Natural environment features such as parks, gardens, and green spaces promote positive physical and mental health<sup>3</sup>. Urban ecological systems serve multiple functions aside from conservation, including reinforcing social, recreational, and cultural programs that allow for deeper community connections. The EMP leverages the social, economic, and environmental benefits of nature to protect, conserve, and enhance our ecosystems.

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<sup>3</sup> National Collaborating Centre for Environmental Health and National Collaborating Centre for Determinants of Health. (2017). *Environmental influences on population mental health promotion for children and youth*. Canada: National Collaborating Centres for Public Health.





## HOW TO USE THE EMP

The EMP provides the roadmap to achieve community resilience and become environmental stewards. For the EMP to be successful, community involvement is essential as all members of our community have an integral role to play in helping Stony Plain become a leader in environmental stewardship. However, for the EMP to be a successful tool, it is important that the reader knows how the EMP is relevant to them.

### Residents

Residents have the potential to catalyze the most impactful environmental action in the community at the household-scale. The EMP provides residents with the opportunity to learn about Stony Plain's environment, challenges surrounding it, and priorities to tackle environmental issues. As a resident, please use the EMP as an educational tool to foster an appreciation and curiosity for the environment, while assessing what you can do to improve the health of the environment in our community. Together, the ESS and the EMP, are mechanisms to involve you in environmental activities, provide new ideas, and build momentum for environmental progress.

### Council

As the elected representatives of Stony Plain and decision-makers within our community, you have a significant role in achieving environmental action. Please use the EMP to direct Administration's actions, provide guidance on environmental priorities, and/or support the decision-making framework when presented with environmental initiatives in Stony Plain.

## Administration

Administration may use the policies outlined in the EMP to guide the creation of future municipal documents and initiatives from an environmental lens. Furthermore, Administration has the opportunity of implementing change to municipal facilities when opportunities arise, as aligned with the vision of the EMP.

## Business Owners & Operators

Local businesses are invaluable to Stony Plain's economy and therefore play an important role as environmental stewards. As owners and operators of local businesses, you may use the EMP to assess your business practices from an environmental lens to determine actions that can be taken within your organization help Stony Plain achieve its environmental goals. Business owners should use the ESS in conjunction with the EMP to stay informed on environmental actions relevant to their operations.

## Developers & Home Builders

Stony Plain is a growing community with immense development potential. As Stony Plain continues to grow, it is necessary that new developments incorporate environmentally conscious practices into land use planning and urban design decisions. To gauge the environmental priorities of Stony Plain, developers and builders should reference the EMP prior to submitting development-related applications to ensure Stony Plain's newest communities are designed in accordance with Stony Plain's vision for the environment.

## Regional Stakeholders & Neighbours

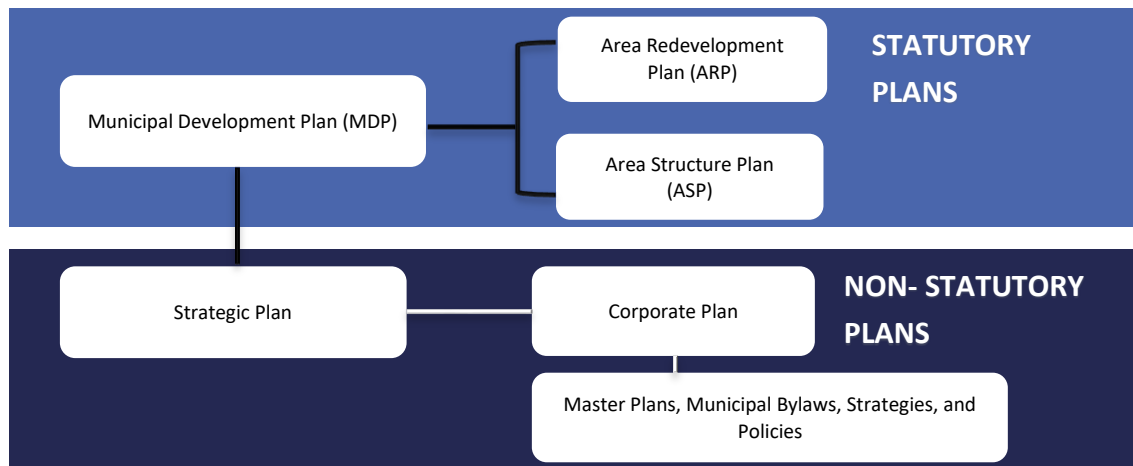
Environmental issues are not confined to Stony Plain's municipal borders. We are committed to cooperating with regional organizations, neighbouring municipalities, and senior orders of government to make a positive contribution on the regional and global scale. As a regional partner, please use Stony Plain's EMP to learn about Stony Plain's environmental framework and find common ground for future collaboration.

## CREATION OF THE EMP

The EMP provides a complete picture of Stony Plain's approach to environmental planning, aligning with supplementary plans and policies to direct future environmental actions. The Uniquely Stony Plain MDP, alongside other statutory and non-statutory plans, encourage and influence the EMP's direction. Figure 8 illustrates how master plans like the EMP are related to other municipal plans and processes.



**Figure 8. Relationship between municipal documents.**



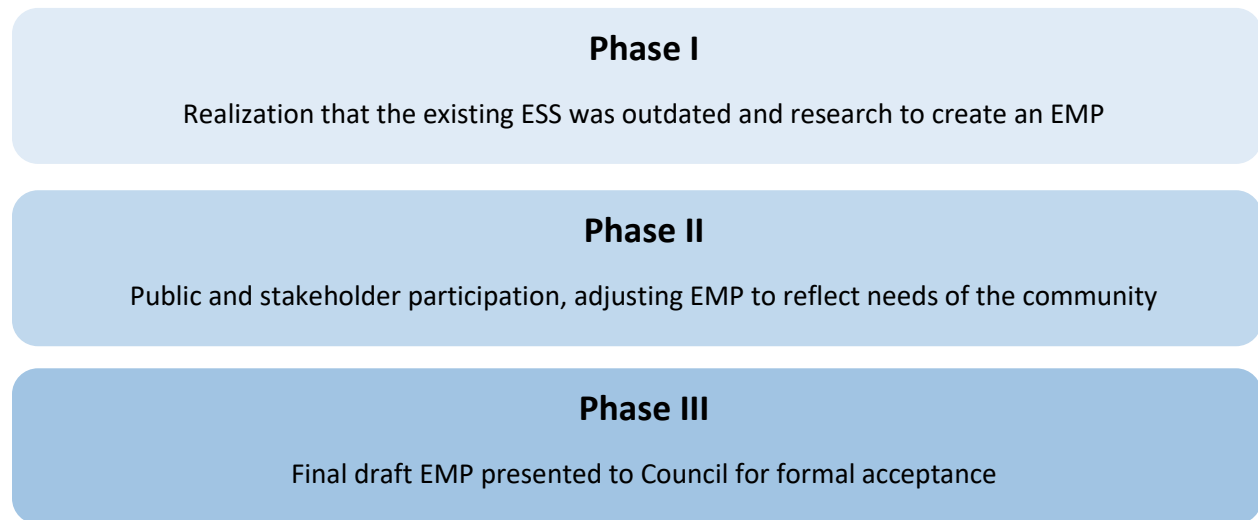
The creation of the EMP is a direct result of policy outlined in the MDP. The MDP is a document pertaining to Stony Plain’s growth and development and identifies environmental stewardship as a key factor of sustainability. The EMP takes direction from the MDP and focuses solely on the environmental aspects of sustainability to encapsulate Stony Plain’s environmental context and priorities in a unified and cohesive document (Figure 9). To accomplish the policies outlined in the EMP, the ESS will act as a living document by which the EMP will be realized. The ESS lists and prioritizes specific actions for Stony Plain to pursue to achieve its environmental policies.

**Figure 9. Relationship between the MDP, EMP, and ESS.**



The synthesis of the EMP involves three phases, as illustrated in Figure 10. Phase 1 began with the awareness that the current ESS was outdated and that a guiding environmental document was needed. Subsequently, an internal study and external literature review of environmental challenges led to drafting an environmental framework and EMP. Phase 2 involved a targeted public participation strategy with local stakeholders, residents, internal staff, and Council to gauge the needs and desires of the community. Once the public participation was complete, the EMP was adjusted to include community perspectives to create a final draft EMP unique to Stony Plain. Lastly, in Phase 3, the EMP was presented to Council for acceptance.

**Figure 10. Three phases by which the EMP was created and adopted.**





# STONY PLAIN'S ENVIRONMENTAL FRAMEWORK

Stony Plain's pursuit toward environmental leadership is refined and clarified through this environmental framework. This framework allows readers to effectively use the EMP in a method that is easily understandable and fosters stewardship of our natural heritage.

## *our environmental vision*

Stony Plain is a vibrant community that retains and integrates its unique character, rich culture, and natural heritage with new growth. As a community, we take responsibility for our environment and commit to ensuring it flourishes alongside the built environment. We strive to build a resilient community by fostering development that protects and enhances our environment for the benefit of current and future generations.



Figure 10. Stony Plain’s Environmental Framework.





# Guiding Principles

The EMP establishes five guiding principles that exemplify characteristics that are critical to achieve the vision. The guiding principles will enhance the quality of decision-making, prioritize actions, and evaluate programs and policy decisions. The guiding principles encompass our community's values and beliefs, consisting of acknowledgement of nature, governance, connectivity, liveable community, and education.

## 1. Acknowledgement of Nature

We acknowledge our role within the natural environment and strive to become a leader in environmental stewardship. We recognize that our social, economic, political, and legal systems are the main drivers of ecosystem processes in the urban environment. It is our responsibility to protect, conserve, and enhance the natural environment through sustainable practices, while balancing the interests of society and the economy.

## 2. Governance

We recognize the importance of transparency, openness, and accountability in the decision-making process. We strive to achieve excellence in environmental leadership through governance practices that foster a collaborative approach to leadership. Furthermore, we recognize the importance of monitoring our environmental progress to enhance our decision-making process for the future.

## 3. Connectivity

We recognize multi-faceted connectivity between individuals, communities, and ecosystems. We foster a collaborative approach to achieve environmental action in Stony Plain that requires collaboration with the community, stakeholders, regional partners, and senior orders of governments. We acknowledge the connection between the past, present, and future and recognize that decisions we make today will impact the community for generations to come. We strive to think globally while acting locally.

## 4. Liveable Community

We recognize the importance of fostering a safe, secure, and supportive sense of place to meet the needs of our community and enhance the quality of life of community members through ecological land use planning. We strive to offer a healthy natural environment with ample social and recreational opportunities to support human health and wellbeing.

## 5. Education and Awareness

We recognize that the success of any environmental strategy is dependent on community understanding and support. Through effective communication, we strive to reach as many individuals as possible with environmentally relevant information. We commit to achieve a high degree of community involvement and awareness to support environmental progress.







# KEY THEMES



## ENERGY

Improving efficiency and exploring renewable options



## LAND

Land use planning to sustain and enhance our ecosystems



## AIR

Proactively reducing pollution in the atmosphere



## WATER

Conserving drinking water and protecting aquatic ecosystems



## WASTE

Minimizing waste production and associated impacts



# STONY PLAIN'S ENVIRONMENTAL CONTEXT

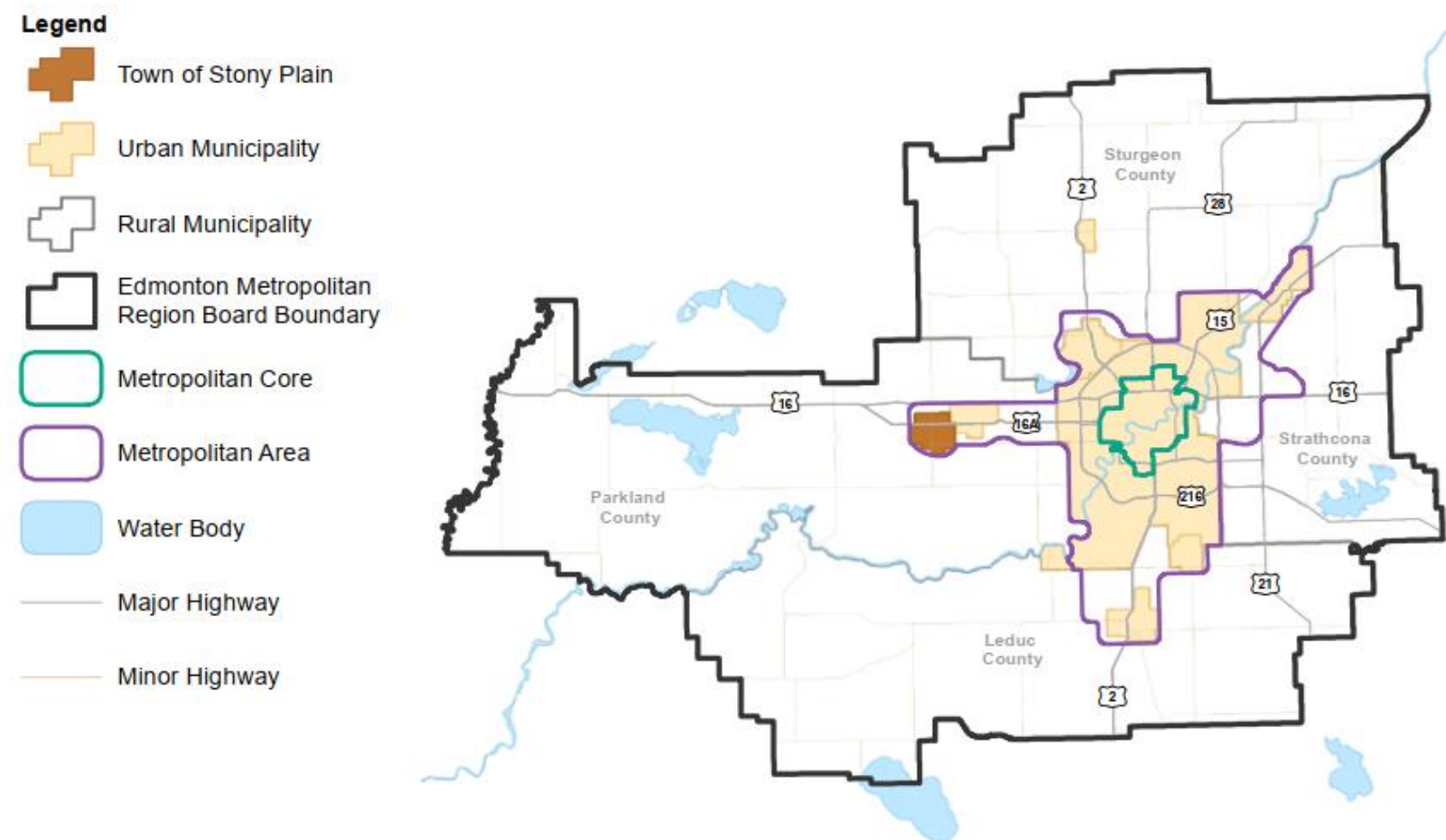
A biophysical and social assessment of Stony Plain's landscape in both a local and regional context was integral to understanding the natural processes that we interact with daily. The EMP has been developed with considerations given to the natural landscape and ecosystem services within Stony Plain, therefore, providing all necessary information to make informed decision is fundamental.

## GEOGRAPHY

Stony Plain is located approximately 17-kilometers west of Edmonton and is located within the Edmonton Metropolitan Region of Alberta (Map 1). Stony Plain shares an eastern boundary with the City of Spruce Grove, and shares northern, southern, and western boundaries with Parkland County.







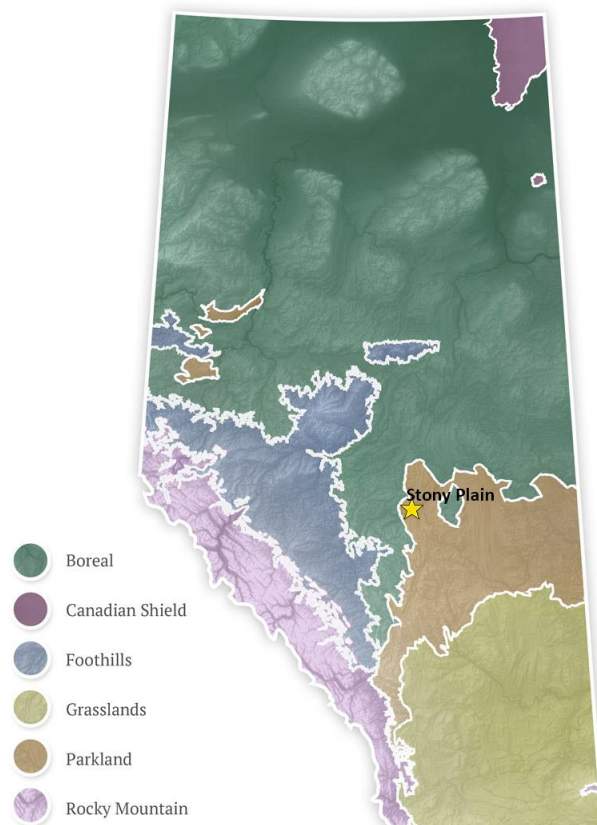
**Map 1. Stony Plain within the Edmonton Metropolitan Region.**

# NATURAL GEOGRAPHY

## NATURAL REGIONS

To create an EMP that is unique to Stony Plain, it is essential to understand Alberta's distinct landscape. Our province has been categorized into six natural regions: Rocky Mountain, Foothills, Grassland, Parkland, Boreal Forest, and Canadian Shield (Map 2).<sup>4</sup> Each natural region is defined geographically based on landscape patterns, vegetation, soils, and physiographic features. Additionally, wildlife patterns, species habitat, and land use patterns are useful in delineating natural regions. Natural regions are influenced by climate, topography, and geology, and are further subdivided into natural subregions characterized by vegetation, climate, elevation, and latitude within a given region. Stony Plain is within the Parkland Natural Region and Central Parkland Natural Subregion.

Stony Plain is surrounded by Parkland County, which spans across three natural subregions: Central Parkland, Dry Mixedwood, and Central Mixedwood. Stony Plain sits on the edge of the Central Parkland Subregion, comprised of intensively cultivated land and a highly populated area with extensive human settlement. These urban and agricultural patterns have led to this becoming one of the most threatened ecosystems in Canada.



**Map 2. Alberta's Natural Regions.**

Source: ABMI. (2017). *Explore the status and trend of human footprint status by Alberta's Natural Regions. The Status of Human Footprint in Alberta.*



<sup>4</sup> Government of Alberta. (2006). *Natural Regions and Subregions of Alberta*. Natural Regions Committee.



## Landform

The landscape in Stony Plain is characterized by moderately rolling hills with flat-level terrain and cultivated lands that are dominated by agricultural and urban land uses. Despite the modified land uses, there are fragmented remnants of native forests, parkland, wetlands, creeks, and lakes throughout rural areas.

Stony Plain's unique landscape is a result of physical processes such as flowing water, wind, glacial melt, weathering, and the way the earth's crust moves. The dominant landform of the

Central Parkland Natural Subregion consists of uplands with moderate hills (hummocky uplands) formed on substrate (till) created from the retreat of glaciers thousands of years ago (scientifically known as undulating till plains).

Glacier melt left water channels and hills formed from glacial tills throughout Canada. For example, Parkland County has exposed bedrock can be seen lining major watercourses, river valleys that predate glaciers, and river deltas that have formed because of glaciers melting.

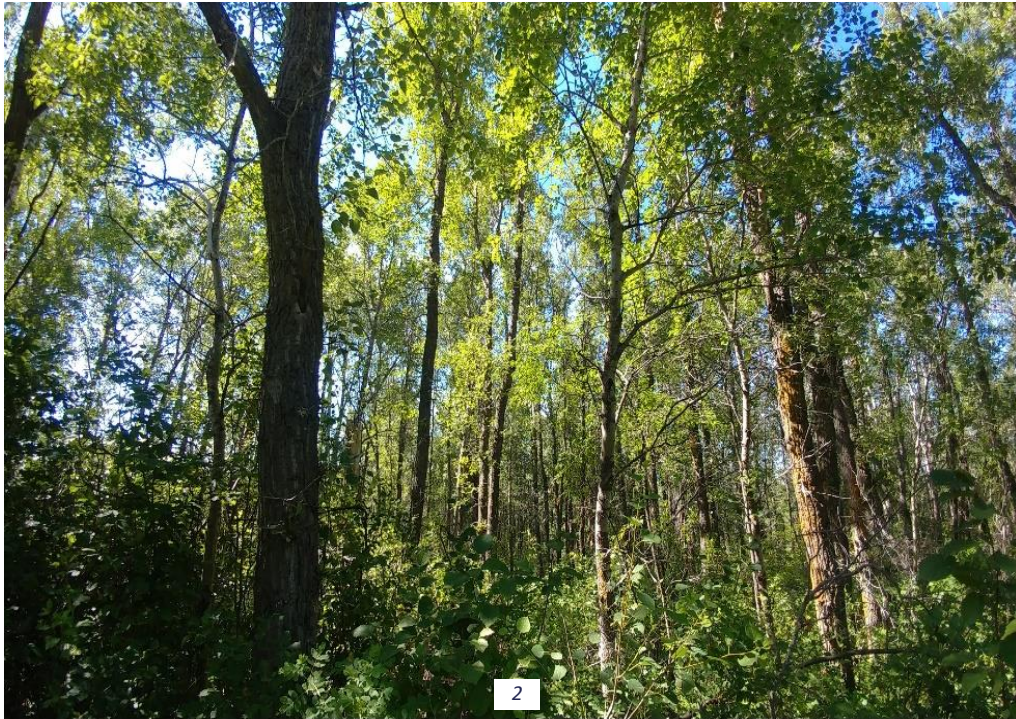




## Climate

The Central Parkland Natural Subregions climate has four distinct seasons with significant seasonal differences ranging from hot to warm summers and severely cold winters. Peak precipitation occurs in July with significant

rainfall in June and August.<sup>5</sup> This climate is highly productive for annual crops because summer precipitation patterns often align with sufficiently warm and long growing seasons in areas with suitable soils.<sup>6</sup>



## Vegetation and Soil

Most of the native vegetation in Central Parkland Natural Subregion and consequently Stony Plain has been intensely cultivated for over a century. Only an estimated 5 percent of the native vegetation remains on the till plains. However, certain areas of the Central Parkland contain fragmented patches of native vegetation in areas unsuitable for agriculture due to topography or soil constraints.<sup>7</sup> Aspen and prairie vegetation occupy the remnant native Central Parkland areas, with some open areas on drier sites. Parkland and open woodlands typically have well

drained and rich soils while aspen communities are associated with moister soils. The Central Parkland mosaic plains have rough fescue grasslands, often with a variety of perennial herbaceous species. Balsam poplar or white spruce are often present with aspen and can be found in moist, rich soil sites with lush, diverse understories. The Central Parkland Subregion is also home to poorly drained soils, comprised of common cattail, sedge or bulrush marshes, and willow shrublands.

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<sup>5</sup> Government of Alberta. (2006). *Natural Regions and Subregions of Alberta*. Natural Regions Committee.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

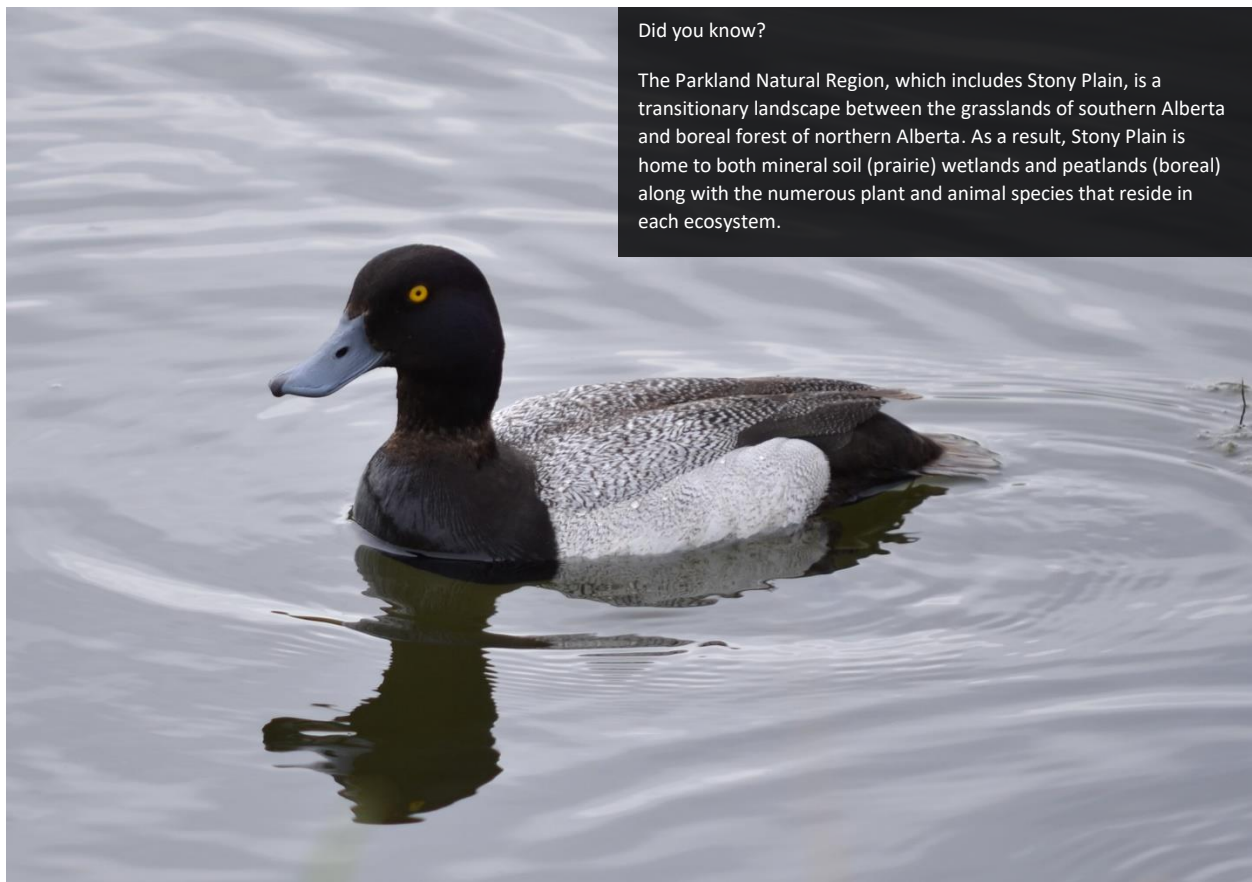


## Water and Wetlands

The region immediately west of Edmonton, including Stony Plain, has many small waterbodies scattered throughout the landscape that includes wetlands, lakes, and creeks. Stony Plain is situated within the North Saskatchewan Watershed and the Sturgeon Subwatershed. Atim Creek, Whispering Waters Creek, Stony Creek, and Heritage Creek are the main waterways running through Stony Plain, eventually connecting to Big Lake and the Sturgeon River. Big Lake is a flood buffer zone for the Sturgeon River and has been identified as an environmentally significant area that provides annual flood protection to St. Albert. As a result of flow into Big Lake, this water system is of combined importance to Stony Plain, Spruce Grove, Parkland County, Sturgeon County, St. Albert, and Edmonton.<sup>8</sup>

Wetlands provide various ecosystem services to the landscape and humans, including, but not limited to, flood mitigation, groundwater recharge, carbon sequestration, biodiversity and habitat, water filtration, and sociocultural benefits.

A mix of peatlands (wetlands with a thick layer of organic matter, such as bogs and fens) and mineral soil wetlands (wetlands with less organic matter, such as open water wetlands, marshes, swamps) are found near Stony Plain. Specifically, treed fens with shallow organic soils are abundant in the northwest part of the Natural Subregion, where Stony Plain is situated.<sup>9</sup>



### Did you know?

The Parkland Natural Region, which includes Stony Plain, is a transitional landscape between the grasslands of southern Alberta and boreal forest of northern Alberta. As a result, Stony Plain is home to both mineral soil (prairie) wetlands and peatlands (boreal) along with the numerous plant and animal species that reside in each ecosystem.

<sup>8</sup> North Saskatchewan Watershed Alliance. (2020). *Sturgeon River Watershed Management Plan*.

<sup>9</sup> Alberta Biodiversity Monitoring Institute. (2015). *Alberta Wetlands – Discovery Field Guide*.

## Wildlife

Central Parkland wildlife is composed of many species of mammals, birds, reptiles, amphibians, fish, and invertebrates. Examples of common mammal species include white-tailed jackrabbits, northern flying squirrels, Richardson's and Franklin's ground squirrels, coyotes, moose, elk, mule deer, and white-tailed

deer.<sup>10</sup> There are over 200 bird species known to inhabit Parkland County, including 25 water bird species. The wetlands of the Central Parkland are prime reproductive habitat for waterfowl birds including warbler species, green-winged teal, lesser scaup, red-winged blackbird, and bufflehead.



<sup>10</sup> Parkland County. (2014). *Environmental Conservation Master Plan*. Phase 1 Background Technical Report.



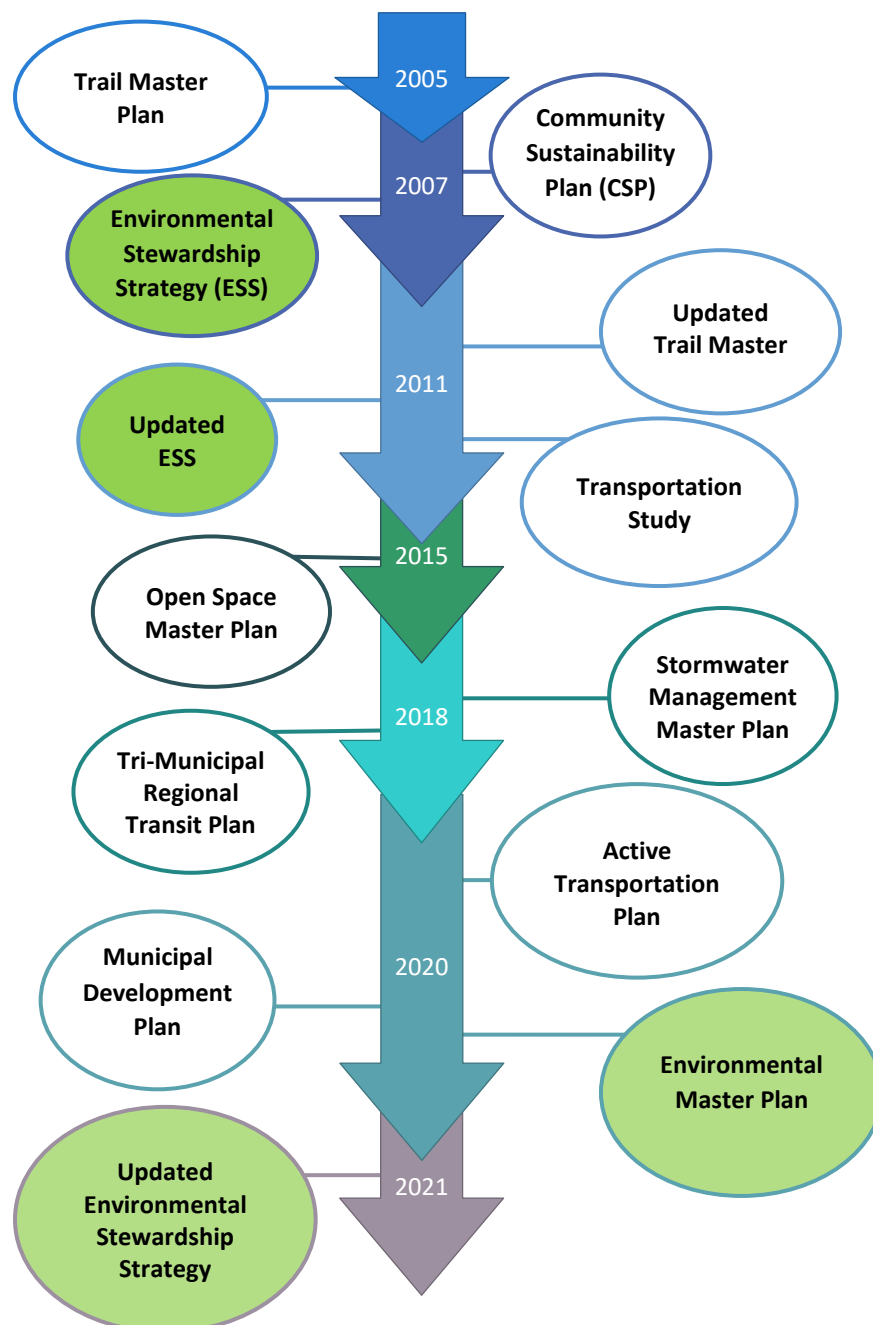




# HISTORY OF STONY PLAIN'S ENVIRONMENTAL STRATEGY

To appreciate the necessity of the EMP, it is important to understand Stony Plain's history of environmental action as a fundamental building block to future success. Environmental stewardship has been engrained in Stony Plain's planning endeavours for over a decade, as seen in Figure 11.

**Figure 11. Timeline of statutory and non-statutory plans that influence environmental decisions.**





## Community Sustainability Plan (CSP)

In 2007, Stony Plain created the Community Sustainability Plan (CSP) to transition to a sustainable future. With a robust participative governance model, the CSP encompassed social equity, economic viability, cultural vitality, and environmental responsibility. In 2014, the CSP was incorporated into the Uniquely Stony Plan Municipal Development Plan (MDP).

## Environmental Stewardship Strategy (ESS)

As an outcome of the CSP, the Stony Plain developed an Environmental Stewardship Strategy (ESS) in 2007. The ESS promoted environmental responsibility and proposed changes for Stony Plain to become a more sustainable community using a holistic planning approach. The ESS identified eight key themes to support the implementation of environmental stewardship: planning and regulation; energy; air quality; waste; transportation; water; procurement; and communication, education, and promotion. Within each theme, several strategic action items were identified. Between 2007-2011, Stony Plain made enormous strides in environmental leadership by improving waste management, energy-efficiency, and water usage standards in the community. The ESS was updated in 2011 to build on the initial environmental actions and steer environmental priorities to make Stony Plain a leader in environmental stewardship.

## Other Municipal Plans

In conjunction with the CSP and ESS, other statutory and non-statutory plans were created to address environmental topics. In 2005, the Trails Master Plan was created to guide future decisions and procedures related to parks, open space, and trail design. The purpose of this document was to create an interconnected recreational trail system to serve existing and newly developing areas within Stony Plain. The Trails Master Plan was reviewed in 2011 to include an updated perspective on environmental stewardship, and to introduce active modes of transportation.

The 2013 MDP identified several directives for the municipality to complete in the coming years, one of which was the preparation of a Parks and Open Space Master Plan. In 2015, the Stony Plain introduced the Parks and Open Space Master Plan to guide the acquisition, development, and management of parks, open spaces, and outdoor recreation amenities to meet the needs of the community over a ten-year timeframe. The resulting visions, goals, objectives, and recommendations provided guidance to implement the Parks and Open Space Master Plan.

## Sustainable Transportation Initiatives

In accordance with the CSP and ESS, the Transportation Study (2011) welcomed sustainable transportation methods into land-use planning. This study was conducted to meet the travel demands and needs of residents as urbanization continues to occur. In support of alternative modes of transportation, the Tri-Municipal Regional Transit Plan was introduced in 2018. In collaboration with the City of Spruce Grove and Parkland County, a unified vision for a future transit service was delivered, including supporting transportation infrastructure and strategies for the region. In 2019, Stony Plain, Spruce Grove, and Parkland County entered into a Memorandum of Agreement on Tri-Region Transit to

implement the plan. For Stony Plain, this will bring a local transit system into its boundary to connect residents to Spruce Grove.

To enhance connectivity within the Edmonton Metropolitan Region, Stony Plain along with Spruce Grove, Edmonton, Beaumont, Devon, St. Albert, Leduc (City), and Fort Saskatchewan came together to seek approval for a regional transit entity. In 2021, the provincial government gave official approval for the establishment of the Edmonton Metropolitan Transit Services Commission. This project has the potential to enhance connectivity throughout the metropolis in a sustainable manner.

Continuing the trend of sustainable transportation, Stony Plain introduced the Active Transportation Strategy in 2020. This strategy provides a framework to improve the active transportation network in Stony Plain, specifically pertaining to sidewalks and multi-use trails. Stony Plain is committed to enhancing active transportation infrastructure, improving connections to community destinations, and promoting public health and safety, environmental sustainability, and social cohesion.

## Stormwater Management Master Plan

As Stony Plain continues to develop, the increase of impervious surfaces and intensifying effects of global environmental shifts have drastically increased the amount of storm water runoff. In 2018, Stony Plain released the Stormwater Management Master Plan to provide a comprehensive review of issues concerning the existing drainage system, along with design standards, and an effective long-term drainage plan to allow future development to proceed in an appropriate manner.

## Creation of the Environmental Master Plan (EMP)

The 2020 Uniquely Stony Plain MDP recognizes environmental responsibility as a critical theme to frame policies to ensure its inclusion in the decision-making process. Consideration for the environment is engrained into policies that guide land use and growth management.

The EMP is an umbrella document that unites environmental components from existing planning documents. While supporting documents will incorporate aspects of environmental stewardship, the EMP will be the overarching document that provides guidance on establishing an environmentally aware and resilient future in Stony Plain. The EMP and the updated ESS provide the necessary policy framework to generate actionable items for long-term implementation and monitoring of environmental progress.









# INTEGRATED ENVIRONMENTAL MANAGEMENT

Throughout Stony Plain's history, there has been a collaborative approach towards environmental management that empowers people, communities, and ecosystems by including them in the governance process. The EMP provides a roadmap to environmental governance that is dependent on integrated management activities through the municipality, residents, and stakeholders. The success of the plan rests on regular implementation of strategies to achieve the vision and policies set forth in the EMP. To ensure long-term prosperity, there must be a collaborative effort with support from the municipal staff, local stakeholders, and community members. Stony Plain's environmental governance protocol must ensure the thoughts and ideas of all contributing parties are heard and reflected in the plan. Therefore, Stony Plain will use a holistic approach to environmental decision-making, commonly referred to as integrated environmental management (IEM).<sup>11</sup>

## ENVIRONMENTAL LAND USE PLANNING

Integrated environmental management improves the process of effective land use planning. The EMP provides a framework for environmental planning that facilitates land use decisions with best practice development methods. To create sustainable communities, the EMP highlights important environmental features to consider when planning for land use. Under the Municipal Government Act (MGA), municipalities can designate developable land as municipal reserve (MR), school reserve (SR), or municipal and school reserve. This land is used for public recreation and the location of schools.<sup>12</sup> In addition, a subdivision authority may require portions of land to be dedicated as environmental reserves (ER) or conservation reserves (CR) based on the existing conditions of an area. ER is dedicated to preserve natural environmental features, prevent negative environmental impacts, prevent development of land where the natural environmental features present significant risk to land use or development, and ensure public access. Examples of lands that are dedicated as ER include swamps, ravines, gullies, floodplains, or lands adjacent to a body of water. CR land can be dedicated for areas that have environmentally significant features, such as wildlife corridors, significant tree stands, or other environmentally significant features a municipality chooses to conserve.

The MGA requires that every municipality in Alberta have a Land Use Bylaw to establish rules and regulations for land development. Stony Plain has chosen to include Natural Conservation Areas as part of the Land Use Bylaw. Natural Conservation Areas are intended to preserve natural landscape and drainage patterns that support ecological landscape services. The EMP promotes the consideration of the existing environment when planning subdivision development, while also providing new guidelines for future land use planning decisions intended for environmental and conservation reserves. The Tussic Area Structure Plan illustrates a good standard for environmental consideration as its design preserves and enhances natural features including realigning Atim Creek to its native state, optimizing tree canopy by maintaining existing tree stands, and connecting open space networks.

Interconnectedness of the green network can be achieved by dedicating ER, MR, and public utility lots such as stormwater management facilities to increasing green space that is comprised of utility, natural, and reactional features. Map 3 displays land owned by Stony Plain and land dedications, illustrating how

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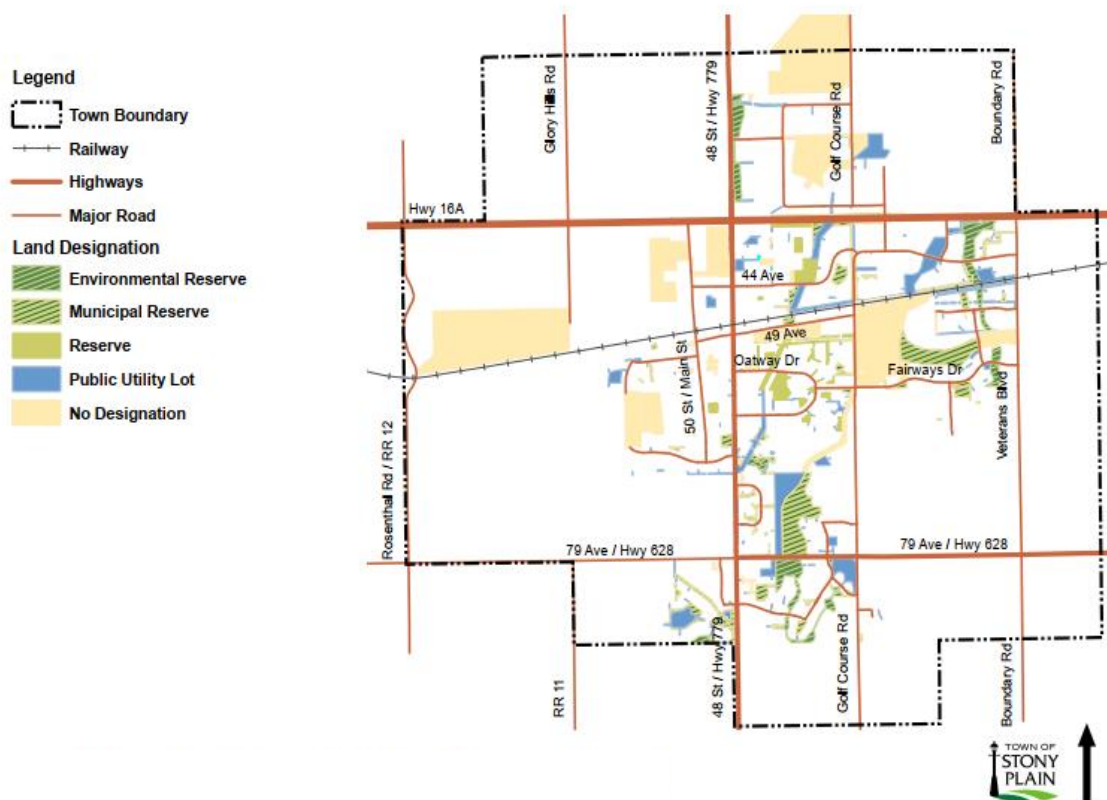
<sup>11</sup> Margerum, R. D. (1999). *Integrated environmental management: the foundations for successful practice*. Environmental management, 24(2), 151-166.

<sup>12</sup> Municipal Government Act, S.A. 2000, M-26.



ER and MR must be in harmony with development opportunities on surrounding lands. The EMP will guide future statutory and non-statutory plans, future Land Use Bylaw amendments, and ensure consideration of environmental planning for proposed development and growth.

**Map 3. Stony Plain’s public lands.**

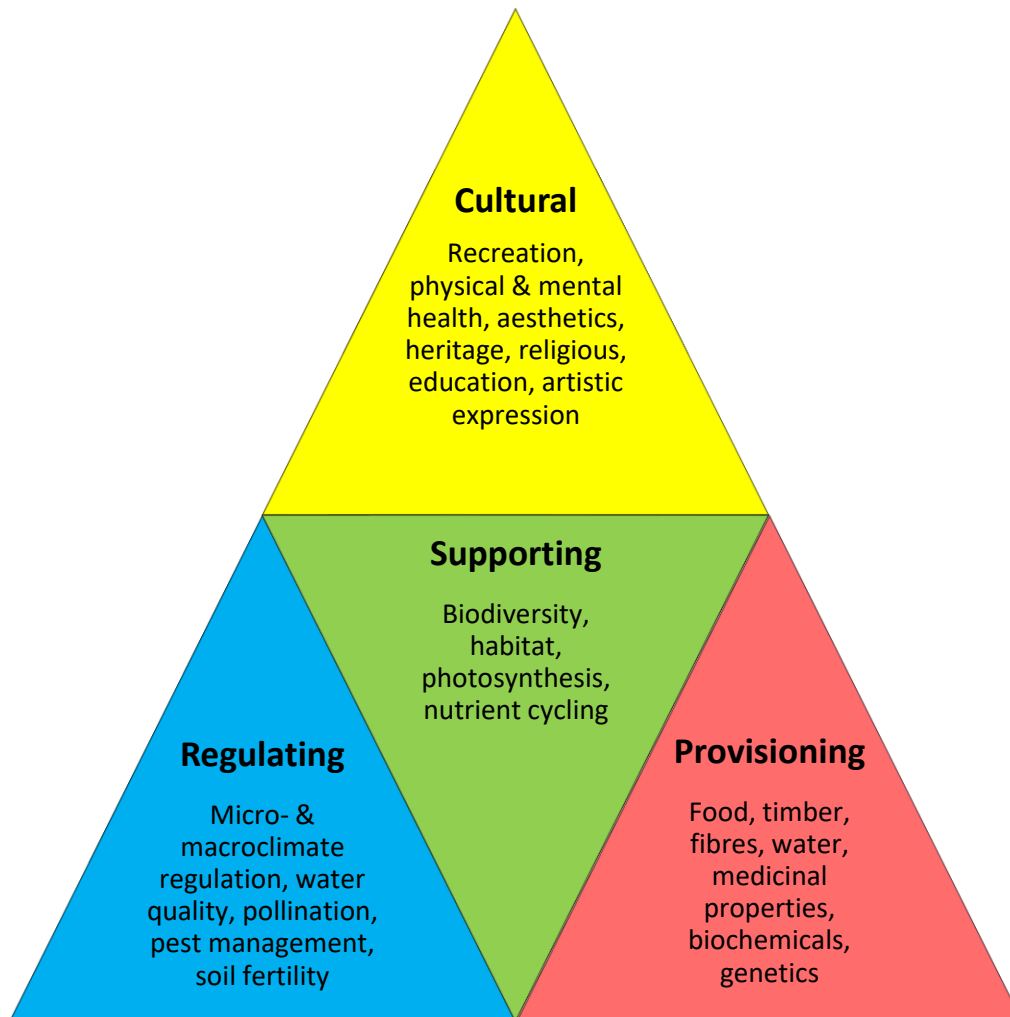


## ACKNOWLEDGING ECOSYSTEM SERVICES

Ecosystem services highlight not only the ecological, environmental, hydrological, and geological benefits of ecosystems, but also associated social, cultural, recreational, and economic importance (Figure 12). As stewards of Stony Plain’s ecosystems, we must recognize our inseparable role in natural, agricultural, and built ecosystems. We must have a holistic understanding that Stony Plain itself, like all urban areas, is an ecosystem where human actions are the main drivers of ecosystem processes. As a result, the acknowledgement of ecosystem services is integral to a holistic planning process. Stony Plain’s urban forests provide noise mitigation; our wetlands filter water, recharge groundwater, and assist in flood mitigation; our native forests are biodiversity hubs and offer recreational opportunities in the form of trails and park space. Incorporating regard for ecosystem services into the planning process will minimize our impact to the environment while ensuring we leverage these services to build a resilient community.<sup>13</sup>

<sup>13</sup> Alberta Biodiversity Monitoring Institute. Ecosystem Services in Alberta. *Ecosystem Services Assessment*.

**Figure 12. The four categories of services provided by ecosystems and their associated benefits.**



## **BUILDING A RESILIENT COMMUNITY**

Like all other urban municipalities, Stony Plain is not immune to environmental extremes. Flooding in the summer of 2019 has demonstrated the vulnerability of our community to severe weather events. While the residents of Stony Plain are renowned for their resilience, it is essential that our infrastructure and assets are ecologically designed to be just as resilient. In the age of drastic environmental shifts in the atmosphere and climate, Stony Plain must take an adaptive approach to prepare for the future. As we continue to expand our built area while the unpredictability of extreme weather continues to increase, we must ensure that environmental planning principles are used to mitigate anticipated impacts. We must leverage our ecological, social, and economic systems to incorporate resilience in all aspects of our existence. Through a combination of engineering and environmental approaches, we can build a resilient community that is able to withstand environmental stressors that Stony Plain may face in the future, including, but not limited to, extreme rainfall events, drought, wind storms, sudden snowmelt, tornadoes, and blizzards.



## THINK GLOBALLY, ACT LOCALLY

Stony Plain takes a proactive role in environmental management and has chosen to take local responsibility, while thinking globally. To think globally and act locally as a community, we will focus on our local environmental responsibility and take action that supports Stony Plain's strategic vision to have a positive global impact. Steps that we take as a municipality now will have a long-lasting impact at the global scale. While these actions may seem miniscule in perspective, by doing our due diligence, Stony Plain sets an example for other municipalities across the region, province, country, and even across the planet. The five themes outlined in the EMP will help Stony Plain make a meaningful impact on the global stage.



**By reducing our reliance on non-renewable sources of energy**, we will help minimize the ecological impacts associated with resource extraction and will lower our GHG emissions as a mitigative measure to the current environmental crisis.



**By using the principles of environmental land use planning**, we will enhance and preserve our urban ecosystems to provide ecosystem services at the local, regional, and global scale.



**By reducing atmospheric pollution within our municipal boundaries**, we will join the global effort to clean our air for human and ecosystem health.



**By conserving drinking water and preserving aquatic ecosystems**, we will reduce the strain on earth's most precious resource – freshwater.



**By proactively practicing the 5 R's of waste management**, we will further reduce environmental impacts associated with production and consumption of goods while preventing waste pollution in ecosystems.









# PUBLIC PARTICIPATION

## ENGAGING WITH THE COMMUNITY

As outlined in our guiding principles, community participation, awareness, and understanding are fundamental to the success of any environmental initiative. By gauging the needs and desires of the community, we can incorporate community-specific environmental issues into Stony Plain's environmental priorities.

Using the Foundations and Techniques of Public Participation (International Association for Public Participation [IAP2]), Administration planned a public participation strategy to engage with residents and stakeholders to determine how they value the health of the environment in Stony Plain.

This public participation strategy was split into two parts: Part 1 (Environmental Awareness in Stony Plain) ran from October 2020 – December 2020 and Part 2 (Environmental Action in Stony Plain) from February 2021 – March 2021.

Through both rounds of public engagement, we received feedback from 105 members of the public and all seven members of Council.

### **Part 1 – Environmental Awareness in Stony Plain**

The Environmental Awareness in Stony Plain survey was available for residents through the Stony Plain website. This survey received 65 responses. Furthermore, Part 1 included a targeted stakeholder workshop with Council, and internal working group meetings with the project team. This part concluded with a summary of the feedback received thus far in the project.

### **Part 2 – Environmental Action in Stony Plain**

Part 2 included follow-up public survey available through Stony Plain's website to confirm what we heard from residents and Council in Part 1 and to gather feedback on actionable items for the EMP and ESS. Furthermore, it included a targeted stakeholder engagement advertised through email and social media with the business and the external stakeholder (land development, consultancy, planning) community to guide final actionable items. Overall, the survey received 53 responses.

Below is a summary of the community's feedback.

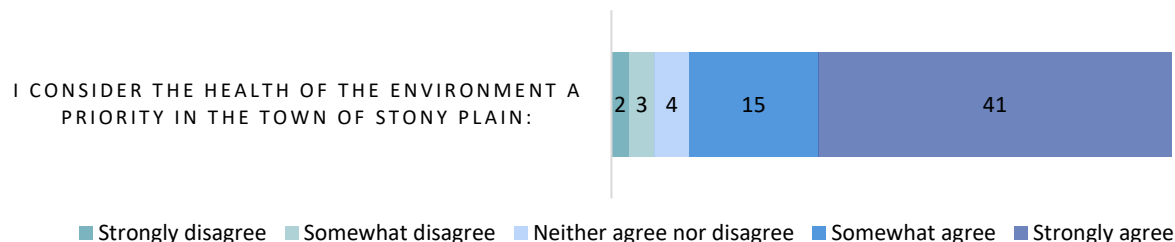
## WHAT WE HEARD

### [Environmental Awareness in Stony Plain](#)

#### *Resident Survey*

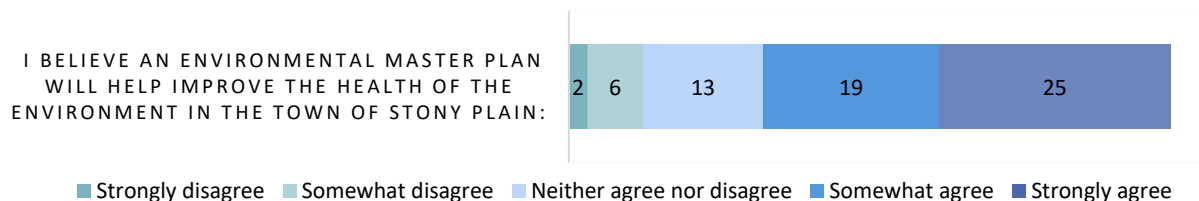
Of the 65 participants, 86% of participants strongly or somewhat agree that they consider the health of the environment a priority in Stony Plain.

**Figure 13. I consider the health of the environment a priority in the Town of Stony Plain.**



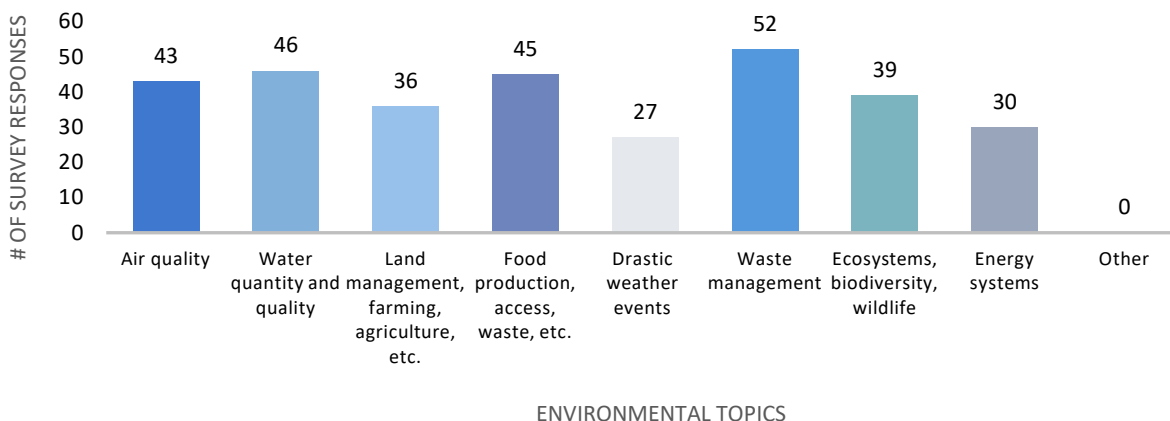
Furthermore, participants had diverse understandings of what it means to be environmentally friendly. Overall, recycling, stewardship of the natural environment, and the reduction of waste came up as predominant themes. While most respondents (67%) strongly or somewhat agree that EMP would be effective in improving the health of the environment in Stony Plain, those who disagreed or were neutral gave constructive feedback that included economic feasibility among other considerations.

**Figure 14. I believe an Environmental Master Plan will help improve the health of the environment in the Town of Stony Plain.**



A predominant theme throughout the survey was waste management. Specifically, 80% of respondents listed waste management as having a large impact on their lives. Other important environmental considerations indicated by respondents were water quality/quantity (71%), food production/access/waste (69%), and air quality (66%).

**Figure 15. In your opinion, which of the following environmental topics have the biggest impact on your daily life?**





Among survey respondents, 62% indicated they participate in community environmental initiatives while 38% did not. Among those who participate, the recycling and composting programs, waste management, and Arbour Day were found to be the most popular.

**Figure 15. Word cloud illustrating responses received when asked about environmental initiatives.**



The 25 respondents who indicated they do not participate in environmental initiatives provided various reasons for why they have not in the past and some proposed solutions for increased participation in the future. Two reoccurring reasons included personal choice and the lack of awareness of environmental initiatives in the community.

Nearly three-quarter of respondents indicated they had ideas for initiatives that the Stony could pursue and cumulatively generated 86 suggestions for potential initiatives. These initiatives are further described and considered in the ESS.

#### *Council Workshop*

Council was engaged through a series of world café-style questions intended to stimulate discussion. Feedback given by Council strongly aligns with the public participation results. A predominant theme Council repeatedly stressed in all the five questions was the importance of education and public awareness. Council recognizes that the Town must reach a broader audience through appropriate messaging and educational opportunities for any environmental initiative to achieve its intended goal. This feedback will guide the restructuring of the EMP and renewed ESS to ensure that public awareness and participation are key aspects associated with all initiatives proposed.

Through this workshop, Council suggested numerous initiatives for the Town to pursue. These are further described and considered in the ESS.

### Environmental Action in Stony Plain

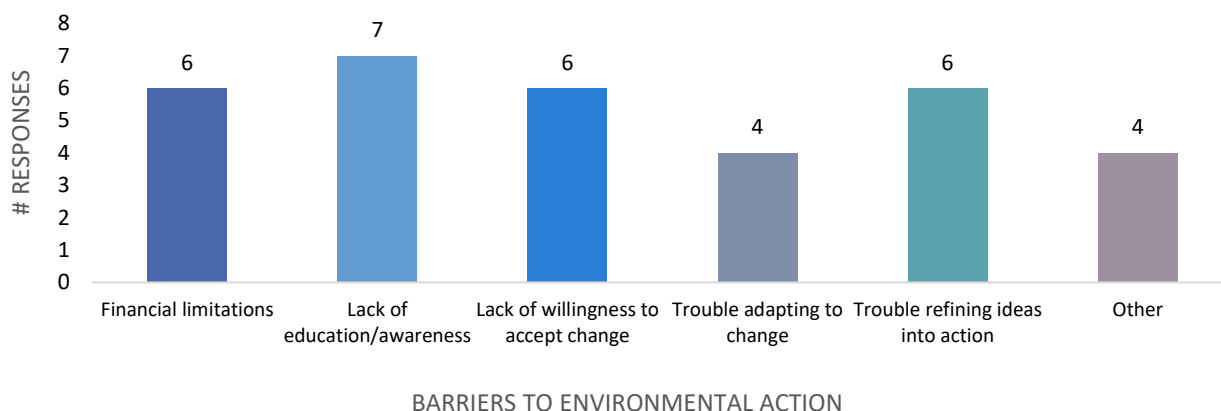
The Environmental Action Survey included follow-up public survey available through the Town’s website to confirm what we heard in Part 1 and the gathering of feedback on actionable items for the EMP and ESS from continued internal working group meetings. Furthermore, it included a targeted stakeholder engagement advertised through email and social media with the business and land development communities to guide final actionable items.

The results of this round of public participation is described through the two stakeholder categories that received the number of responses (residents and business owners/operators). The Council and external stakeholder survey yielded one response each that provided invaluable feedback, but also making it difficult to generalize findings.

#### Residents

This survey yielded 33 responses from residents. Participants indicated numerous factors inhibiting environmental progress in Stony Plain. Among these are financial limitation, lack of education/awareness, lack of willingness to accept change, trouble adapting to change, and trouble refining ideas into action.

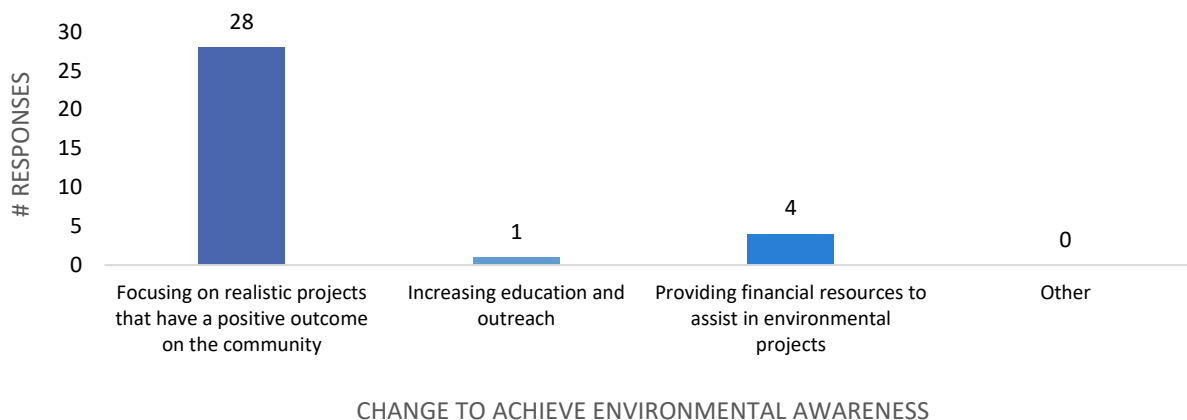
**Figure 16. What do you consider to be the largest barrier to environmental action in Stony Plain?**



When asked what can be done to achieve environmental action in Stony Plain, 85% of respondents indicated that focusing on realistic projects that have a positive outcome on the community was the most successful approach.

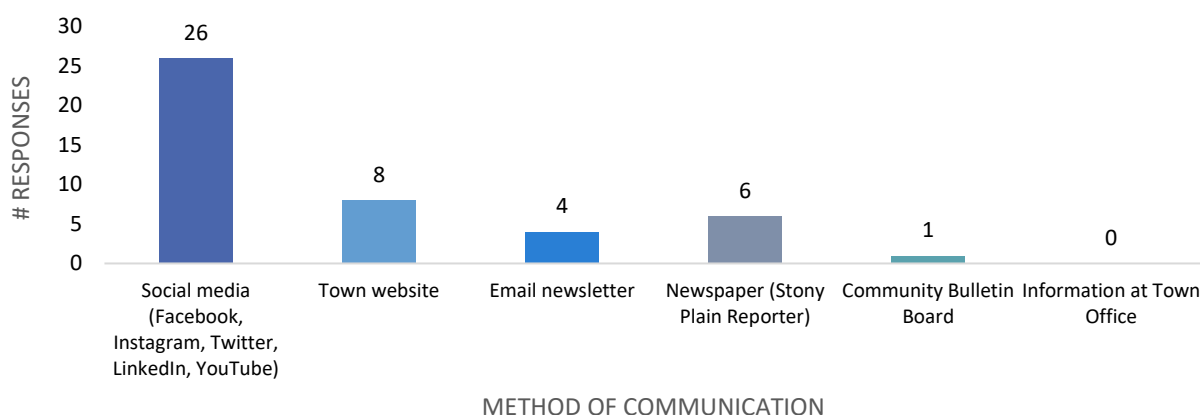


**Figure 17. In your opinion, what change will have the greatest success creating environmental awareness in the community?**



When asked the best method to reach residents with environmentally relevant information, 79% of respondents indicated social media, 24% the Town website, 18% the Stony Plain Reporter, 12% email newsletters, and 3% community bulletin boards.

**Figure 18. What is the best way to reach you with environmentally relevant information?**

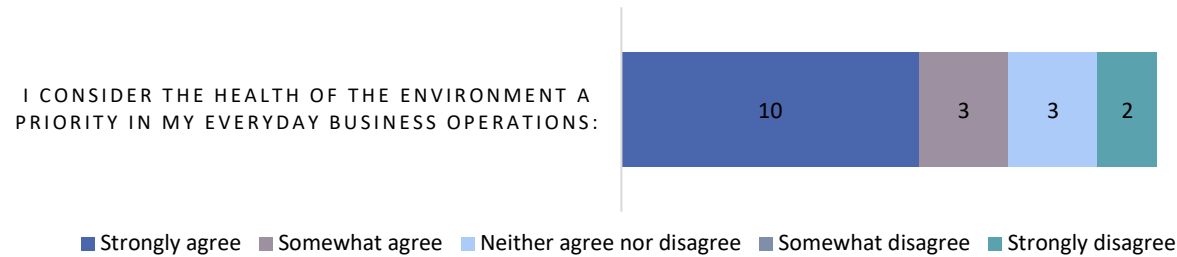


When respondents were asked what actions can be taken to increase participation in environmental initiatives, 63% of respondents who provided suggestions highlighted the importance of public education and community outreach. Financial incentives, making initiatives mandatory, and increasing the ease of waste management were other common suggestions received.

#### *Business Owners/Operators*

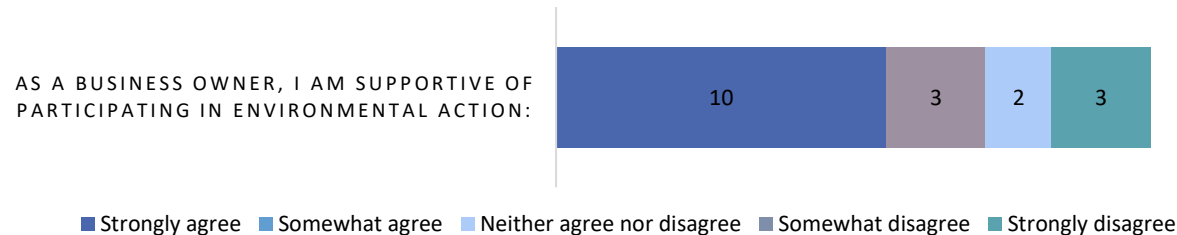
This portion of the survey received 18 responses from business owners and operators. The majority of business owners and operators held positive views toward the prioritization of the environmental action. Among the 18 respondents, 13 (72%) somewhat or strongly agree that they consider the environment a priority in their daily business operations.

Figure 19. I consider the health of the environment a priority in my everyday business operations.



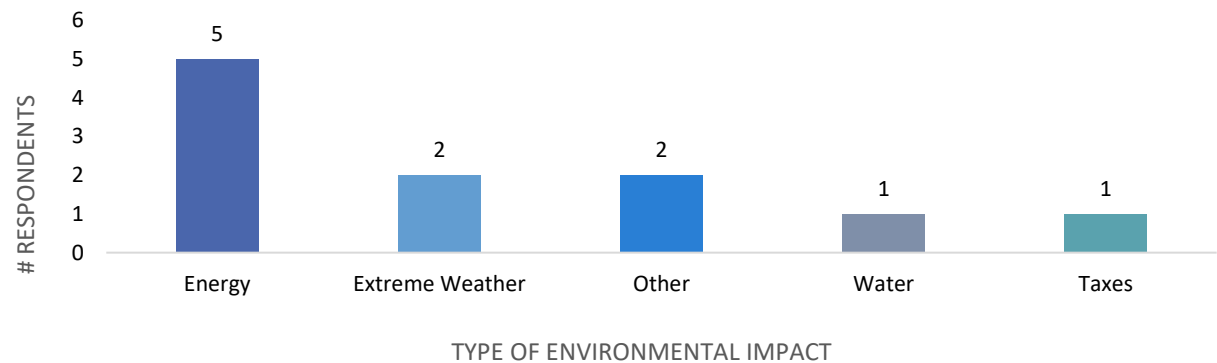
Similarly, 13 (72%) of respondents either somewhat or strongly agree that they are in favour of taking environmental action as a business owner.

Figure 20. As a business owner, I am supportive of participating in environmental action.



Energy systems repeatedly emerged as a key area of concern for business owners/operators. When asked if the environment had an impact on their daily business operations, 61% of respondents acknowledged the specific environmental impacts on their businesses. Energy emerged as a dominant theme with a common concern being the environmental impacts of fossil fuels and the shift to renewable sources of energy.

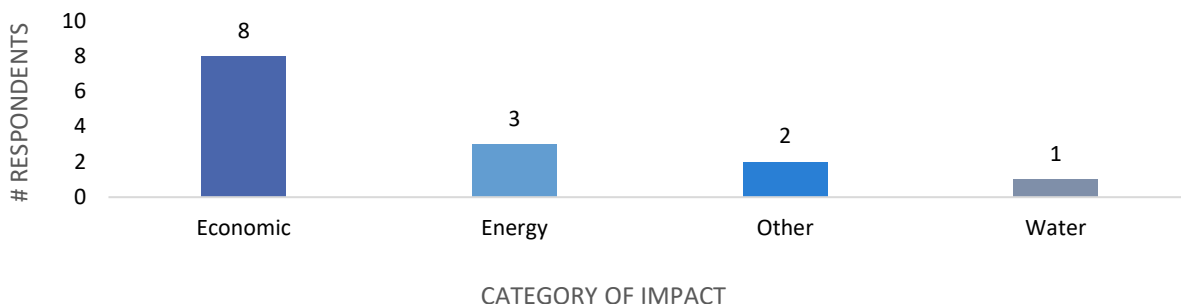
Figure 21. Have changes to the environment had an impact on your daily business operations? If so, how?



Financial constraints caused by environmental factors were also a common impact area. When asked how environmental policy has impacted their daily business operations, 57% of respondents who had been impacted by environmental policy indicated the financial consequences associated with regulations.



**Figure 22. Have changes to environmental policies or standards had an impact on your daily business operations? If so, how?**



The most noteworthy mention was the carbon tax that garnered both positive and negative feedback. When asked if barriers exist that impede environmental progress in the business realm, 13 respondents indicated there were no barriers impeding environmental progress. Of the respondents that did indicate barriers, financial limitations emerged as the common theme.

Business participants generated a total of 17 suggestions for initiatives that were considered in the creation of the ESS.

## IMPLEMENTATION

The key findings of the public participation were implemented into the EMP and ESS in the second round of revisions. Various suggestions, comments, and feedback given by residents, Council, business owners and operator, and external stakeholders provided additional insight required to make both documents unique to Stony Plain. We thank all participants for their role in helping Stony Plain become a leader in environmental stewardship.



# THE ENVIRONMENTAL MASTER PLAN

## VISION

Stony Plain is a vibrant community that retains and integrates its unique character, rich culture, and natural heritage with new growth. As a community, we take responsibility for our environment and commit to ensuring it flourishes/thrives alongside the built environment. We strive to build a resilient community by fostering development that protects and enhances our environment for the benefit of current and future generations.

## THEMES

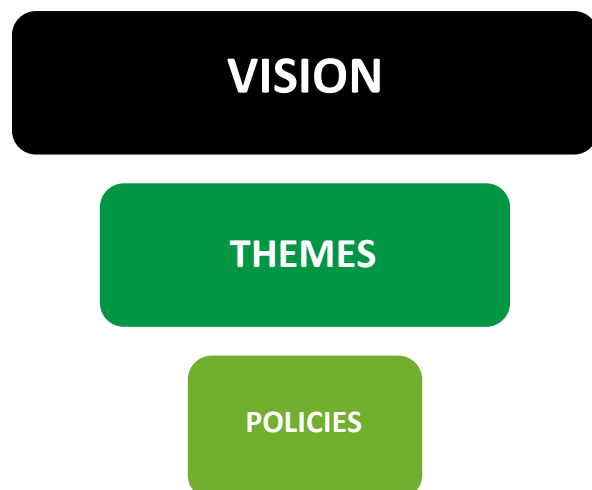
The Vision of the EMP will be achieved through focus areas conceptualized through the five themes:

1. ENERGY
2. LAND
3. AIR
4. WATER
5. WASTE

## POLICIES

Themes are supplemented by policies that identify the direction and priorities for the overall environmental framework. Figure 23 shows the relationship of the EMP framework components. As outlined in the guiding principles, the EMP recognizes that much like the nature, these themes and policies are interconnected. While isolating themes and focusing solely on specific components of the environment is not ideal, this layout allows us to visualize a snapshot of the bigger picture. Themes overlap, and policies associated with a particular theme may partially fall in the domain of another. For example, by limiting our waste production as a municipality, we are indirectly reducing global GHG emissions. As a result, this directly falls under the Waste theme, but has positive impacts on air quality and energy efficiency. Overlap within the EMP framework demonstrates the interconnectivity of environmental processes.

**Figure 23. Relationship between EMP elements.**







**SOLD**

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Planting a tree is a great way to help the environment. Trees provide shade, clean the air, and provide a home for many animals. Planting a tree is a great way to help the environment.

Planting a tree is a great way to help the environment. Trees provide shade, clean the air, and provide a home for many animals. Planting a tree is a great way to help the environment.



# Energy

**Embracing climate leadership to reduce our  
greenhouse gas emissions.**





# ENERGY



Decades of scientific research has suggested that human-sourced greenhouse gas (GHG) emissions contribute to the global greenhouse effect leading to a rise in global temperature, shift in precipitation patterns, and increased unpredictability of extreme weather events.

Conventional energy systems including oil and gas, building operations, electricity, and transportation are the single largest contributors to GHG emissions in the world. In Canada, fossil fuel-based energy is the major source of greenhouse gas emissions, as seen in Figure 24.

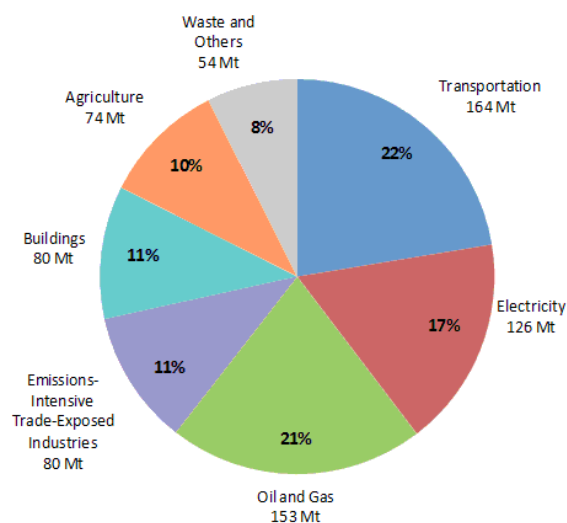


Figure 24. Canada's GHG emissions by economic sector in 2005 (Source: Environment and Climate Change Canada).

To understand the importance of acting locally to reduce the climate-related implications of increasing GHG levels, we must understand the impacts to our province and community.

In Alberta, some of the projected changes through 2100 include:

- A 2°C increase in average winter and 1.5°C increase in average summer temperatures.
- A two-week lengthening of the frost-free season, and between a two to four-week lengthening of the growing season, with more considerable changes in southern locations.
- A 50% increase in the number of very wet days (more than 25mm in 24 hours), and a 20% increase the amount of precipitation on the wettest day of the year.
- Proportional decreases in heating degree-days and increases in growing degree-days.<sup>14</sup>

The increased rate of environmental change will significantly impact Alberta's agriculture, economy, ecosystems, energy demand, and more. It poses questions of how society will adjust with issues of decreased food production, water shortages and ecosystem changes, leaving the earth and its inhabitants vulnerable to the adverse effects.



<sup>14</sup> Hayhoe, K., & Stoner, A. (2019). *Alberta's Climate Future*. ATMOS Research & Consulting

As emissions are a crucial contributor to the climate crisis, Stony Plain continuously works toward reduced emissions through sustainable

transportations opportunities, green infrastructure, and renewable energy sources.

## 1. Energy Policies

### Alternative Energy

*Stony Plain's commitment to energy transition.*

1.1. The Town will explore renewable energy options to reduce Stony Plain's reliance on fossil fuels in the municipal, residential, industrial, commercial, and agricultural realm.

1.2. The Town will strive to minimize and eliminate the use of compounds that deplete the ozone layer.



### Energy-Efficiency

*Stony Plain's commitment to make efficient use of energy.*

1.3. The Town will assess its facilities, vehicles, and infrastructure on an ongoing basis to ensure they are regularly updated improve energy-efficiency.

1.4. The Town will aim to assist the community in upgrading and retrofitting their assets improve energy-efficiency.

1.5. The Town will promote the use of innovative energy-efficient design, engineering, and architecture in new developments.

### Transportation

*Stony Plain's commitment to reducing transportation related emissions.*

1.6. The Town will promote active and low-emission motorized transportation by endorsing active transportation and transit.





## Regional

*Stony Plain's commitment to energy leadership and collaboration.*

1.7. The Town will promote collaboration with neighbouring municipalities, regional organizations, and other orders of government to reduce greenhouse gas emissions at a larger scale.

## Education

*Stony Plain's commitment to energy outreach.*

1.8. The Town will strive to use creative approaches and diverse platforms to educate the community on energy-efficiency and alternative energy sources.

1.9. The Town will aim to use community outreach to encourage residents, businesses, and developers to participate in the transition toward renewable energy resources.



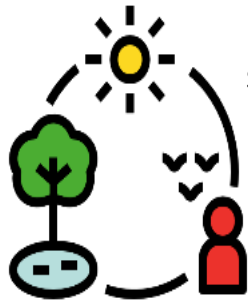


# Land

**Becoming stewards of our native terrestrial,  
agricultural, and urban ecosystems through holistic  
environmental planning.**



## LAND



Stony Plain has numerous ecological landscape features that contribute to a healthy environment for people, plants, and animals. Stony Plain's land and associated

ecosystems can be placed into three categories: natural, agricultural, and urban. Maintaining a balanced ecosystem as an urban municipality can be challenging when faced with various human influences.



### Benefits of Urban Biodiversity

Biodiversity boosts the productivity and effectiveness of ecosystem services on the landscape such as soil fertility, soil erosion, flood control, water treatment, and natural pest control. Enhancing biodiversity in urban

ecosystems is essential to strengthen ecosystem services.<sup>15</sup>

### Planning for Natural Ecosystems

The relationship between human and natural systems is an integral component of planning. Local landscape characteristics and proper ecosystem management preserves species diversity and ensures that ecosystem health is maintained. Biodiversity concerns in urban ecosystems arise when impacts of urban land uses on adjacent natural ecosystems are not appropriately accounted for or mitigated. Conventional land use planning practices have led to the loss and fragmentation of habitat such as forests and wetlands thus reducing the ecosystem services received.

In urban areas, habitat fragmentation disrupts biodiversity because fragments of natural vegetation may be too small or isolated to support species. It is vital to have vegetation corridors linking urban green areas to facilitate movement and enhance biodiversity of species who rely on these natural habitats. Map 4 displays the green spaces and corridors in Stony Plain. To ensure healthy long-term management of land resources, the EMP supports an ecosystem-based management approach. Ecosystem-based management is the integrated management of natural landscapes, ecological processes, physical and biological components, and, most importantly, human activities to maintain or enhance the integrity of the ecosystem.<sup>16</sup>

<sup>15</sup> Savard, J. P. L., Clergeau, P., & Mennechez, G. (2000). *Biodiversity concepts and urban ecosystems*. *Landscape and urban planning*, 48(3-4), 131-142.

<sup>16</sup> Canadian Council of Ministers of the Environment. (2003). *Canadian water quality guidelines for the protection of aquatic life: Guidance on the Site-Specific*

## Urban Ecology

A healthy urban forest regulates ecosystem processes like air pollution, water quality, stormwater flow, and shade.<sup>17</sup> Urban forests also support habitat life and biodiversity, enabling those natural processes to occur. It is vital to encourage the use of native vegetation to promote biodiversity and stewardship of our natural heritage.

In 2015, Biodiversity Canada aimed to have biodiversity considerations integrated into municipal planning by 2020<sup>18</sup>; the EMP supports the goals and targets set by the federal government.

Stony Plain recognizes the benefits from ecosystems such as green spaces, cleaner air, recreation, spirituality, and education, amongst others. We are positioned to play a significant role in developing locally tailored biodiversity

solutions and will continue to implement solutions with guidance from the EMP.

## Agriculture & Food Security

Aside from native and urban ecosystems, agriculture and associated activities is a major land use in Stony Plain that has a noteworthy impact on Stony Plain's undeveloped landscape. A major land management concern identified by residents in the EMP public participation was food security and the loss of agricultural lands. While Stony Plain is fortunate to have never experienced a food desert scenario, Stony Plain residents emphasized the importance of agroecosystems to their town's identity and character. As a result, the EMP fosters awareness and stewardship of Stony Plain's agricultural assets by encouraging development practices that limit the loss and fragmentation of agricultural lands, while promoting urban agriculture within the built area.

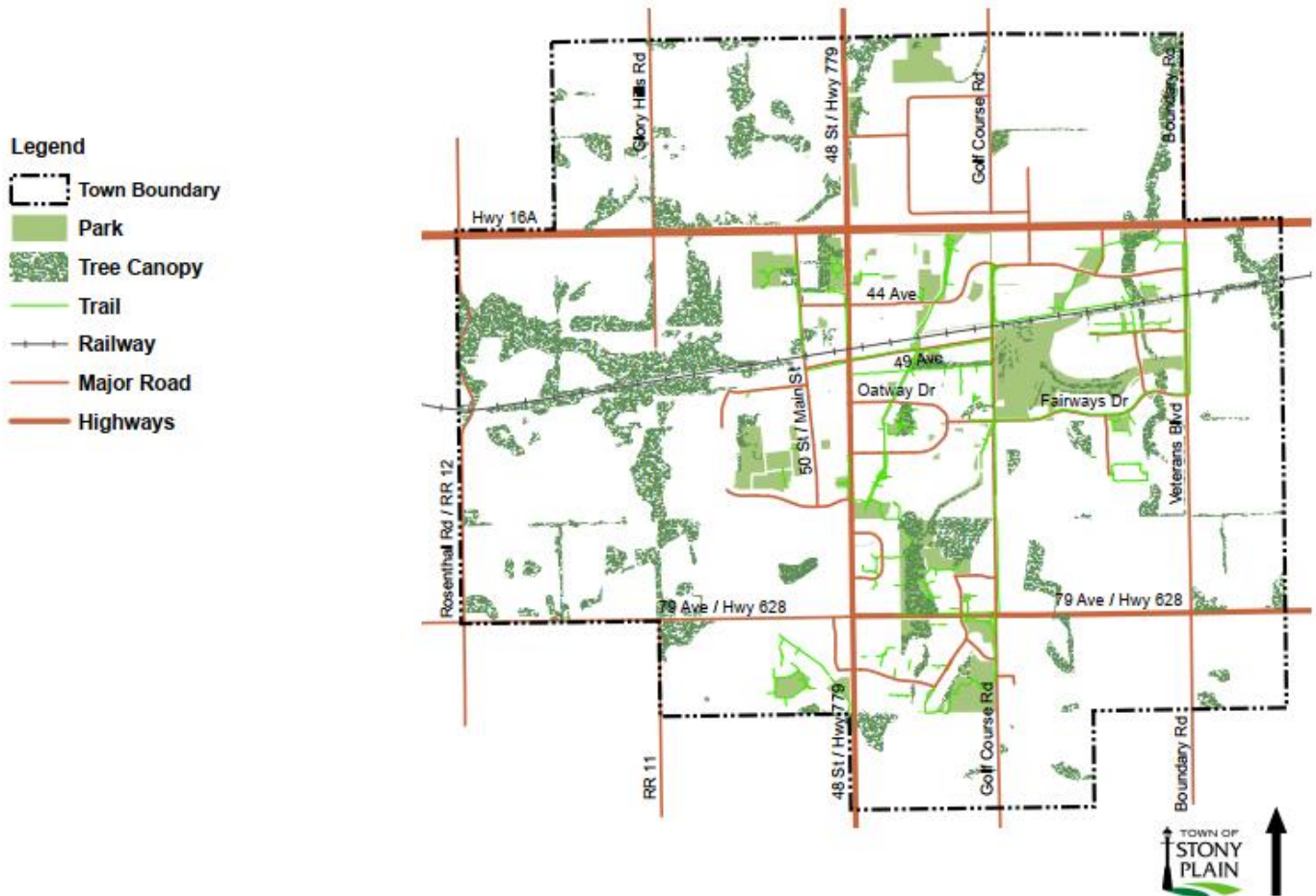


<sup>17</sup> All One Sky Foundation. (2019). *Guide to Urban Forest Management in a Changing Climate*. Edmonton Metropolitan Region.

<sup>18</sup> Biodiversity Canada. (2015). 2020 Biodiversity Goals and Targets for Canada.



Map 4. Tree canopy and open greenspace of Stony Plain.



## 2. Land Policies

### Natural Ecosystems

*Stony Plain's commitment for the stewardship of the natural landscape.*

2.1. The Town will aim to conserve forests, wetlands, soil, biodiversity, vegetation, and environmentally significant natural areas for future generations.

2.2. The Town will aspire to enhance existing natural ecosystems and the Natural Conservation Area through effective ecosystem monitoring, management, and maintenance.



2.3. The Town will aim to protect natural ecosystems from invasive species, pests, erosion, contamination, and pollution through environmental regulations, bylaws, and guidelines.

2.4. The Town will promote the incorporation of existing ecosystems into new developments and encourage development practices that limit ecological disturbance.

2.5. The Town will collaborate with neighbouring municipalities, regional stakeholders, and higher orders of government to manage the health of the regional ecosystem at-large.



### Agricultural Ecosystems

*Stony Plain's commitment to food security and agricultural heritage.*

2.6. The Town will aim to reduce the fragmentation and loss of agricultural lands by encouraging development practices that promote efficient land use.

2.7. The Town will promote urban agriculture at the household- and community-scales to increase local food security.



### Urban Ecosystems

*Stony Plain's commitment to enhancing urban ecosystems.*

2.8. The Town will strive to enhance its urban forest through integrative urban forest management approaches that support the surrounding native ecosystems.

2.9. The Town will aim to enhance its urban biodiversity by increasing habitat connectivity between natural areas, greenspaces, and waterways.

2.10. The Town will leverage the sociocultural benefits of greenspaces and natural areas to improve human health and wellbeing.

2.11. The Town will aim to mitigate the impacts of the urban heat island through innovation in built form, architecture, and vegetation.





## Education

*Stony Plain's commitment to promoting environmental stewardship.*

2.12. The Town will promote the stewardship of Stony Plain's natural, agricultural, and urban ecosystems through public education and involve the community in initiatives and projects that foster the wellbeing of our ecosystems.





# Air

Improving the quality of our air and atmosphere for  
human and environmental wellbeing.



# AIR



Air pollutants resulting from human activities have negative health implications for humans, pets, wildlife, and ecosystems.

The Canadian Environmental Sustainability Indicators Air Pollutant Emissions 2019 report measures pollutant emissions released from human activities.<sup>19</sup> The report highlights six key air pollutants and compares pollutants across Canadian provinces and territories. The six key air pollutants are sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs), ammonia (NH<sub>3</sub>), carbon monoxide (CO) and fine particulate matter (PM2.5).

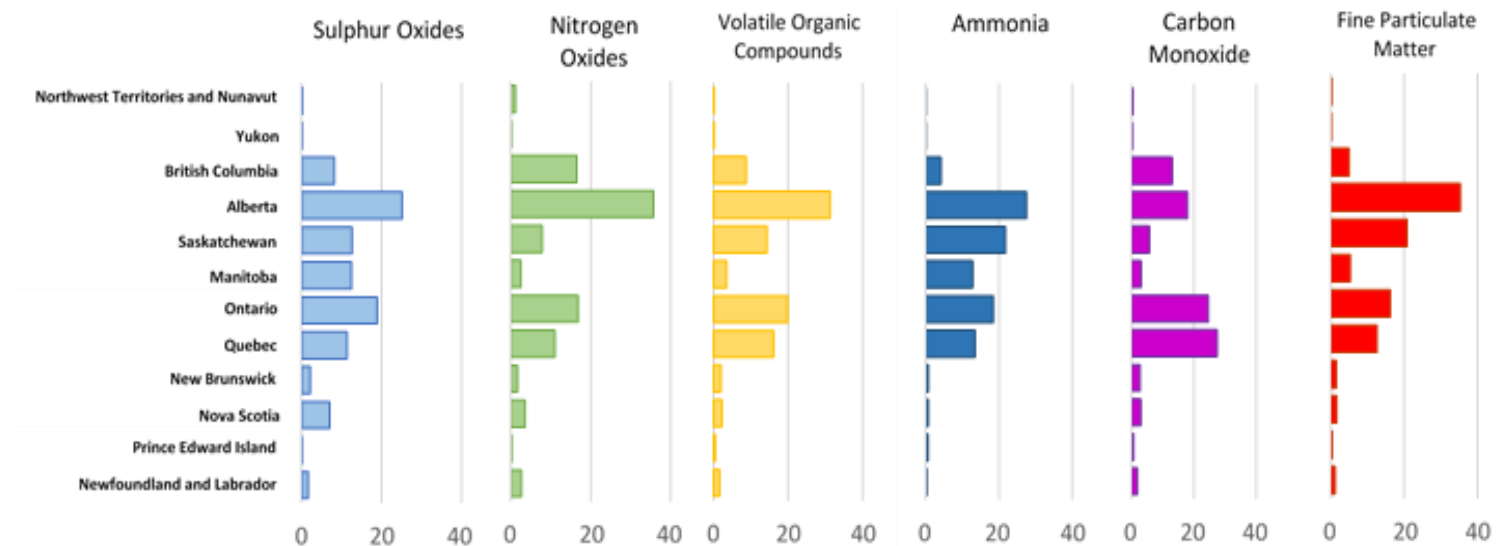
These human sources of air pollutant emissions are predominately produced by transportation,

off-road vehicles and mobile equipment, electric utilities, agriculture, and the oil and gas industry.

Due to Alberta's car dominant culture and large oil and gas industry, the provincial emissions of the six key air pollutants in 2017 were: SO<sub>x</sub> (25%), NO<sub>x</sub> (36%), VOCs (31%), NH<sub>3</sub> (27%), CO (17%) and PM2.5 (35%). Figure 25 reveals Alberta's air pollutant emissions compared to other provinces and territories. Alberta has an extremely high level of SO<sub>x</sub> constituting 25% of national emissions.

The Alberta Air Zones released its fourth annual report on the Canadian Air Quality Standards (CAAQS). This report summarizes the CAAQS status for Alberta's air zones from 2015-2017.<sup>20</sup> The North Saskatchewan zone includes Stony Plain. Zones are measured on a scale of green to red, as seen in Table 1. Stony Plain sits in the

**Figure 25. Air Pollutant Emissions by Province/Territory.**



**Source:** Environment and Climate Change Canada. (2019). *Air Pollutant Emissions Inventory*.

<sup>19</sup> Environment and Climate Change Canada. (2019). *Air Pollutant Emissions*. Canadian Environmental Sustainability Indicators.

<sup>20</sup> Brown, C. (2019). *Alberta: Air Zones Report 2015 - 2017*. Government of Alberta, Ministry of Environment and Parks.

orange management level, indicating that active air management is required to improve air quality and prevent exceedance of the CAAQS.

**Table 1. Alberta Air Quality Levels.**

*Source: Brown, C. (2019). Alberta: Air Zones Report 2015 - 2017. Government of Alberta, Ministry of Environment and Parks.*

Management Level	Air Quality Objective
<b>GREEN</b>	To maintain good air quality through proactive air management measures to keep clean areas clean.
<b>YELLOW</b>	To improve air quality using early and ongoing actions for continuous improvement
<b>ORANGE</b>	To improve air quality through active air management and prevent exceedance of the CAAQS
<b>RED</b>	To reduce pollutant levels below the CAAQS through advanced air management actions.

Particulate matter consists of microscopic particles in the air that have the potential to cause lung damage. According to the report, the North Saskatchewan zone has a particulate matter (PM) measuring 2.5 microns. Such a high PM means that the particles are very fine and easily inhaled with the potential to cause severe health problems.

To further complicate the matter, SO<sub>x</sub> reacts with other compounds in the atmosphere contributing to PM pollution. PM can penetrate deeply into the lungs and harms human respiratory systems.<sup>21</sup> People with asthma or ongoing health issues concerning their lungs are sensitive to the effects of SO<sub>x</sub>. High concentrations of SO<sub>x</sub> have adverse impacts on

the environment and harm fragile ecosystems including trees and plants by damaging foliage and decreasing growth.

Clean air can be easy to take for granted, even though it has a massive impact on our health and wellbeing. As previously mentioned, poor air quality is in large caused by human influences on the environment. Therefore, as our population and economy grow, it is our responsibility to reduce the amount of air pollutants to protect our air quality.

Air quality concerns are not confined to Stony Plain's municipal borders as actions made in one jurisdiction affect others. Air quality is an environmental problem that requires collaboration with other municipalities, regional organizations, and senior orders of governments to devise effective solutions.

Unfortunately, air pollution is not the only environmental concern facing Stony Plain's atmosphere. Light pollution is the excessive use of artificial light and is a side effect of urbanization and industrialization. For Stony Plain, light pollution sources include building exteriors, commercial properties, development, and roads and pathways that have exterior lighting such as illuminated advertising signs and streetlights. While a certain level of outdoor lighting is necessary for safety, lighting is often overly bright and poorly oriented towards the sky rather than illuminating specific areas. Excess clutters of artificial light pollution disrupt the natural patterns of the day to night light flow, ecosystems and wildlife, human sleep patterns, cause harmful health consequences, and increase energy consumption.<sup>22</sup>

Noise pollution from busy highways and railways can cause similar negative effects. Stony Plain is connected to the surrounding region by major roads and highways, including Highways 16A,

<sup>21</sup> United States Environmental Protection Agency. (2019). *Sulfur Dioxide (SO<sub>2</sub>) Pollution*. Air Topics.

<sup>22</sup> International Dark-Sky Association (IDA). (2020). *Light Pollution*.



628, and 779, and via the CN rail line that runs through Stony Plain. Cars, trucks, machines, and trains that use these transportation mediums disperse undesirable noise impacts, causing anthropogenic noise pollution that can impact

resident stress levels and alter the behaviour of wildlife. As animals relocate to avoid noisy areas, this change in animal behaviour can affect the flow of the entire ecosystem.

## 3. Air Policies

### Monitoring Air Quality

*Stony Plain's commitment to collect scientifically reputable air data.*

3.1. The Town will explore innovative air quality monitoring technology to monitor air quality over time to inform future action.

### Improving Air Quality

*Stony Plain's commitment to improving air quality.*

3.2. The Town will strive to reduce the amount of sulphur oxides, nitrogen oxides, volatile organic compounds, ammonia, carbon monoxide, fine particulates, and other noxious air pollutants that are emitted within municipal boundaries to acceptable levels.

3.3. The Town will explore and strive to adopt innovative technologies that prevent the emission of noxious air pollutants within municipal boundaries.

3.4. The Town will aim to adopt bylaws and regulations to control and limit the emission of pollutants within municipal boundaries.

### Regional Collaboration

*Stony Plain's commitment to collaboratively improve airshed health.*

3.5. The Town will aim to collaborate with regional partners to participate in joint initiatives that improve the health of the airshed.



## Education

*Stony Plain's commitment to increasing air-related public awareness.*

3.6. The Town will strive to increase public education on the impacts of air pollution to encourage practices that limit air pollution and improve air quality.

## Noise Pollution

*Stony Plain's commitment to mitigating the impacts of noise pollution.*

3.7. The Town will explore noise level monitoring near railways and major roadways to assess environmental impacts and inform future action.

3.8. The Town will promote inclusion of natural and artificial noise-reduction infrastructure, technology, and architecture to reduce the impacts of noise pollution on humans and the ecosystem.

## Light Pollution

*Stony Plain's commitment to reducing light pollution.*

3.9. The Town will strive to limit the use of unnecessarily bright and non-focused lighting across all municipal infrastructure while maintaining adequate lighting in the public realm.

3.10. The Town will encourage residents and stakeholders to limit the use of unnecessary lighting that contributes to light pollution.

3.11. The Town will aspire to preserve dark sky in natural areas for astronomical skygazing.

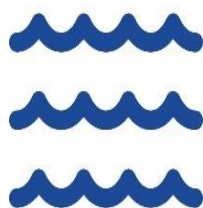




# Water

**Effectively managing earth's most precious resource  
through the efficient use of drinking water and  
protection of local aquatic ecosystems.**

# WATER



Water is a resource, but most importantly, water is a life source and earth's most precious resource. Our quality of life depends on a reliable and sustainable supply of healthy water. As the population of Stony Plain and the Edmonton Metropolitan Region increases, demand for water will continue to rise. Proper water management supports the well-being of citizens and the health of aquatic ecosystems. In Stony Plain, there are several water parameters the EMP must consider: a sustainable water supply, high water quality, waterway conservation, conserving water supply, and the management of stormwater and wastewater. Water policies in the EMP have been designed to meet the goals of the Alberta's Water for Life Strategy: "to provide a safe, secure drinking water supply; to support healthy aquatic ecosystems; and to ensure reliable, quality water supplies for a sustainable economy."<sup>23</sup>

The EMP works in accordance with guidelines from the provincial government. The provincial *Water Act* 2000 (the Act) legislates Alberta's water management to promote conservation for



<sup>23</sup> Government of Alberta. (2003). P.7. *Water for Life: Alberta's Strategy for Sustainability*. Water for Life Strategy.

<sup>24</sup> *Water Act*, R.S.A. 2000, c W-3.

economic prosperity, sustainable management of water use, sustenance of aquatic environments, protection of fish habitat, and management of stormwater.<sup>24</sup>

The purpose of the Act is to promote the conservation and management of water while recognizing the need for economic growth, prosperity, and flexible management that promotes cooperation with governments of other jurisdictions. However, the Act does not directly apply the principles of ecological planning. As a result, it is the responsibility of municipalities to provide a framework for environmental management.<sup>25</sup>

## Water Demand

Alberta has one of the fastest-growing populations in Canada. In the last decade, rural and urban communities have grown at an average rate ranging between 0.5% and 11%<sup>26</sup>, resulting in an increased water demand. Urban municipalities constitute 11.3% of water usage in Alberta, and that number continues to grow as development expands. Although Stony Plain is fortunate to have a safe, reliable, and secure water source, the increasing demand for water requires new infrastructure to accommodate existing and new residents.

## Water Conservation

Stony Plain recognizes that our water supply is finite. Therefore, it is our responsibility to improve water conservation, efficiency, and productivity by acting at the governance and community level. Alberta's Water for Life Strategy set a provincial target for a 30%

<sup>25</sup> All One Sky Foundation. (2019). *Best Practices Approaches for Mainstreaming Climate Change into Water Management*.

<sup>26</sup> Ibid.



improvement in water conservation<sup>27</sup>. As a municipality, Stony Plain can contribute to the provincial water conservation effort through local actions and education.

## Preserving Aquatic Ecosystems

Freshwater ecosystems deliver essential goods and services critical to human existence. This includes drinking water, fish and other aquatic organisms, irrigation water for crops and livestock, and water to support various industrial activities. Additionally, freshwater ecosystems support a diversity of recreational activities, increase aesthetic value to residents, and are deeply rooted in many cultures.

As seen on Map 5, Stony Plain has four major creeks running through municipal boundaries: Whispering Waters, Stony, Heritage, and Atim Creek. These creeks are tributaries to Big Lake and therefore Sturgeon River, ending in the North Saskatchewan River. Our local water system is of regional importance to not only Stony Plain, but also to Spruce Grove, Parkland County, St. Albert, Edmonton, and Sturgeon County. Parkland County identifies Atim Creek as a highly important environmentally sensitive area, referring to “the susceptibility of a site to surface disturbance and its inherent resiliency or ability to be restored back to functioning pre-disturbance ecological condition”.<sup>28</sup> This is caused by its highly erodible unstable slopes and poor soil quality.

Aside from our creeks, wetlands and lakes are also of importance for the purposes of flood mitigation, water filtration, groundwater recharge, carbon sequestration, and recreation. They contribute to the overall health of our

watershed and assist Stony Plain in becoming resilient to the impacts of severe storm events.

Due to our unique environmental context, Stony Plain can play a critical role as stewards of the North Saskatchewan Watershed. Through the preservation, conservation, and enhancement of aquatic ecosystems such as our four creeks and numerous wetlands and lakes, we can become leaders in watershed stewardship.

## Stormwater

Results of a study conducted by the All One Sky Foundation forecasts an increase in warmer and wetter conditions in winter and spring, and drier conditions in mid to late summer. One of the most robust models projects an increase in rainfall intensity, which will have significant consequences for managing stormwater quantity and quality.

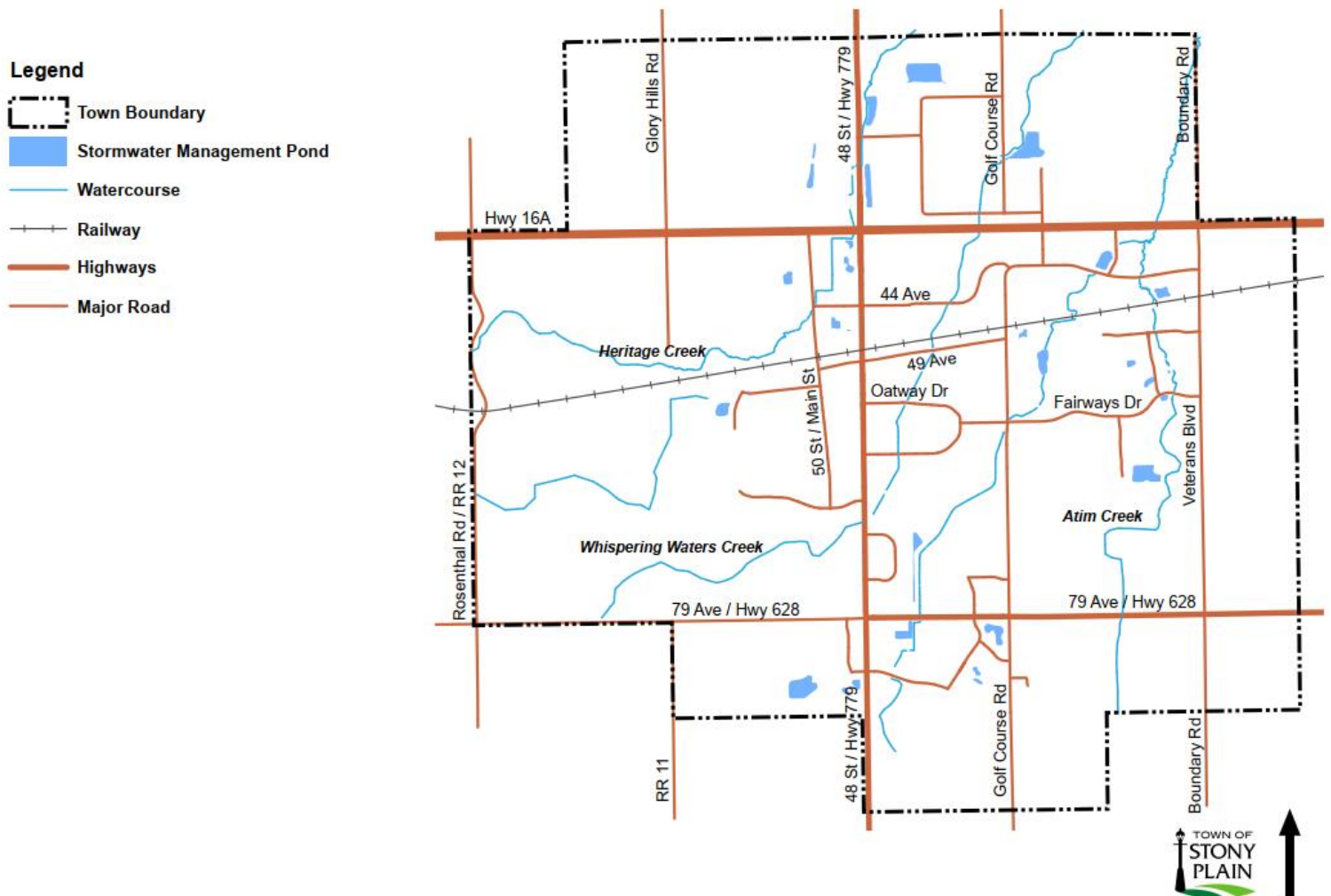
Stony Plain has experienced significant growth and development in the past decades that has led to noticeably higher levels of stormwater runoff from previously undeveloped land. In urbanized areas, natural landscapes are replaced by impervious surfaces, reducing the area where water can percolate groundwater systems. Instead of the natural mechanisms, stormwater runoff is collected by constructed drainage systems and stormwater management facilities to mitigate flooding. Unfortunately, solely relying on infrastructural solutions has placed communities in a vulnerable situation during extreme storm events. This exemplifies the need for ecosystem-based stormwater management practices.

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<sup>27</sup>AUMA. (2020). Water Management.

<sup>28</sup> Parkland County. (2014). p.79. *Environmental Conservation Master Plan*. Phase 1 Background Technical Report

**Map 5. Stony Plain Hydrology.**



Aside from flood mitigation, ecosystem-based stormwater management approaches assist in treating urban contaminants in runoff thus improving the health of the drainage basin. Stormwater runoff and snowmelt carry many pollutants as it flows into freshwater ecosystems. Some pollutants include sediments, fertilizers, harmful bacteria, pesticides, herbicides, heavy metals, and petroleum by-products from vehicles. Polluted stormwater runoff is harmful to plants, animals, and people. It is imperative to consider transboundary water flow to protect natural capital and water security resources. Due to the significant water resources in Stony Plain, it is essential to protect and

improve water quality through proper water management practices.

### Resilience Planning for Flooding

Stony Plain has identified 25-year, 50-year and 100-year flood-prone zones along Whispering Waters Creek, as seen in Map 6. Flood hazard mapping provides data to inform decision-making regarding development in areas with environmental constraints, including opportunities to restrict new development within floodplains and appropriately manage existing developments that may be at risk of flooding.



Map 6. Whispering Waters Creek floodplain zones.



## 4. Water Policies

### Aquatic Ecosystems

*Stony Plain's commitment to the stewardship of watersheds.*

4.1. The Town will seek collaboration with local and regional stakeholders and organizations to improve and maintain the health

of the North Saskatchewan Watershed and Sturgeon Subwatershed.

4.2. The Town will strive to protect, conserve, and maintain native aquatic ecosystems through the monitoring of pollutants, bacteria, leachates, invasive species, discharge rates, and pests.

4.3. The Town will leverage ecosystem services provided by native aquatic systems for the benefits of biodiversity, flood mitigation, and stormwater treatment.

4.4. The Town will aim to ensure stakeholder compliance with provincial and federal water legislation through community education and municipal-level environmental leadership.



## Flood Resilience

*Stony Plain's commitment to increase flood resilience.*

4.5. The Town will discourage development in flood-prone areas, while flood-proofing existing vulnerable areas by combining engineering and ecosystem-based approaches.

4.6. The Town will encourage development practices that reduce the risk of urban flooding through the incorporation of catchment ponds and wetlands, resilient sewer infrastructure, permeable materials, and vegetation.



## Stormwater

*Stony Plain's commitment to properly manage and treat stormwater.*

4.7. The Town will strive to mitigate the negative impacts of stormwater discharge into the drainage basin by monitoring suspended solids, dissolved contaminants, invasive species, and discharge rate while incorporating ecosystem-based solutions for treatment and filtration.

4.8. The Town will comply with provincial legislation regulating stormwater discharge into natural ecosystems.

4.9. The Town will strive to minimize the prevalence of pesticides, herbicides, salts, and fertilizers entering stormwater.





4.10. The Town will encourage property owners to adopt ecosystem-based stormwater management approaches to reduce infrastructural strain on the storm sewer system.

4.11. The Town will strive to educate residents, businesses, and developers on stormwater actions and best practices.

## Water Quality & Quantity

*Stony Plain's commitment to water conservation.*

4.12. The Town will promote the use of water-efficient appliances, infrastructure, and technology in municipal facilities, businesses, and households.

4.13. The Town will aim to properly treat all storm-, grey-, and wastewater prior to discharge.

4.14. The Town will explore innovative technologies to increase the efficiency of water usage.

4.15. The Town will support residents and stakeholders in the transition to increased water-efficiency.





# Waste

Reducing our ecological footprint by practicing the 5 R's of waste management.



## WASTE



Waste is generally referred to as any unwanted material, non-hazardous or hazardous, that is no longer usable. Municipal solid waste refers to garbage, recyclable, and compostable materials from homes, businesses, institutions, and construction sites.<sup>29</sup> Landfills are used as the primary means of waste disposal in Canada. The provincial government monitors waste management facilities and operations while the federal government controls international movements of waste and hazardous recyclable materials. The responsibility of municipal governments is to manage the collection of garbage, recyclable, and compostable materials.

Garbage and the decomposition of organic waste in landfills occupies a significant amount of land and produces GHGs. The main environmental concerns related to landfills are leachates, landfill gas, and the irreversible degradation of the natural landscape. GHG emissions impact air quality and pose a threat to our water resources. Gas is a natural by-product of the decomposition of organic material in landfills that is composed of approximately 50% methane, 50% carbon dioxide (CO<sub>2</sub>), and small amounts of non-methane organic compounds that are harmful to air quality.<sup>30</sup> Methane is a potent greenhouse gas that is 28 times more effective than CO<sub>2</sub> in trapping heat in the atmosphere.

Given that municipalities contribute significantly to landfills, it is our responsibility to pursue

innovative approaches to divert waste from limited landfill space.

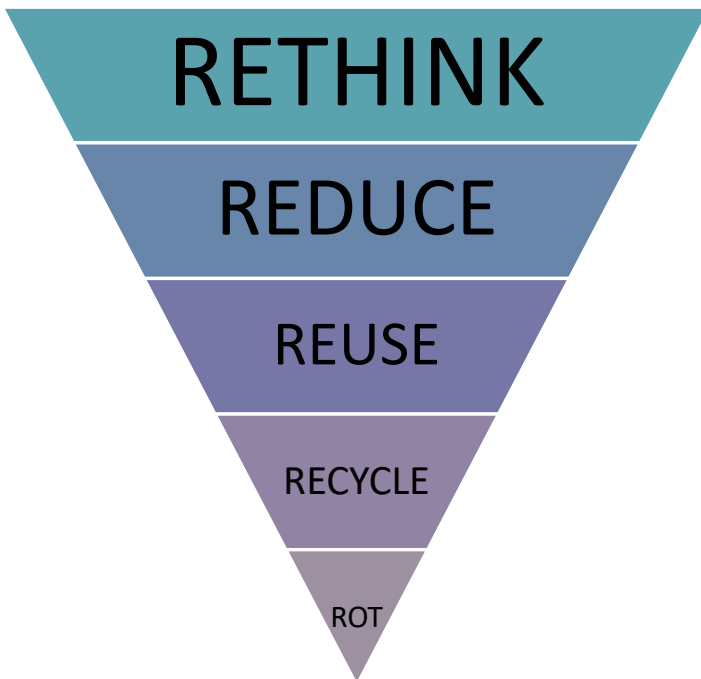
To act locally and reduce Stony Plain's waste management impacts, the EMP adopts the principles of the 5 R's. The concept of the 3 R's, Reduce, Reuse, and Recycle, have been taught as the best approach to waste management. However, there is a new, refined, and holistic concept called the 5 R's: Rethink, Reduce, Reuse, Recycle, and Rot (Figure 26). Adoption of this approach aims to preserve global natural resources, reduce the environmental impacts associated with the extraction of raw resources, reduce greenhouse gas pollution, decrease management costs, reduce energy consumption, and lessen the regional environmental degradation that is caused by landfills. The concept of the 5 R's can be extended beyond waste management to the production and consumption of all goods and services.



<sup>29</sup> Government of Canada. (2018). *Municipal solid waste: a shared responsibility*. Environment and Natural Resources.

<sup>30</sup> United States Environmental Protection Agency. (2020). *Basic Information about Landfill Gas*. Landfill Methane Outreach Program (LMOP).

Figure 26. The 5 R's.



We must **rethink** buying or accepting something that will negatively impact the environment. Refusing a product or service gives consumers the power to advocate for environmental change and influence the market accordingly.

**Reducing** what we use and buy will lessen the amount of waste and energy used. This approach is economically logical and has resulting

environmental benefits. It reduces pollution, minimizes the creation of waste, and mitigates risk to human health.<sup>31</sup>

**Reusing** items for similar or different purposes instead of repurchasing them will replace our reliance on single-use items. Single-use plastics are an example of an inefficient use of resources that has led to numerous environmental problems that can be easily avoided through reuse with more durable materials. By reusing items, we increase the lifetime of raw and synthetic resources that are used, thereby reducing environmental impacts associated with remaking products and slowing the rate that landfills accumulate waste.

If none of the above options are suitable, **recycling** an item through refining or other appropriate processes is an alternative to reduce the amount of waste entering landfills.

Lastly, **rot**, which refers to composting solutions such as municipal green bin programs or indoor vermicomposting to turn food waste and other organics back into nutrient-rich soils. This basic concept can extend to non-organic and plastic wastes through the possibility of energy capture technology.

## 5. Waste Policies

### Rethink

*Stony Plain's commitment to rethinking its consumption of goods.*

5.1. The Town will encourage residents, staff, businesses, and developers to refrain from procuring and using products that degrade the environment.

<sup>31</sup> Government of Alberta. (2020). *Waste reduction and recycling*.





## Reduce

*Stony Plain's commitment to minimizing waste production.*

5.2. The Town will strive to reduce the amount of waste sent to landfills by pursuing progressive innovation in diversion initiatives.

5.3. The Town will strive to conduct regular waste audits to set quantitative diversion, recycling, and composting goals and inform basis for future action.



## Reuse

*Stony Plain's commitment to extending the use of items before disposal.*

5.4. The Town will strive to reduce the amount of waste sent to landfills through reuse, reclaim, and rehome initiatives.

5.5. The Town will strive to collaborate with stakeholders and residents to organize and promote initiatives that allow for reuse, reclaim, and rehome opportunities.

## Recycle

*Stony Plain's commitment to enhance its recycling program.*

5.6. The Town will strive to extend life of raw resources through the collection of recyclables.

5.7. The Town will foster collaboration with regional partners and senior orders of government to deliver innovative recycling approaches.

5.8. The Town will educate residents and stakeholders on items suitable for recycling and composting, and the management of environmentally hazardous products.



## Rot

*Stony Plain's commitment to enhance its composting program.*

5.9. The Town will strive to use its composting program to return food, garden, and yard organic materials to a natural state to sustain ecological processes and agriculture.





## Education and Outreach

*Stony Plain's commitment to community outreach and involvement.*

5.10. The Town will strive to educate the community on items suitable for reusing, recycling, and composting.

5.11. The Town will aim to be open and transparent about its waste management initiatives and will actively attempt to include residents in the decision-making process.



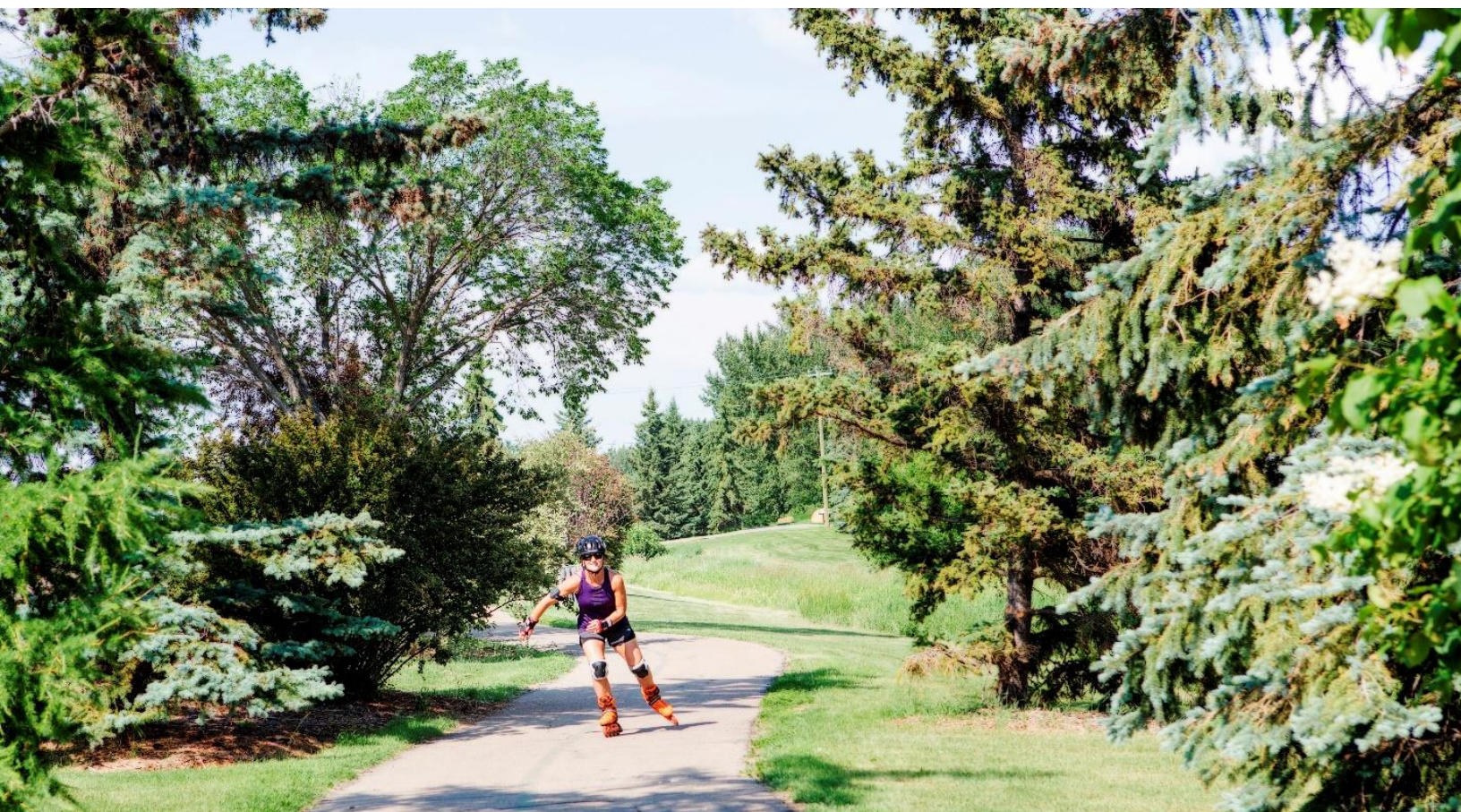


## NEXT STEPS

The policies and framework of the EMP provide a comprehensive roadmap for Stony Plain's environmental success over the next 30 years. The EMP was crafted to summarize Stony Plain's unique context, needs and desires of the community, and policies to encapsulate Stony Plain's environmental priorities in a cohesive document. The EMP will be reviewed and updated every five-years to reflect changing technology, science, and innovation. The implementation of the EMP will be realized through an updated ESS. The ESS will be a living document subject to frequent updates. It will establish specific actions bringing the vision of the EMP into reality and making Stony Plain a leader in environmental stewardship.

## CONCLUSION

Stony Plain is a strong, vibrant community where we respect our heritage, embrace the present, and are excited about our future. As such, the environmental framework established today was crafted with our past in mind, in the present, but for the benefit of the future. In 2020, Stony Plain's Council decided to take ownership and responsibility for the environment and act today for the benefit of tomorrow. With that direction, an EMP unique to Stony Plain was created to reflect Stony Plain's ecological, social, and economic systems. The success of the EMP in achieving its vision will not be determined in the present, but by the next generation of Stony Plain residents who will look back and reflect on the growth and development of their community from an environmental lens. We hope the bricks we lay today will have a positive impact on the health of the environment for future generations.



# GLOSSARY

**Biodiversity:** The variety of all living species, including plants, animals, fungi and micro-organisms, and the ecosystems where they live and interact.

**Climate:** The average year-to-year conditions of weather patterns in an area, including temperature, precipitation, humidity, winds, and air pressure.

**Climate Change Adaptation:** Actions taken to reduce the negative effects and vulnerability of climate change impacts.

**Climate Change Mitigation:** Any action or effort taken to reduce or prevent the impacts of climate change.

**Ecosystem:** The living (animals, plants, microbes, fungi) and non-living (soil, rocks, climate, air, water) components of an environment that interact through nutrient cycles and energy flows.

**Ecosystem Services:** Direct and indirect environmental functions that support tangible goods from an ecosystem (e.g. food, materials), and natural system benefits provided by the ecosystem processes (e.g. clean air and water).

**Environment:** The sum of all surroundings including land, water, the atmosphere, all living species and the interrelationships among them, and the built environment.

**Environmental Asset:** The biophysical environment. Naturally occurring living and non-living components of the earth that provide ecosystem services and are therefore beneficial to human society.

**Environmental Sustainability:** A condition of balance, resilience, and interconnectedness that allows for responsible interaction between species to satisfy needs, while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet needs, nor allowing our actions to diminish biological diversity.<sup>32</sup>

**Green Infrastructure:** An ecological component that is both natural and engineered, and acts as a resilient approach to managing weather impacts.

**Resilience:** The ability of an environmental, economic, or social system to anticipate, absorb, accommodate, or recover from stressors in a timely manner, and maintain function through ensuring preservation and restoration<sup>33</sup>.

**Social Equity:** Fairness and justice in the way that people are treated in promoting good governance.

**Social Equality:** Equal opportunities and the same levels of support for all segments of society.

**Sustainability:** Meeting the need of the present without compromising the ability of future generations to meet their needs.

**Weather:** Short-term changes in the atmosphere. The day-to-day events of outdoor conditions.

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<sup>32</sup> Morelli, J. (2011). Environmental sustainability: A definition for environmental professionals. Journal of environmental sustainability, 1(1), 2.

<sup>33</sup> Intergovernmental Panel on Climate Change (IPCC), 2011



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## **APPENDIX A: PUBLIC PARTICIPATION FEEDBACK**



## *Summary Report*

# **Environmental Awareness and Action in Stony Plain**

**Public Participation Strategy, Results, and Analysis**

**MARCH 2021**



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## Introduction

Sustainability, as it pertains to the natural environment, has been engrained in the Town of Stony Plain's planning process for over a decade. In 2007, The Town of Stony Plain created an Environmental Stewardship Strategy (ESS) to promote environmental responsibility through the identification of themes and initiatives to become a more sustainable community. The ESS was updated in 2011, steering environmental priorities to make Stony Plain a leader in environmental stewardship. These documents, along with the Town's Municipal Development Plan, are used to inform decision-making on land use and development applications.

Over the summer of 2020, the Town hosted a Sustainability Scholar through the University of Alberta to create the Town's first Environmental Master Plan (EMP) with the goal of establishing a cohesive direction for environmental progress. The creation of the EMP was divided into three phases, Phase 1 occurred over the summer of 2020 and involved an extensive review of literature to prepare a draft EMP. Phase 2 began in September 2020 and ran until April. Phase 2 involved public participation and document modifications to incorporate feedback given by the community. Once completed, this project concurrently renewed the ESS as a tool to action and implement recommendations presented in the EMP. In Phase 3, the ESS and EMP appeared before Council for formal acceptance.

While literature reviews and academic research formed the foundation for the plan, it was critical to obtain feedback and insight from the community for incorporation into the EMP to ensure it was appropriate for Stony Plain.

This summary report details the public participation strategy and associated techniques used to communicate with the community about how they value the health of the environment in Stony Plain, the results of what we heard from the community, and how this input is used to inform and implement the EMP.

## Public Participation Strategy

Using the Foundations and Techniques of Public Participation (International Association for Public Participation [IAP2]), the Town planned a public participation strategy to engage with residents in the town to determine how they value the health of the environment in Stony Plain.

This public participation strategy was split into two parts: Part 1 ran from October 2020 – December 2020 and Part 2 from February 2021 – March 2021. Through both rounds of public engagement, we received feedback from 105 members of the public and all seven members of Council.

### *Part 1 – Environmental Awareness in Stony Plain*

Part 1 included a public survey available through the Town's website, a targeted stakeholder workshop with Town Council, and internal working group meetings with the project team. This part concluded with a summary of the feedback received thus far in the project.



## Part 2 – Environmental Action in Stony Plain

Part 2 included follow-up public survey available through the Town’s website to confirm what we heard in Part 1 and the gathering of feedback on actionable items for the EMP and ESS from continued internal working group meetings. Furthermore, it included a targeted stakeholder engagement advertised through email and social media with the business and land development communities to guide final actionable items.

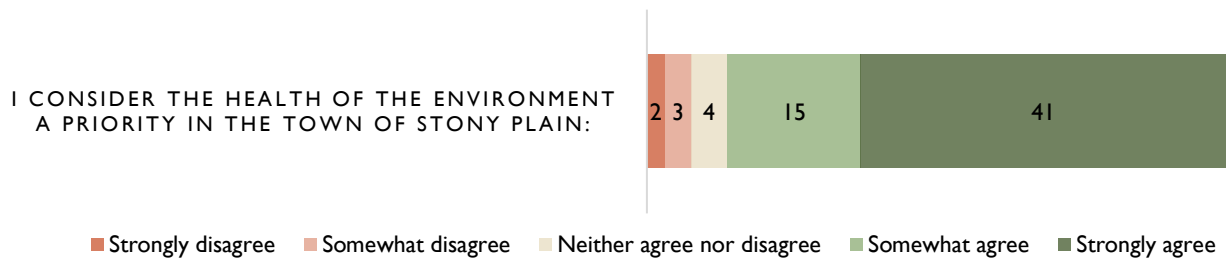
### Environmental Awareness in Stony Plain

Stony Plain’s Environmental Awareness Survey consisted of nine questions, including a mix of value and lifestyle questions. This survey was designed to gather feedback on how residents value the environment in Stony Plain and identify what they deem to be the biggest environmental issues and opportunities in the town.

Administering the survey was the most significant method for collecting feedback related to the health of the environment in Stony Plain; in total, we received 65 responses. The complete Environmental Awareness survey is included as an attachment to this report (Appendix B. Environmental Awareness in Stony Plain). The information below includes the survey questions, the responses received, and analysis of the results.

**Question 1.** I consider the health of the environment a priority in the town of Stony Plain.

This was chosen as the introductory survey question to capture how respondents value the health of the environment in Stony Plain. Acknowledging that people have different values, priorities, and goals for their community, we wanted to ensure all survey participants had an opportunity to contribute to the project despite where they place the health of the environment on their value system.



These responses indicate the majority of respondents (41/65) strongly agree that they consider the health of the environment a priority in Stony Plain, 15 respondents somewhat agree, four respondents neither agree nor disagree, three somewhat disagree, and two strongly disagree.

**Question 2.** What does it mean to you to be environmentally friendly?

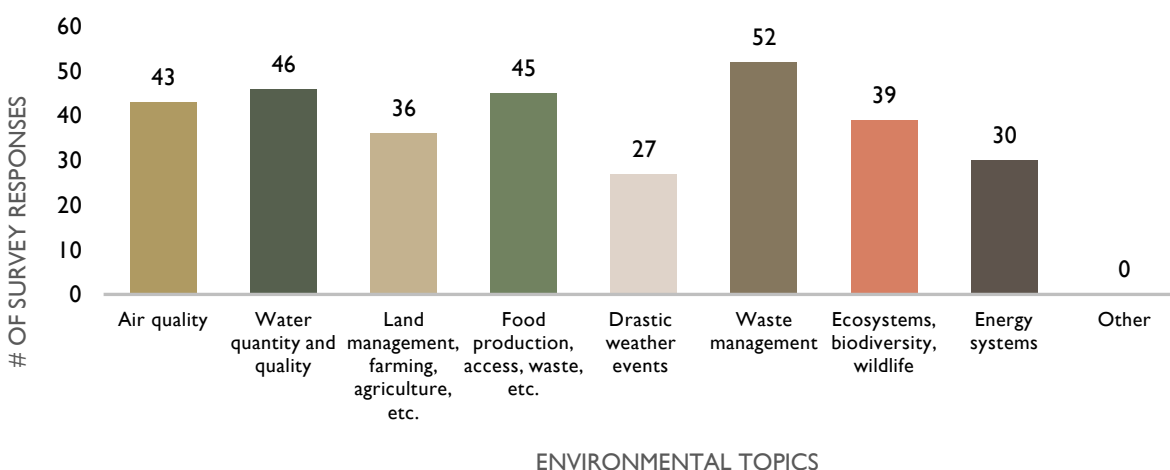
Question 2 was asked to determine what comes to mind when respondents hear the term “environmentally friendly” to determine of what components of the environmental stewardship participants value the most. The top five most used words in the survey responses were **recycle**, **natural**, **waste**, **reduce**, and **environmental**, and were associated with the following terms/phrases:

**Recycle:** reduce, reuse, responsible, efficient.

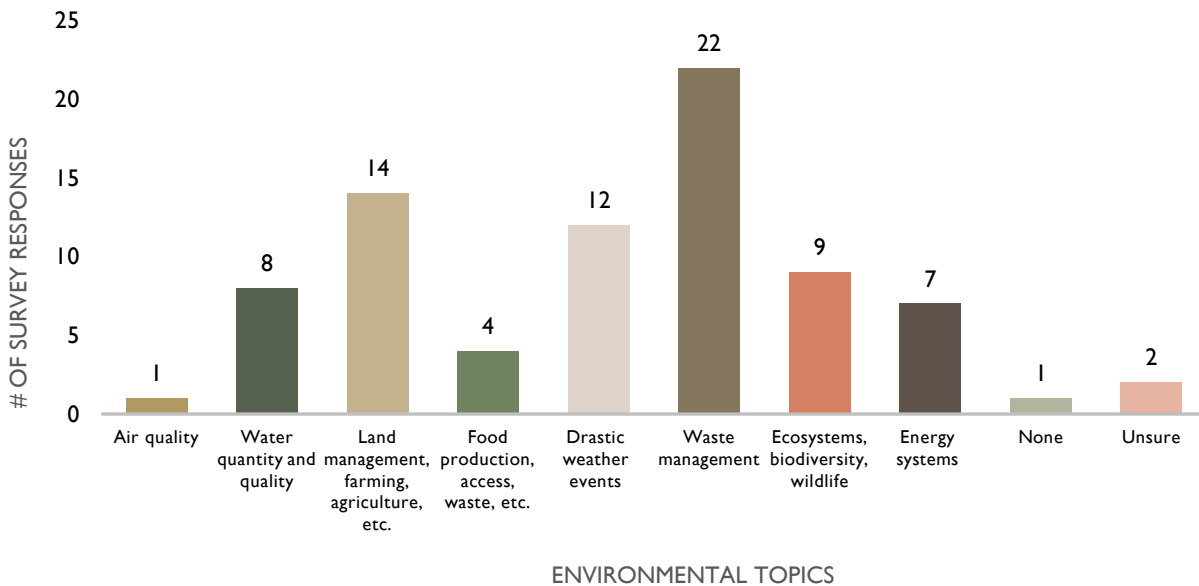
**Environmental:** resources, impact, preservation, programs, friendly decisions, land, innovations in sustainability, sensitive lands, friendly products, footprint.



Question 3 provided insight on what environmental topics impact respondents' daily lives. Responses to Question 3 show that waste management had the highest number of responses (52), with water quantity and quality (46), food production, access, waste, etc. (45), and air quality (43) being the next most selected options.







Question 4. Of the topics previously listed, which do you believe is the most significant area of concern in Stony Plain, and why?

Question 4 was intended to be broad, allowing respondents to select one or more areas of concern and comment on why they believe them to be the most significant in the town. This question provided insight on focus areas for the Town to address in the EMP and ESS.

Responses show that waste management (22) was identified as the most significant area of concern in Stony Plain, with land management, farming, agriculture, etc. (14) and drastic weather events (12) being the second and third most significant, respectively.

For those respondents who provided specific comments related to their topic selection from Question 4, the comments are categorized below:

- Waste management (20).
- Land management, farming, agriculture, etc. (10).
- Water quality and quantity (7).
- Ecosystems, biodiversity, wildlife (6).
- Food production, access, waste, etc. (3).
- Energy systems (3).
- Other (3).

#### *Waste management (20)*

- *It's my opinion that our current waste management system is out of date and too expensive.*
- *If the single use plastic ban goes through, I have to assume recycle bags would be on the chopping block, so possibly providing proper recycle bins, like the garbage and organic.*
- *I believe it is one of the easiest areas to make a productive change for community members.*
- *I've noticed that the amount of garbage and oil in the creeks where the muskrats and birds live is not good. So many people putting food containers and general garbage.*
- *We need better recycling for things like glass.*

### *Land management, farming, agriculture, etc. (10)*

- *So much of our area's excellent farming (crop growing) land has been swallowed up over the decades for buildings, homes, businesses, etc.*
- *We see the community continue to grow and take over farm lands. Urbanization of rural Alberta is very real.*
- *I love the natural grass areas for the wildlife. This is important to keep and encourage when developing.*
- *We need agriculture and farming to be earth friendly to be sustainable.*
- *Farm land and natural lands are an important to our future. Farms to feed us. Natural lands for wildlife and clean air.*

### *Drastic weather events (7)*

- *We're experiencing more heavy rainfall and snow events. It would be good to have more drainage collection areas.*
- *The town should review all drainage areas and adjust according to make sure they can handle a 1-30 rainfall event (or greater).*
- *My basement flooded last year because the street drainage system couldn't handle the rain water.*
- *Drastic weather has been an ongoing issue.*
- *I had my basement flooded three times in the last 6 years.*

### *Water quality and quantity (7)*

- *It is difficult to make a choice but lately (last 2 years) we have had water accumulation and floods, so maybe that is a concern for right now.*
- *Water quality and quantity is always important.*
- *Management of floodways for mitigation of flooding events.*
- *I would like an integrated plan to maintain the waterway for flood mitigation while protecting these sensitive species.*
- *Water and the way its processed and treated with chemicals.*

### *Ecosystems, biodiversity, wildlife (6)*

- *People consistently complain online about coyotes, skunks, foxes, etc. in and near their yards. The town has spread into and bulldozed over said wildlife's homes, so where else are they supposed to go?*
- *Looking after our ecosystems, biodiversity as they will contribute to clean air and clean water in the future.*
- *Stony Plain to us is a great little community with a blend of farming, agriculture. Having the biodiversity and wildlife in our neighbourhood is fabulous.*
- *Maintenance of ecosystems and biodiversity.*
- *I love walking through nature and Stony Plain has areas where nature and residential can be together. Don't destroy it learn to adapt to it.*

### *Food production, access, waste, etc. (3)*

- *Locally sourcing food and consumer products should also be a priority.*
- *Access to locally produced food.*
- *Key interest is more local, organic produce – available year-round.*



### Energy systems (3)

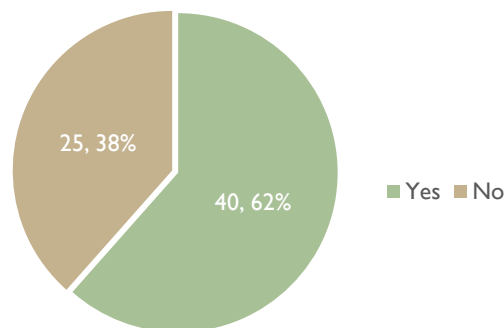
- *Though our environment is currently quite clean, if we continue down the path that we're on there will be no way to avoid the pollution of Edmonton encroaching in our municipality.*
- *Given what is happening in the overall picture of Alberta (shifting away from Oil and Coal) – all of Alberta's municipalities need to think about what that means for them.*
- *Any incentives to help with greener and/or more efficient use of energy would be of great benefit to town residents.*

### Other (3)

- *None of them. I am tired of them all.*
- *They are all significant! Hopefully the town can keep up with the growth enduring all the above are in place.*
- *Town needs to focus on education and accessible resources.*

### Question 5. Do you participate in environmental initiatives in the community?

Question 5 was intended to estimate the proportion of residents that participate in environmental initiatives in the town to gauge the interest in future initiatives. Results show that over half of respondents (40/65 or 62%) participate in environmental initiatives in the community.

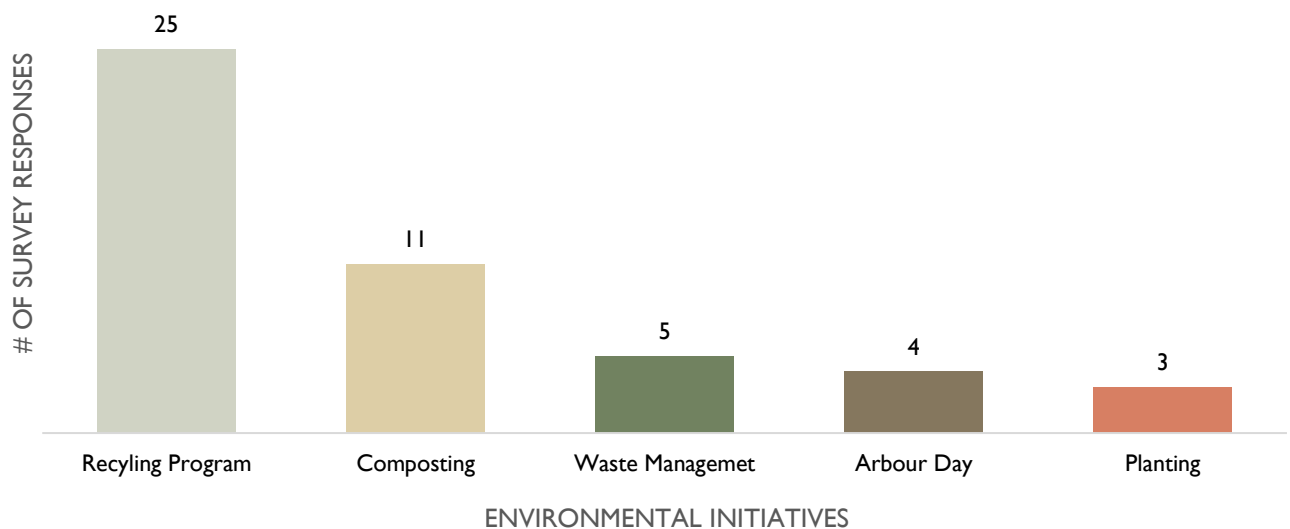


### Conditional questions following question 5:

#### 5a. If yes, which initiatives do you participate in?

Question 5a was asked to determine the popularity of existing initiatives in the community. The top five responses received were:

- Recycling program (25)
- Composting (11)
- Waste management (5)
- Arbour Day (4)
- Planting (3)

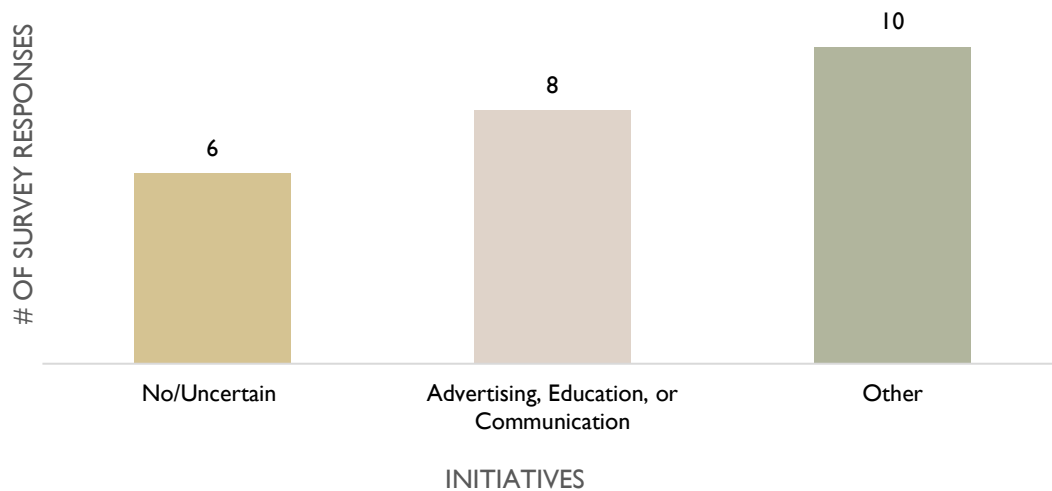


Question 5b. If no, is there anything that would encourage you to participate more?

Question 5b received a total of 24 responses (this question was optional and therefore not answered by all survey respondents). Of respondents who indicated they do not participate in environmental initiatives in the town, received comments are categorized into the following groups:

- No/Uncertain (6).
- Advertising, Education, or Communication (8).
- Other (10).





Due to the length and number of comments received in certain categories, three examples from each category were randomly selected and summarized to present an idea of the topics and ideas that were mentioned.

#### *No/Uncertain (6)*

- *Absolutely nothing.*
- *I'm not sure what is considered an "environmental initiative" in the context of this survey.*
- *Not at this time.*

#### *Advertising/Education/Communications (8)*

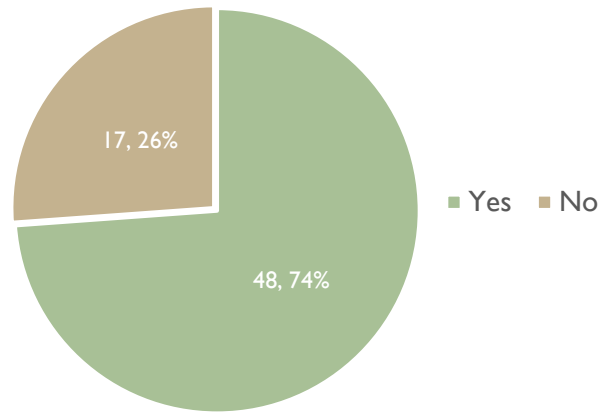
- *Knowing what is offered.*
- *More news, public knowledge about when opportunities are available.*
- *To have a resource to find out how and where to be more involved.*

#### *Other (10)*

- *It's a joke to use the green ideas to take things away and make us pay more taxes.*
- *Bigger spaces for more social distancing.*
- *Unless the problem affects me now or in the future, I don't see myself participating in an organized attempt to "save the environment".*

Question 6. Are there any environmental initiatives you would like to see take place in Stony Plain?

Question 6 helped us determine demand for new initiatives to be adopted. Results show that 48 respondents (74%) have ideas for environmental initiatives they would like to see in Stony Plain.

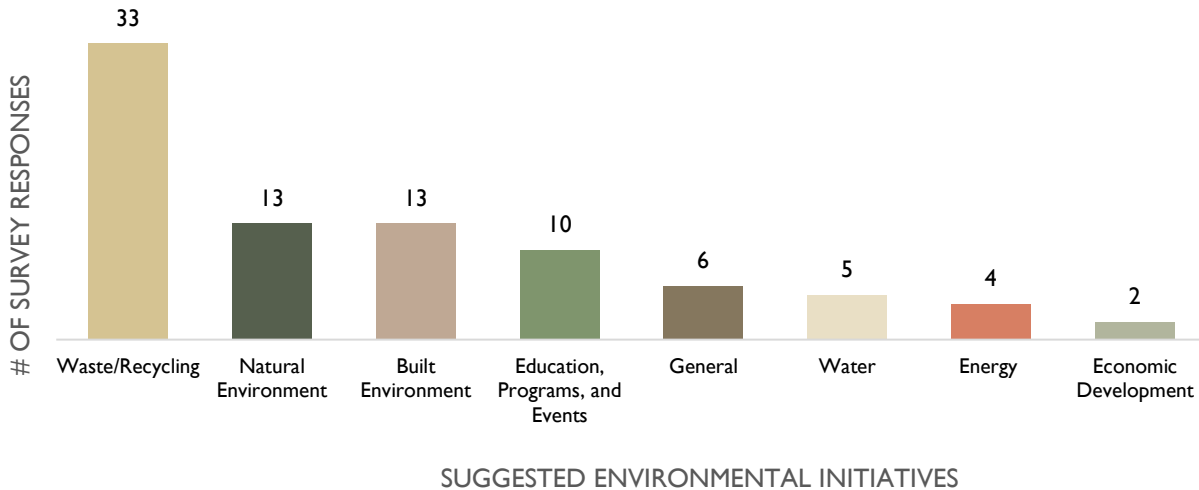


Question 6a. If so, please describe the initiatives you would like to see:

Question 6a was asked to determine potential initiatives residents would like the Town to pursue to inform potential future initiatives. Of respondents who selected that they have ideas for environmental initiatives they would like to see in the town, responses are categorized into the following groups:

- Waste/Recycling (33).
- Natural Environment (13).
- Built Environment (13).
- Education, Programs, or Events (10).
- General (6).
- Water (5).
- Energy (4).
- Economic Development (2).





Due to the length and number of comments received in certain categories, five examples from each category were randomly selected and summarized to present an idea of the topics and ideas that were mentioned.

#### *Waste/recycling (33)*

- *We should be recycling glass and Styrofoam like Sherwood Park and selling them after collection.*
- *More ease of access to the Transfer Station for Stony Plain residents. We already pay a substantial fee for garbage pick-up and have to pay again when we need to take something to the Transfer Station.*
- *Glass recycling and more plastics recycling.*
- *Even more waste management, especially in recycling.*
- *Please provide garbage pick-up service every single week.*

#### *Natural environment (13)*

- *Weed management.*
- *Require developers to set aside at least 10% of every development for greenspace, marshland preservation, and forest preservation.*
- *Preserve land for wildlife; land that cannot be developed in any way other than recreational paths.*
- *Looking after green areas properly.*
- *I would like to see a green space where every year we cut down a spruce tree for the yearly Christmas Tree Light Up, a new seedling is planted in hopes that it will be harvested in the future to continue the tradition.*

#### *Built environment (13)*

- *Change beekeeping bylaw.*
- *Improved crosswalks and sidewalks for those who walk to work/for groceries.*
- *Encourage vegetable gardens for public use in each new development (Griesbach, Edmonton for example).*
- *Keep expanding public transit.*

- *Bike path to Spruce Grove.*

### *Education/programs/events (10)*

- *More public education on what items can be recycled or put in organics, and the impact not using such programs has. Public education on where items placed in the garbage, recycle, and organics actually end up.*
- *Composting program.*
- *Increase information on what can be recycled and diverted from trash cans.*
- *I would like to see participation in community science programs (Christmas Bird Count).*
- *Education around impact of common activities. Trying to reach new demographics with information as our website provides good information but will only be accessed by those who identify a potential issue.*

### *General (6)*

- *Keep good initiatives already underway.*
- *More street sweeping and cleaning.*
- *Fine polluters – industry and vehicles that are not properly maintained.*
- *To become more self-reliant on practices within the community.*
- *Use eco-friendly products in all town facilities.*

### *Water (5)*

- *Water protection.*
- *Better rainwater handling.*
- *Stormwater management and protection.*
- *Flood mitigation.*
- *Recycle rainwater in the Town.*

### *Energy (4)*

- *Solar panels for collection to offset cost of facilities and potentially add to the grid.*
- *Developing/encouraging companies that provide sustainable energy jobs to wean our employment base off non-renewable resources.*
- *Electric car charging stations.*
- *More solar lighting and incentives for alternative energy for residents.*

### *Economic development (2)*

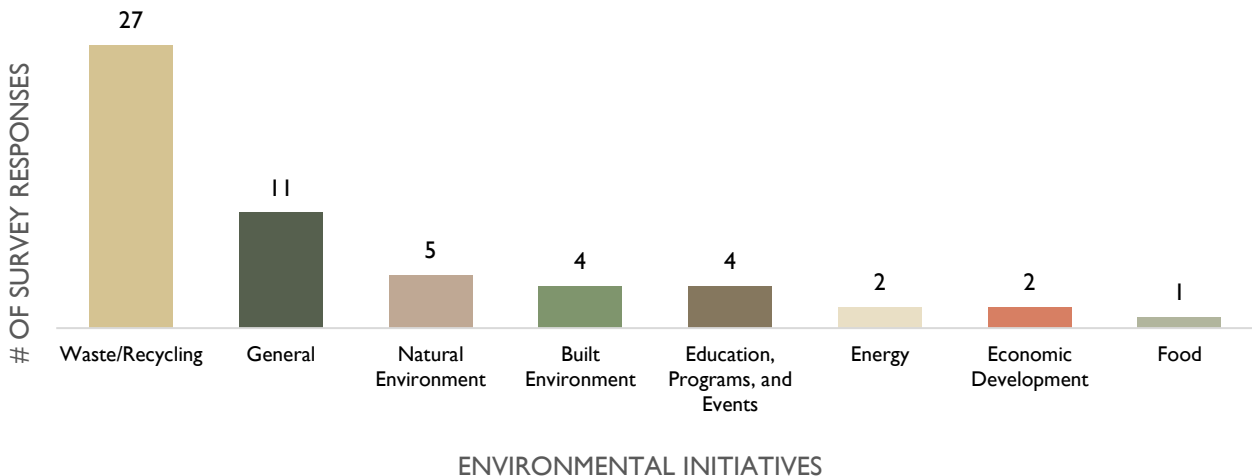
- *Develop and encourage businesses to start up here so we don't 'have' to shop in the city. The Town is responsible to attract, facilitate and keep small businesses and keep their taxes down.*
- *Require builders to build eco-friendly homes, apartments, etc.*

*Question 7. What can the Town of Stony Plain do to help you reduce your impact on the environment?*

This was a conditional question for respondents who selected that they have ideas for environmental initiatives they would like to see in the town to determine how the Town can support residents to become more environmentally conscious. Responses are categorized into the following groups:



- Waste/Recycling (27).
- General (11).
- Natural Environment (5).
- Built Environment (4).
- Education, Programs, or Events (4).
- Energy (2).
- Economic Development (2).
- Food (1).



Due to the length and number of comments received in certain categories, three examples from each category were randomly selected and summarized to present an idea of the topics and ideas that were mentioned.

### *Waste/recycling (27)*

- *Keep the Eco-Station open longer with the E-Waste Sea cans, as it feels as if they are not open for the public to drop off electronic waste.*
- *Offer better options for recycling. The City of St. Albert for example, can take their Styrofoam and glass to their recycling depot. Find out how they are able to do that and give us that opportunity!*
- *I am very glad that regular recycle and organics pick up is a thing here. If there is any way to have more items accepted to be recycled go even further reduce garbage, that would be cool. I do realize this is may not be in the town's control.*

### *General (11)*

- *Quit spending money.*
- *I can't think of anything else especially considering that recycling has been drastically reduced, but that's not the Town's issue.*
- *Continue to provide residents with opportunities to become involved in initiatives.*

### *Natural environment (5)*

- *Allow more areas for wildlife. There are so many creatures around the downtown and surrounding areas and they have nowhere to go.*
- *For tree planting, don't focus on mature trees that cost significant monies to plant, focus on planting more native trees that are smaller, more likely to survive and less expensive.*
- *Encourage xeriscaping gardening in all communities by conserve water program*

### *Education/programs/events (4)*

- *Provide better resources on what can be recycled*
- *Educate more and put incentives in place. Fine those not using household bins properly.*
- *We're fairly self-aware in regards to global problems with environment. We do our best to lower impacts. Provide proper programming and we'll use it, not unlike the recent increase of electronic recyclables.*

### *Built environment (4)*

- *Keep growing public transit and walkable communities so there is less need to drive.*
- *Improve and extend recreational paths so I have alternative and safe means to get around town other than by vehicle.*
- *Expanded bus route to include more of town.*

### *Energy (2)*

- *Diversify electrical sources.*
- *Rebates to help homeowners install environmentally friendly products such as solar panels, water, and power saving water heaters etc.*

### *Economic Development (2)*

- *Continue to support local businesses that reduce the need to leave the community.*
- *Encourage and promote businesses that operate with a low environmental impact.*

### *Food (1)*

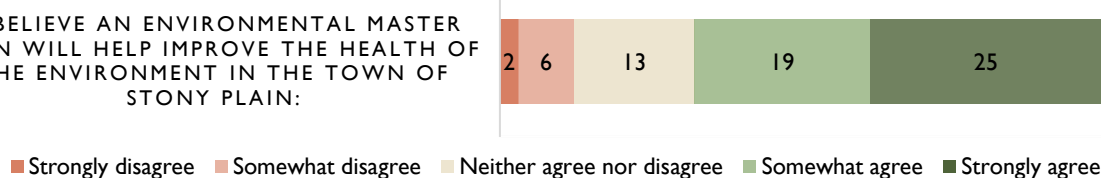
- *Encourage local food sources, products.*

*Question 8. I believe an Environmental Master Plan will help improve the health of the environment in the town of Stony Plain:*

*This question was asked to understand residents' perspectives about the effectiveness of the EMP. Responses indicate that 25 respondents (38%) strongly agree that an EMP will improve the health of the environment in Stony Plain, while 19 (29%) somewhat agree, 13 (20%) neither agree nor disagree, six (9%) somewhat disagree, and two (3%) strongly disagree.*



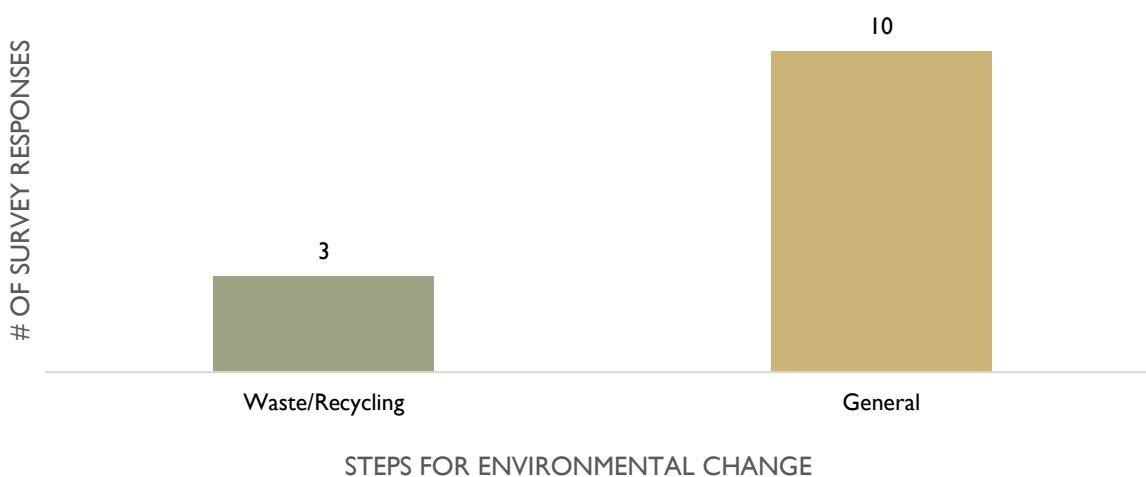
I BELIEVE AN ENVIRONMENTAL MASTER PLAN WILL HELP IMPROVE THE HEALTH OF THE ENVIRONMENT IN THE TOWN OF STONY PLAIN:



Question 8b. If not, what additional steps can we take to create positive, environmental change?

Question 8b was a conditional question intended to provide feedback from those who answered neither agree nor disagree, somewhat disagree, or strongly disagree that an EMP will help improve the health of the environment in Stony Plain. It received a total of 13 responses that we categorized into the following groups:

- General (10).
- Waste/recycling (3).



Due to the length and number of comments received, several examples from each category were randomly selected and summarized to present an idea of the topics and ideas that were mentioned.

### General (10)

- Depends on what that the Environmental Master Plan looks like. I would be happy to be part of this process.
- I don't believe governments should focus on "changing the environment", especially in a global pandemic.
- In my opinion, master plans tend to eat up lots of money and time. Just expand and 'fine tune' the initiatives that are already in place.
- Keep up the green areas we have. Maybe include some more.
- A plan won't make people more responsible or care more. It will just cost money.

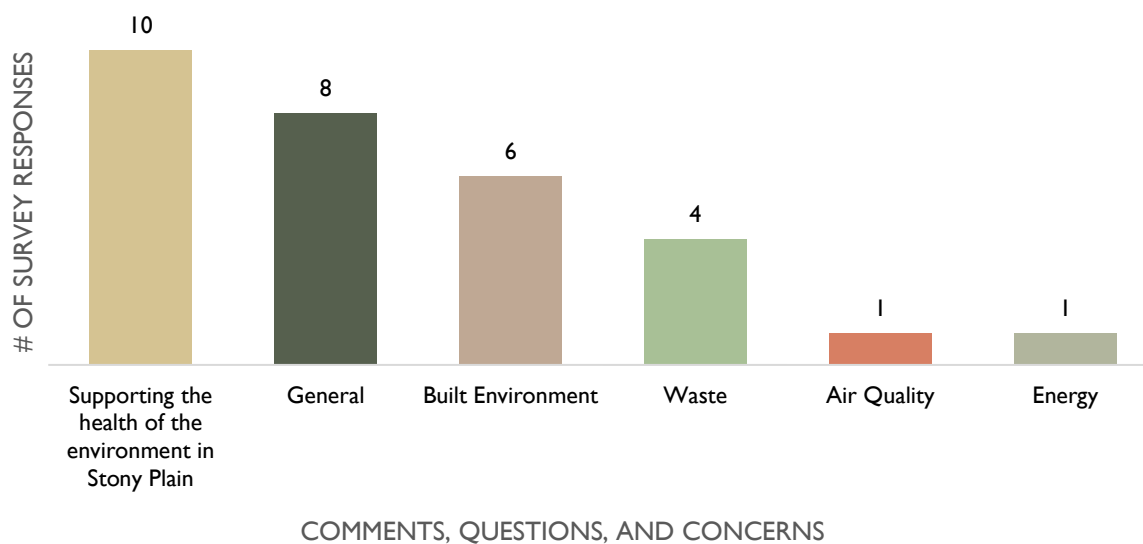
### Waste/recycling (3)

- *Create easier access for recycling and disposal of large items and provide more information about how and when to access these services, and associated costs.*
- *Have larger fines for littering.*
- *Pick up the garbage every week.*

Question 9. Do you have any additional comments, questions or concerns about the health of the environment in Stony Plain?

Question 9 allowed participants to express additional feedback that they did not have an opportunity to share elsewhere in the survey. It received a total of 24 responses (this question was optional and therefore not answered by all survey respondents), which were categorized into the following groups:

- Supporting the health of the environment in Stony Plain (10).
- General (8).
- Built environment (6).
- Waste (4).
- Air quality (1).
- Energy (1).



Due to the length and number of comments received in certain categories, several examples from each category were randomly selected and summarized to present an idea of the topics and ideas that were mentioned.

### Supporting the health of the environment in Stony Plain (10)

- *I feel that Stony Plain is doing a good job with environmental issues.*
- *I love that it's an item the Town is addressing.*
- *I believe Stony has done a great job with its WOW program and water collection and I think we have a great community that would support more environmental initiatives.*



- *I would suggest that now is not the time to be cautious or reserved. It's time to be bold and forward looking. Let's try to recover our position as leaders in caring for our home!*
- *This is an essential aspect of the ability of Stony Plain to thrive into the future.*

#### **General (8)**

- *I picked Stony Plain for the ability to see stars from the comfort of my own home. I hope that it can stay that way, and to continually improve the environment for the better.*
- *I don't consider alternative power sources a way to save the environment.*
- *The municipality needs to consider the environment (air, water, land, plants, animals) in every decision. Being cheap now means paying for it later.*
- *Focus on minor improvements that can be widespread.*
- *Dog-owners who do not clean up and people who burn non-suitable material should be fined. Bylaws only help if they are enforced.*

#### **Built environment (6)**

- *I would like to see the Town continue to work with the Provincial Regulators to complete remediation/reclamation activities on vacant/abandoned lots.*
- *Sidewalks need replacing. Walking needs to be safe.*
- *The land where the development was torn down should be returned to a more natural state to rehabilitate that area.*
- *We really have to get public transit so there is less use of cars.*
- *Replacing non-operational street light bulbs.*

#### **Waste (4)**

- *We should try to reuse and refuse. We recycle. This is more difficult now in supermarkets with Covid.*
- *Pick up the garbage every week.*
- *In my opinion, there are too few garbage cans in Stony, which gives more trash on streets and parks.*

#### **Air Quality (1)**

- *Too much exhaust in the air from vehicles.*

#### **Energy (1)**

- *Encouraging alternate energy light industry to call Stony Plain home. Imagine if we could be the artistic capital of Alberta as well as a hub of alternate energy innovation? That sounds like a great place to live!*

There were other comments received that fell outside of the categories mentioned above. These items included questions about the project or service (included in Appendix C) or comments that the respondent had nothing more to add.

## **Summary of Council Workshop**

Stony Plain Town Council was engaged to provide their perspectives and knowledge on the topic of the health of the environment in Stony Plain. The workshop included a project update, an overview of the public participation process and techniques, and a facilitated discussion around several targeted

questions. Responses and general discussion in response to the workshop questions are presented and summarized below:

Question 1. What does it mean to you to be environmentally friendly?

#### *Accuracy of information*

- Understanding processes and impacts of actions and decisions.
- Education on information and different viewpoints.
- Facts vs. counter facts; the need to understand different perspectives.
- Fact over fiction and how to determine what that is.
- Education on different facets of environmental sustainability.

#### *“What can I do?”*

- Sustainability and self reliance – providing for yourself.
- Be conscious, aware, and mindful.
- Reuse and recycle.
- Incorporate environmental activities in daily life.
- Consider where food comes from and how it is produced.
- Reducing – consider the impact of purchases.
- Care for and value of all living things.
- Protect the environment (pesticides, chemicals, etc.).

#### *“What can we do?”*

- Consider amount and maintenance of greenspace.
- Environmentally conscious (fleet, existing initiatives, etc.).
- Consider rationale for decision-making.
- Consider impacts of land use decisions – “pave paradise to put up a parking lot”
- Foster interactions and opportunities to be in the natural environment.
- Effective resource use.
- Maintain beautiful environments and healthy ecosystems.
- More “conscious” than it is “friendly”.

Question 2. What environmental issues do you experience or hear about in the community?

#### *Recycling/waste*

- More recycling options – garbage reduction (Styrofoam and glass), access to County facility.
- Frequency of garbage pick-up.
- Recycling – convenience is a success.
- Unsightliness of contaminants on private property leading to contamination of surrounding areas.

#### *Land management*

- Weeds maintenance (noxious weeds, spraying vs. not).
- Spreading and treatment of disease in tree species.
- Vehicles and how we are using them – frequency and impacts.



- Maintenance of natural areas.
- Frequency of grass cutting.
- Management of riparian areas.
- Desire for landscaping alternatives (xeriscaping, permaculture, etc.)
- Quality and quantity of water, stormwater runoff

### *Education and opportunities*

- Turning waste into energy.
- Urban agriculture – not permitting chickens or bees.
- Renewable energy.
- Lack of education and communication on initiatives and opportunities.

### *Question 3. What are some challenges and barriers to environmental progress in Stony Plain?*

- Financial limitations.
- Attitude, acceptability, willingness, and receptivity to change.
- Broad issues require priority narrowing.
- Obtaining community buy-in.
- Need to gain insight on what the community wants, needs, thinks.
- Incorporating environmental progress in areas that are already developed and designed with existing infrastructure and constraints.
- The need to be adaptable to rapid change all around us.
- Education needed to explain the “why”, the outcome of changes and initiatives, and the history of changes that have already occurred.

### *Question 4. Please identify areas of improvement you think could increase environmental progress in our community:*

- Education.
- Land use and how we promote it.
- Identifying areas of the town for specific purposes; would certain areas be better used for a different purpose?
- Ensuring leadership and direction reflect community desires.
- Identify and address things that spread (noxious weeds, invasive species, etc.).
- Opportunities and education around urban agriculture.
- Mechanism for residents to report issues in the community, more education.
- Educate how issues impact people, make things relatable.

### *Question 5: Are you aware of initiatives in other municipalities that we could implement in Stony Plain?*

- Weigh scales on garbage trucks.
- Waste to energy.
- More education on specific programs and initiatives.
- Extended producer responsibility.
- Urban agriculture.

#### Question 6: How can we increase environmental awareness/progress in our community?

- Virtual Council Tradeshows on specific subjects.
- Messaging with more visuals to increase understanding of people seeing what the impact on a given issue is.
- Focus on tangible outcomes that the community can see and understand.
- School programs.

#### Summary of Results

Overall, feedback given by Town Council strongly aligns with the first round of public participation results. A predominant theme Council repeatedly stressed in all the five questions was the importance of education and public awareness. Council recognizes that the Town must reach a broader audience through appropriate messaging and educational opportunities for any environmental initiative to achieve its intended goal. This feedback will guide the restructuring of the EMP and renewed ESS to ensure that public awareness and participation are key aspects associated with all initiatives proposed.

Through this workshop, Council suggested numerous initiatives for the Town to pursue. Many of these initiatives include waste management, ecosystem/greenspace management, water quality/quantity, and urban agriculture. Combined with feedback received from the community, we will craft various initiatives that work to improve the Town's environmental portfolio and minimize its ecological footprint. Most importantly, Council pointed out constraints associated with environmental progress in Stony Plain. The two major concerns were financial limitations and community reluctance to buy-in. Both constraints will be considered while finalizing strategies for the ESS to ensure that the most feasible and desirable, yet impactful initiatives are prioritized.

### Environmental Action in Stony Plain Survey

The Environmental Action in Stony Plain Survey consisted of two parts: a follow-up with residents and Council, and a targeted stakeholder engagement with the business and land development community. In total, we received 53 responses, of which, 40 were new voices who had not participated in the Environmental Awareness Survey. Each stakeholder group was directed to a separate survey dependent on their response to the second question that asked respondents to identify their role within the community. The complete survey can be viewed in Appendix C.

Feedback from the four stakeholder groups and the associated survey findings are described below.

#### Residents

The resident survey was a follow-up to determine if residents agreed with the conclusions drawn from findings of the Environmental Awareness Survey. Furthermore, the survey focused on predominant issues raised in the previous survey and provided an opportunity to obtain additional feedback. We received 33 responses from residents.

#### Council

The Council survey was designed to summarize specific findings from the Environmental Awareness Survey and provide the opportunity for Council to add comments based on their interactions with the community. We received one response from Council.

#### Business Owners and Operators



The business owner and operator survey was intended to understand the needs and desires of the local business community pertaining to environmental awareness and action. The questions were designed to gauge the receptiveness to environmental action, while providing opportunity for suggestions and comments. We received 18 responses from business owners and operators.

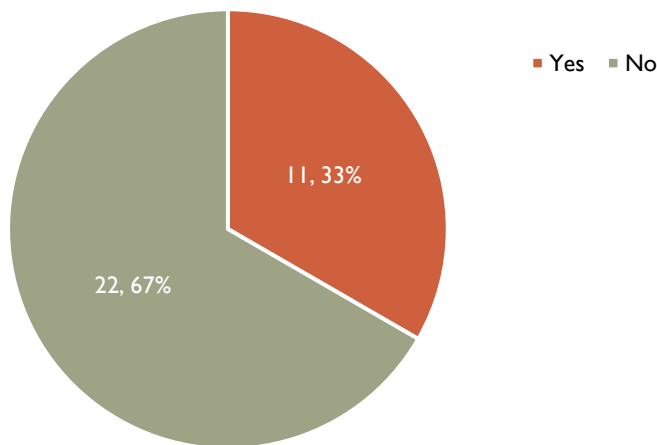
### External Stakeholder

The external stakeholder survey was targeted at members of the land development community . The survey was crafted to understand the community’s receptiveness to environmental action, while providing opportunity for suggestions and comments. We received one response from an external stakeholder.

### Resident Survey

Question 1. Did you participate in the Environmental Awareness Survey available on the Town's website from October 16 - November 30, 2020?

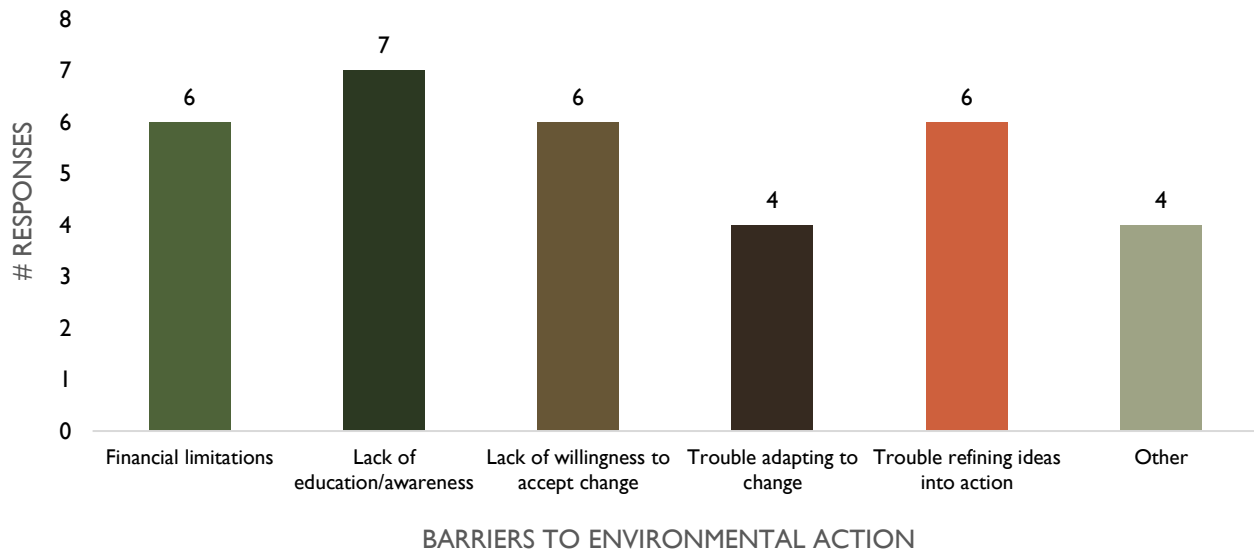
Question 1 was asked to determine the proportion of respondents that had completed the Environmental Awareness in Stony Plain survey and therefore the number of new respondents. Of the 33 resident respondents, 11 had completed the previous survey and 22 had not.



Question 2. What do you consider to be the largest barrier to environmental action in Stony Plain?

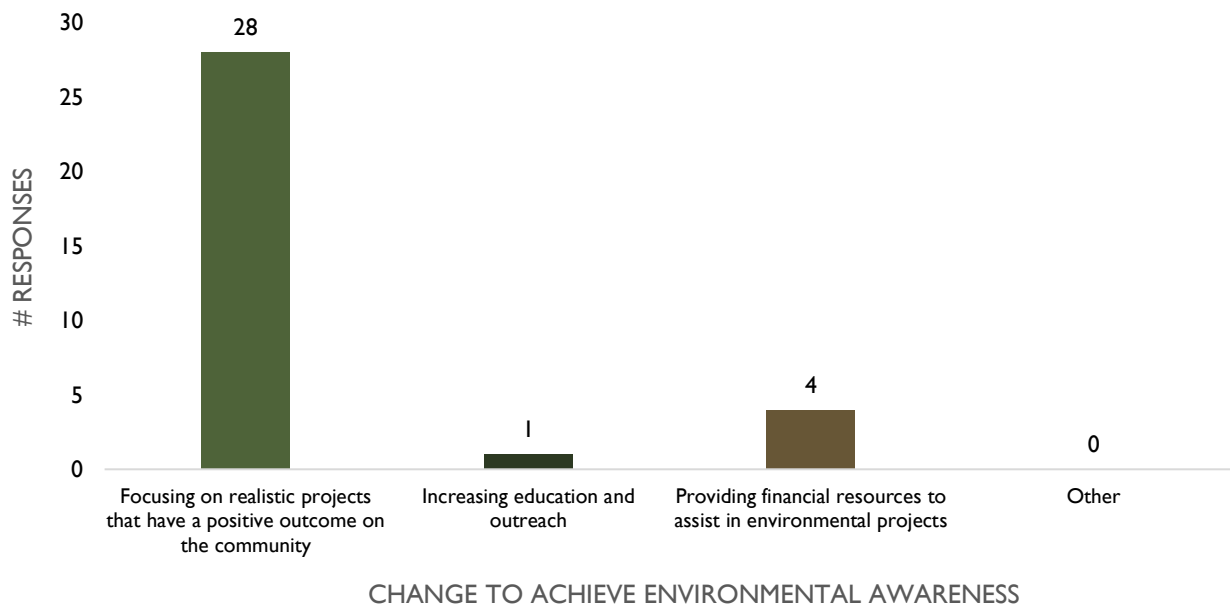
Question 2 was asked to determine where residents perceive limiting factors in implementing environmental action in Stony Plain. This was a multiple-choice question with options based on findings from the previous survey.

Seven respondents (21%) identified lack of education/awareness to be the largest barrier while financial limitations, lack of willingness to accept change, and trouble refining ideas into action received six responses (18%) each.



Question 3. In your opinion, what change will have the greatest success creating environmental awareness in the community?

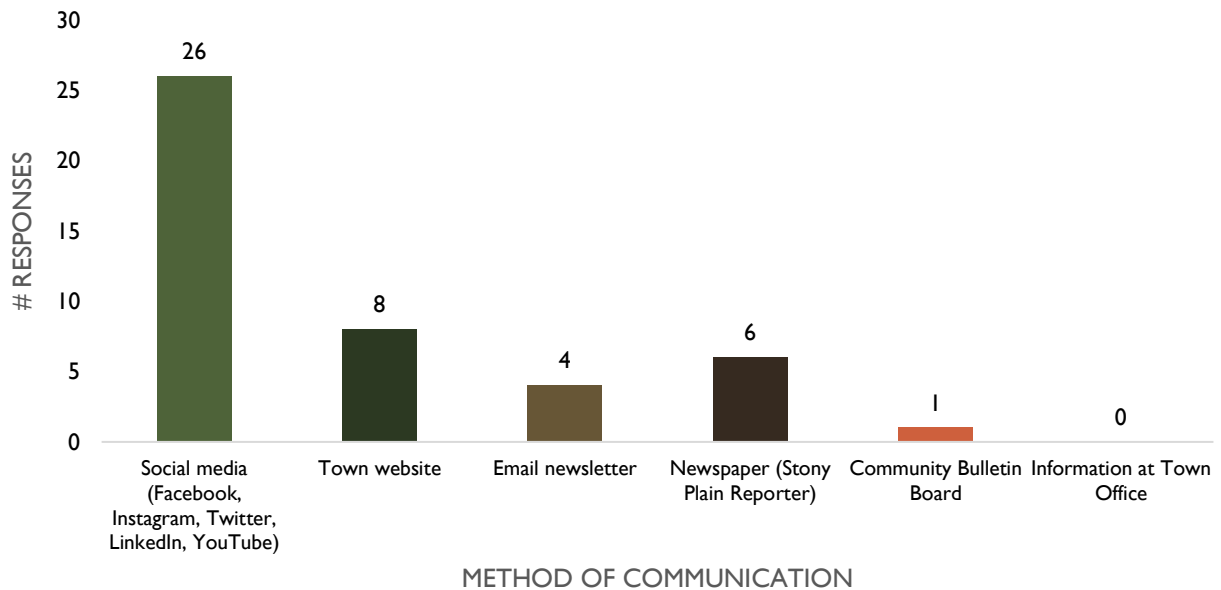
Question 3 was asked to determine how residents believe environmental awareness will be best achieved in Stony Plain. This was a multiple-choice question with options based on findings from the previous survey. Most respondents (85%) indicated that focusing on realistic projects that have a positive outcome on the community will have the most impactful change in achieving environmental awareness.





Question 4. One common suggestion from the Environmental Awareness Survey was to increase education on current environmental initiatives. What is the best way to reach you with environmentally relevant information?

Question 4 was asked to determine residents' preferred method of communication to inform future environmentally related communication strategies. Respondents could pick multiple options to indicate multiple preferences. Social media (Facebook, Instagram, Twitter, LinkedIn, YouTube) received the most responses (26), followed by the Town website (8), newspaper (Stony Plain Reporter; 6), and email newsletter (4).

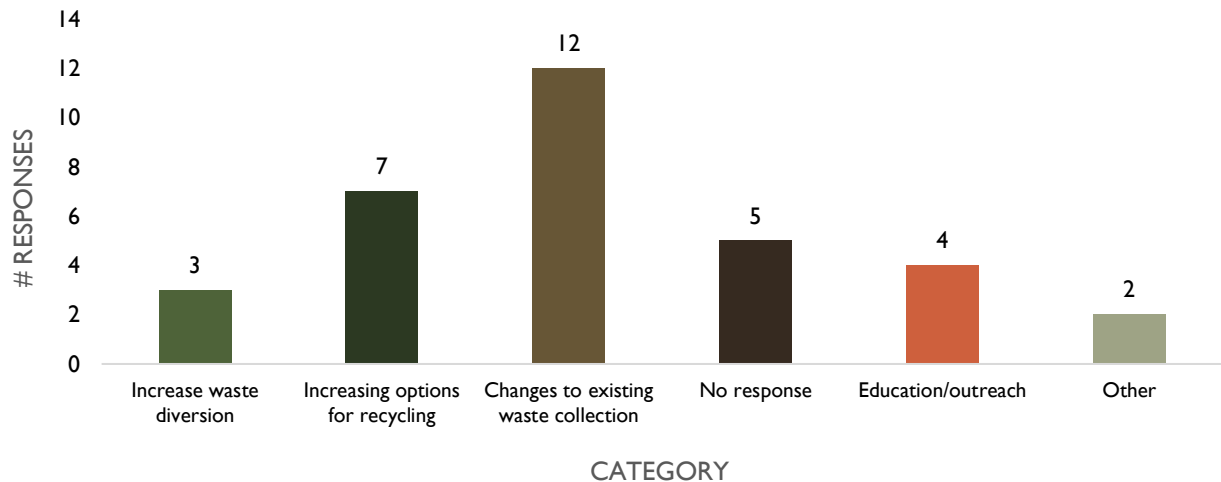


Question 5. In the Environmental Awareness in Stony Plain survey, 80% of survey respondents indicated that waste management had a significant impact on their daily life. Increasing the options for materials that can be recycled and making recycling/composting easier were the common concerns expressed. Are there any additional comments you would like to add on impacts of waste management?

Question 5 was asked to determine if residents would like to add any comments specific to waste management.

The responses were categorized into the following categories.

- Changes to existing waste collection (12).
- Increase options for recycling (7).
- No response (5).
- Education/outreach (4).
- Increase waste diversion (3).
- Other (2).



Due to the length and number of comments received in certain categories, several examples from each category were randomly selected and summarized to present an idea of the topics and ideas that were mentioned.

#### *Changes to existing waste collection (12)*

- *A bin for blue bag items would be nice. Especially in a wind storm.*
- *Weekly garbage pick up on a schedule that stays the same when it comes to times of pick up. It is unrealistic to force households to use 1 garbage every 2 weeks.*
- *I think garbage should be weekly.*
- *Our recycling rules are so ridiculous tight, pretty much everything has to be garbage no matter how hard you try.*
- *Would be nice to have a blue bin, that way we aren't wasting blue bags and hurting the environment more with the non recycled blue bags.*

#### *Increasing options for recycling (7)*

- *Accepting more recyclable materials including glass would make waste management easier.*
- *Would like recycling options open to glass and clamshell plastics.*
- *We should partner with the City of Edmonton and pay them to collect our recycling and to use their facility so that we can recycle film plastic and glass along with our other blue bag items.*
- *As it exists presently, one has to go to? a number of different sites to dispose of that which does not get picked up. Driving to the different disposal sites is both time consuming and not eco friendly.*
- *It's a great idea to keep the Styrofoam out of the landfills and to repurpose it for other things!*

#### *Education and outreach (4)*

- *More clarity on recyclables. More exposure of the Rotary Recycling Centre.*
- *Disclose, how recycling is managed and is it really all recycled? Or is it? Be honest with this process as I feel people believe that this works great but in some cases it doesn't.*
- *The Town could focus on more education materials on recycling and how to reduce waste in the first place.*



- *Plastic recycling is still confusing.*

#### *Support waste diversion (3)*

- *Waste management is an area with valuable return on investment, should be a high priority.*
- *Agree that with the limitations on what can be recycled has increased the amount of garbage going into our landfills. We need to increase our recycling.*
- *Increase community composting.*

#### *Other (2)*

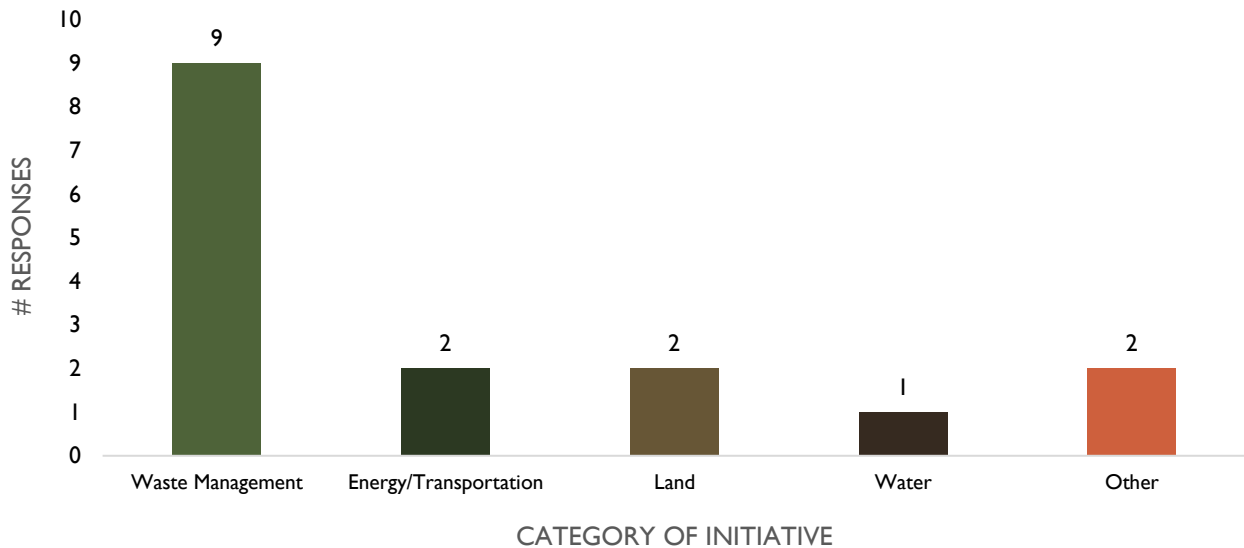
- *More garbage disposal on walking paths, preferably bolted or secured somehow. There has been teens in our area that have dumped the bins.*
- *Glad the transfer station is always open.*

Question 6. In the previous survey, there was confusion expressed as to what an environmental initiative was. An example of existing environmental initiatives are the Town's recycling/composting programs and Arbour Day. Do you have any suggestions for future initiatives the Town could pursue, that you did not recommend on the first survey?

Question 6 was asked to determine if residents had additional suggestions regarding environmental initiatives they would like the Town to consider.

Eighteen (55%) respondents indicated they did not have any additional ideas for environmental initiatives for the Town to pursue. However, the remaining 15 respondents indicated a total of 16 suggested initiatives. The responses were categorized into the following groups.

- Waste management (9).
- Energy/transportation (2).
- Land (2).
- Water (1).
- Other (2).



Due to the length and number of comments received in certain categories, several examples from each category were randomly selected and summarized to present an idea of the topics and ideas that were mentioned.

#### *Waste management (9)*

- *Waste to energy solutions.*
- *Offer incentives for private recycling businesses to locate here. This minimizes transport and creates jobs.*
- *Regular paper shredding available.*
- *Ban use of plastic bags in all stores.*
- *It would be nice for residents who don't have places to compost to be able to access a community compost that would help them in their gardens or flower beds.*

#### *Energy/transportation (2)*

- *I think residents that contribute to green energy should get some kind of break on either their taxes.*
- *How about having days where specific streets are closed to allow for "walk and roll". They do this in Ottawa and Winnipeg with great success and it shows how easy alternative transportation methods can be.*

#### *Land (2)*

- *Planting more trees, planting wild flowers for bees, having a community garden.*
- *No spraying of pesticides.*

#### *Water (1)*

- *Something to focus on water conservation.*



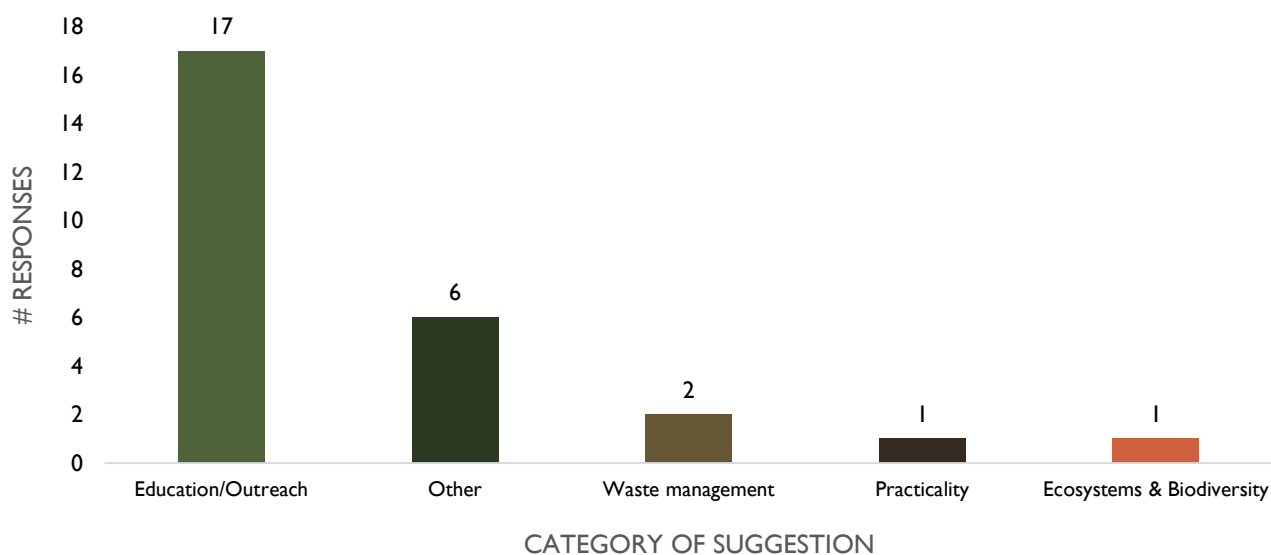
### Other (2)

- *Arbour day is joke. Cancel it and spend the money on something useful. Planting that one tree and making the politicians feel important provides no real environmental action.*
- *Again social media and we have the new electric signs.*

Question 7. 38% of respondents said they do not participate in environmental initiatives. In your opinion, what could be done to encourage residents to become more involved?

Question 7 presented a key finding of the Environmental Awareness Survey to follow up and obtain ideas to encourage participation in environmental initiatives. Of the 33 respondents, six did not provide suggestions. The remaining 27 responses were categorized into the following groups.

- Education/outreach (17).
- Other (6).
- Waste management (2).
- Practicality (1).
- Ecosystems & biodiversity (1).



Due to the length and number of comments received in certain categories, several examples from each category were randomly selected and summarized to present an idea of the topics and ideas that were mentioned.

### Education/outreach (17)

- *More visibility, such as social media posts and signage.*
- *Have more community events surrounding recycling and composting. Maybe a community garden with compost used from our towns green bins. Force the community to get involved and want to lean about it.*

- *Getting people to understand the impact of the initiatives and teaching young people.*
- *Get kids more involved - they are great ambassadors to get adults to do the right thing.*
- *More education, awareness, and initiative. A lot of people (myself included) don't even know what our current environmental initiatives are.*
- *There could be more information about the benefits to our community and to promote a healthier environment. For some people, it is a choice to not recycle or use the organic bin etc.*
- *More awareness. I had no idea there were initiatives.*

#### *Other (6)*

- *Don't give residents an option!*
- *They don't participate because no one likes to have their freedom of choice removed.*
- *Make it a real environment change, not just a false feeling like this is really changing anything.*
- *Mandatory, like most communities are.*
- *People who don't care about the environment generally love money, so anything to give them money, help them save money, or otherwise make it look like they are doing the initiative for money, then you'll have their attention.*

#### *Waste management (2)*

- *Make it easier to recycle.*
- *Incentivize recycling. If people could see a product or benefit in their own community, it would make them proud participants. As it is, they see only the expense.*

#### *Practicality (1)*

- *Make them practical and not just political grandstanding.*

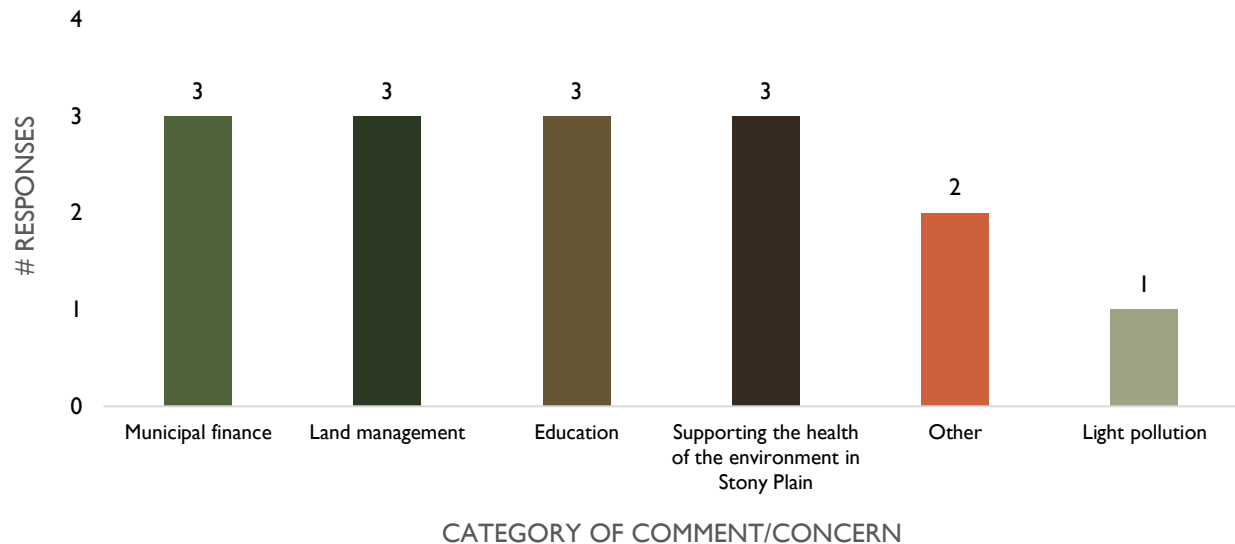
#### *Ecosystems and biodiversity (1)*

- *Encourage a no lawn initiative. Converting existing lawns to pollinator gardens with native plants. This would cut down on lawn watering and the use of gas-powered lawn equipment.*

Question 8. Do you have any additional comments, questions or concerns about environmental action in Stony Plain?

Question 8 allowed respondents to add further comments not explicitly asked elsewhere in the survey. Of the 33 respondents, 17 did not have additional comments. One question was asked in this section that has been included in Appendix D. The remaining 15 responses are categorized into the following groups.

- *Municipal finance (3).*
- *Land management (3).*
- *Education (3).*
- *Supporting the health of the environment (3).*
- *Other (2).*
- *Light pollution (1).*



The idea and topics expressed in each category are summarized below.

#### *Municipal finance (3)*

- *The Town needs to get better fiscal management.*
- *Whatever initiatives the council would like to see in our community needs to be tempered with an eye on our taxes. The burden is already greater than what is reasonable.*
- *Something that will make some revenue somehow while maintaining current environmental standards. Property taxes are going up, coal mine has shut down. Time to come up with a revenue based solution.*

#### *Land management (3)*

- *The town could stop the action of developers moving on to lands to be developed and taking down all the trees and plant life to build roads and homes.*
- *Pesticides and chemicals used are causing cancer. Sadly in the dog parks and play grounds!*
- *I want to know why today it smells like pesticides outside.*

#### *Education (3)*

- *Better communication needs to be achieved, social media and the reporter would be the best avenue to reach a wider demographic.*
- *Need to engage all people to care about their impact on the environment.*
- *We can look at other municipalities to see what they have done and what types of awareness and information they have shared with their communities.*

#### *Supporting the health of the environment (3)*

- *I feel our town is doing a great job. There is always room for improvement every year and if it doesn't work then relaunch with the kinks fixed.*
- *We need to do more. But how is up to you guys.*
- *It's time to stop congratulating ourselves and step it up.*



### Other (2)

- *Concerned about the scope of the environmental initiatives. The survey was incredibly general. Suggestion is to better focus efforts, starting with "what can a town impact change on".*
- *Get rid of those ridiculous half-built town homes already. Such an eye sore to Stony!*

### Light pollution (1)

- *One thing that was not mentioned in the survey is the effect of light pollution at night. I would like to see Stony Plain work towards becoming a "night sky" town where you can see the stars without being blinded by lights.*

## Council Survey

Due to low sample size, responses were not categorized by theme or graphed visually. Responses are summarized below by question.

Question 1. Did you participate in the Environmental Awareness Survey available on the Town's website from October 16 - November 30, 2020?

The respondent answered yes.

Question 2. 80% of survey respondents indicated that waste management has a significant impact on their daily life. Increasing the options for materials that can be recycled and making recycling/composting simpler were the major concerns expressed. Do you have any suggestions for how to address these concerns in the Environmental Master Plan?

This question was asked to glean insight on Council's preferred direction pertaining to waste management. The response is summarized as follows.

- *I am not fully up-to-date re: the list of items we recycle today vs. what items could be included. We need to share this with the community and get a measurement (temperature gauge) of where we are at and what next steps we can take to improve.*
- *Also, I would like to see us continue fun promotions (what your neighbours are doing, and what you can do too) through social media such as Facebook. We need to ramp up our Recycling Promotion locally and regionally.*

Question 3. In the previous survey, 86% of respondents strongly or somewhat agreed that they consider the health of the environment a priority while 67% of respondents strongly or somewhat agreed that an Environmental Master Plan would be successful in improving the health of Stony Plain's environment. In your opinion, what will make the Environmental Master Plan successful in achieving its vision?

This question was asked to determine Council's opinions on making the Environmental Master Plan a successful environmental framework.

The response was as follows.

- *I believe we need to share a vision of what our community will look like when we take better care of our environment. Examples of how each and every small step taken by many can make a large impact for*

*the sustainability of our future. There are many places in the world without fresh clean drinking water, clean air, beautiful clean lakes, etc. and our daily practices will make our community a high quality home for everyone today and in the future. We need to have FUN implementing our action plan through contests, neighborhood awards. Let's ensure we tell every citizen and business in our community what their neighbors are doing, as this social pressure will cause a MeToo phenomenon to occur. Then let's tell everyone what we are doing well through social media, especially Facebook!*

Question 4. The most significant environmental concerns identified in the previous survey were ordered as follows from most significant to least significant: waste management, land management and agriculture, drastic weather events, ecosystems, water, energy systems, food production, and air quality. Do you feel this accurately reflects the issues you hear about and experience within the community?

Question 4 was intended to fill in gaps from our previous survey by allowing Council to share their insights on environmental areas of concern through their interactions with the community. The response was as follows.

- *I feel it fairly reflects the concerns of our community.*
- *I hear and I also believe myself, that quality of our water is of very high importance to our citizens, and that is why so many purchase bottled water services. Drastic weather events are increasing, and society needs to take specific steps to reduce our environmental footprint and the occurrence of these events.*

Question 5. Survey participants generated a total of 86 suggestions for initiatives for the Town to consider pursuing that encompassed numerous focus areas. Among existing initiatives, participants identified recycling/composting programs followed by Arbour Day as the most popular. Given this information and your experience in the community, what other initiatives could the Town undertake that would have a similar level of community impact or success?

Question 5 was asked to determine if Council had further suggestions for initiatives after learning of desires expressed by the community. The response was as follows.

- *I think any initiative that gets the members of our community out and working together to reduce waste and protect our environment should be considered.*
- *Let's have a hot chocolate and hotdog after every recycling event to get people together to rally & talk about it and let's tell the world what we are doing via Facebook!*

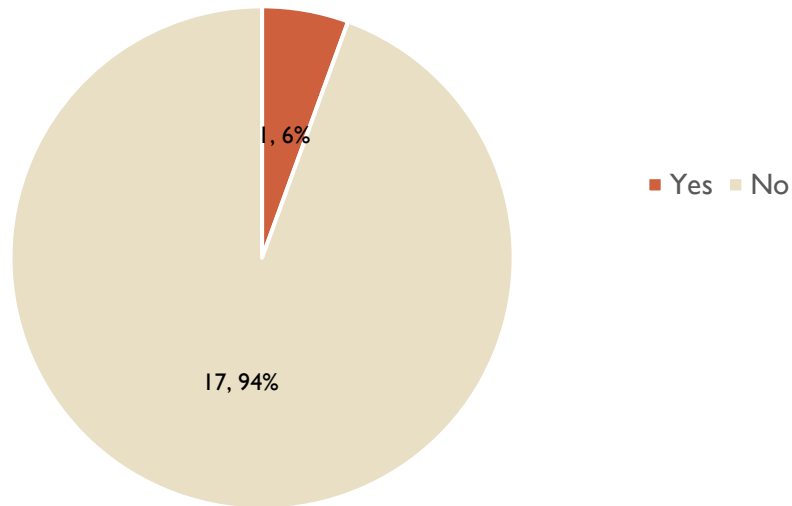
Question 6. Do you have any additional comments about feedback received from the community?

Question 6 provided Council an opportunity to add any further comments regarding the preliminary results obtained from the Environmental Awareness Survey. The respondent indicated that they did not have additional comments at this time.

## Business Owner/Operator Survey

Question 1. Did you participate in the Environmental Awareness Survey available on the Town's website from October 16 - November 30, 2020?

Question 1 was asked to determine if participants of the business owner survey completed the Environmental Awareness Survey to determine the new respondents. Of the 18 respondents, one had completed the previous survey.



Question 2. I consider the health of the environment a priority in my everyday business operations:

Question 2 served as the introductory survey question to capture how respondents value the health of the environment in their business operations. Acknowledging that people have different values, priorities, and goals for their community, we wanted to ensure all survey participants had an opportunity to contribute to the project despite where they place the health of the environment on their value system.

Of the respondents, 55% (10) strongly agree that they considered the health of the environment a priority in their everyday business operation, 17% (3) somewhat agree, 17% (3) neither agree nor disagree, and 11% (2) strongly disagree.



Question 3. As a business owner, I am supportive of participating in environmental action:

After determining the environmental priorities, question 3 was asked to determine support for implementing environmental action in the business community. Of the respondents, 55% (10) strongly agree that they are supportive of environmental action, 17% (3) somewhat agree, 11% (2) neither agree nor disagree, and 17% (3) strongly disagree.



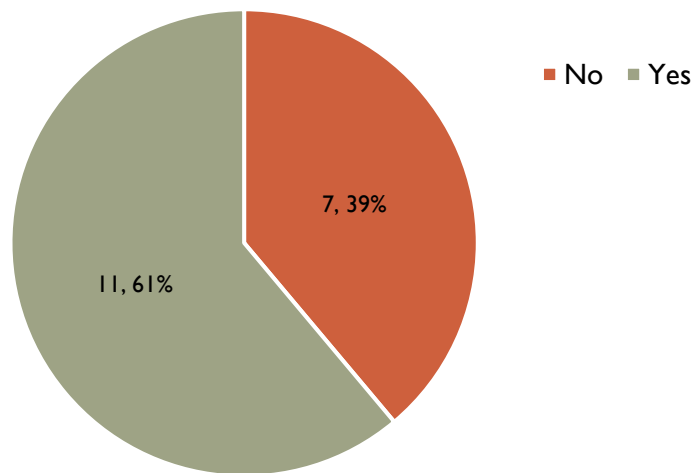
AS A BUSINESS OWNER, I AM SUPPORTIVE OF PARTICIPATING IN ENVIRONMENTAL ACTION:

■ Strongly agree ■ Somewhat agree ■ Neither agree nor disagree ■ Somewhat disagree ■ Strongly disagree



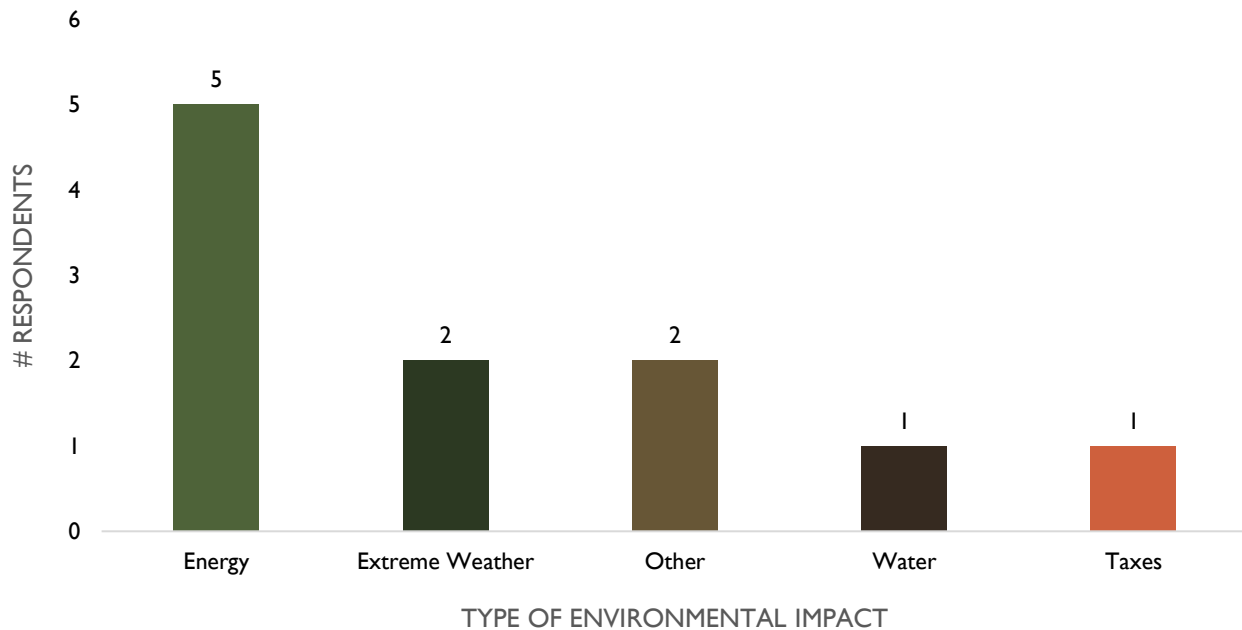
Question 4. Have changes to the environment had an impact on your daily business operations? If so, how?

Question 4 was asked to determine the extent of awareness regarding the effects of environmental impacts to daily business operations among the local business community. Eleven respondents (61%) indicated that changes to the environment had an impact on their business operations while seven (39%) indicated that it did not.



Among the respondents who indicated environmental impacts had an affect on their business operations, the responses were categorized as follows.

- Energy (5)
- Extreme weather (2)
- Other (2)
- Water (1)
- Taxes (1)



Ideas and concepts of each category of responses are summarized below.

#### Energy (5)

- *Fear or concern for the environment particularly elimination of coal industry has definitely impacted my business.*
- *We've made a number of changes slowly over the years ie. LED lighting, low flow faucets and such.*
- *Oil and Gas services work constitutes about 40% of our customer base. I would say concern for global warming issues is something our business needs to contend with. We are not anti-transition, and advocate for a greener economy.*
- *Effective monitoring of fuel dispensing sites, secondary containment of fuel and monitoring of that containment, effective monitoring of underground fuel installations, proper handling of service at fuel sites.*
- *Coal plants shutting down has changed the spending dynamics in Parkland County.*

#### Extreme Weather (2)

- *More extreme weather is causing more heating/cooling demand. As well as more severe storms causing more flood damage.*
- *Climate change has impacted all aspects of everyone's lives so of course it has impacted my business. The looming crisis has pushed me to become the first business of my type to become a certified green business in Canada.*

#### Other (2)

- *Construction has strongly affected out business on Main Street. I do understand that this infrastructure needed to be done.*
- *Costs of everything are rising.*

### Water (1)

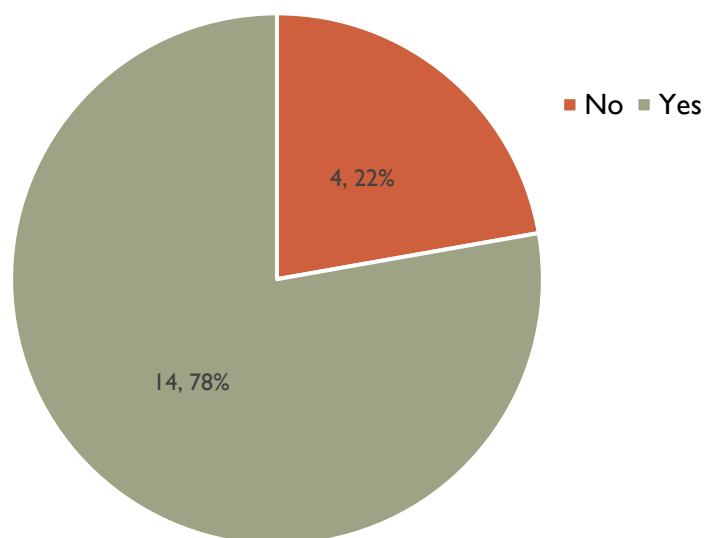
- According to the Mayor, we have to conserve water so our water bills went up, and business went down.

### Taxes (1)

- All the extra taxes and levies that have come about due to this issue have greatly increased our operating expenses.

Question 5. Have changes to environmental policies or standards had an impact on your daily business operations? If so, how?

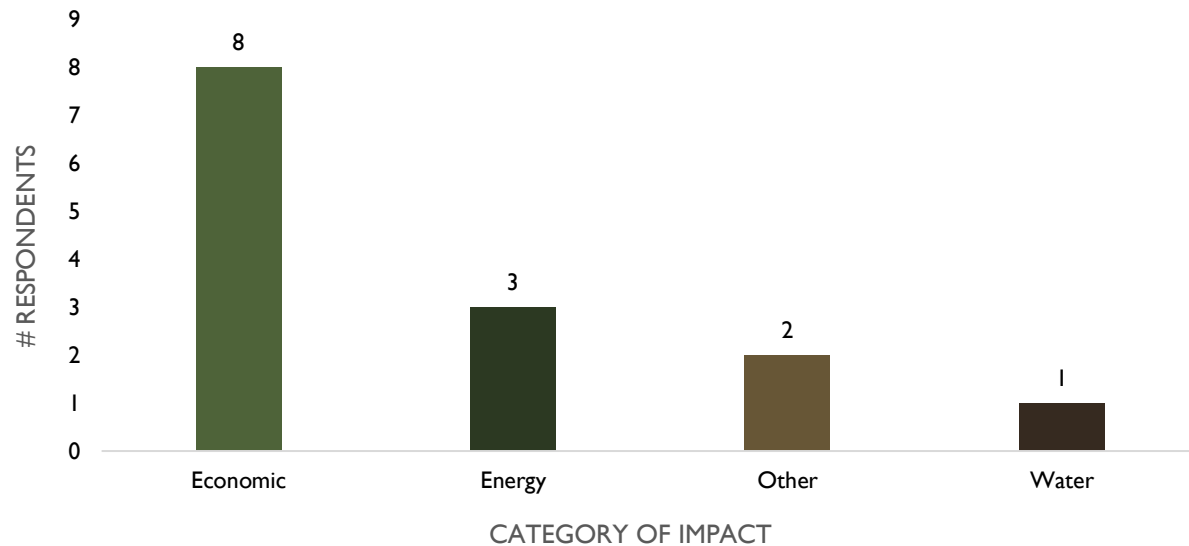
Question 5 was asked to determine how environmental policies have impacted businesses in Stony Plain to understand the needs and desires of the business community prior to implementing environmental action. Fourteen respondents (78%) indicated that environmental policy had an impact on their daily business operations, while four indicated that it did not (22%).



The responses of the 14 individuals stating that environmental policy had an impact on their business operations are summarized using the following categories.

- Economic (8)
- Energy (3)
- Other (2)
- Water (1)





Due to the length and number of comments received in certain categories, several examples from each category were randomly selected and summarized to present a summary of the topics and ideas that were mentioned.

#### *Economic (8)*

- *It's opened up some funding opportunities to help us achieve these goals.*
- *The UCP's shift away from the diversification that the NDP started introducing into the Alberta economy has greatly harmed not only my business but all business in the province.*
- *We were interested in participating in the price carbon economy as it would have allowed us to make money, and help our customers make money, while going greener.*
- *The carbon tax has added extra expense, so we need to find ways to lower our use in turn lower the cost.*
- *Carbon tax is costing me thousands per month and having a negative impact on my business bottom line.*

#### *Energy (3)*

- *Fear or concern for the environment particularly elimination of coal industry has definitely impacted my business.*
- *Mid efficient furnace are now obsolete in Canada with the hot water tanks being phased out next.*
- *Effective monitoring of fuel dispensing sites, secondary containment of fuel and monitoring of that containment, effective monitoring of underground fuel installations, minimize waste and recycling, proper handling of service at fuel sites.*

#### *Other (2)*

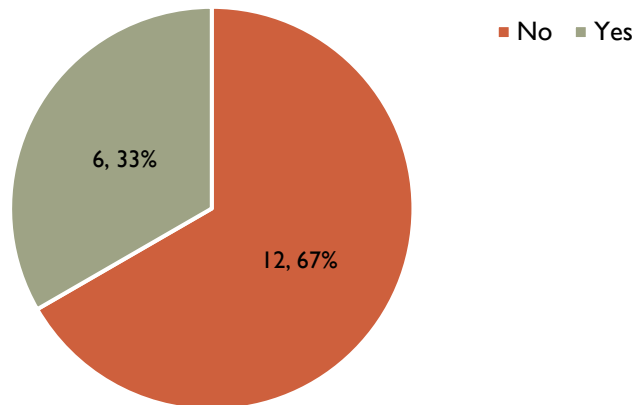
- *Not sure what policies have been put into place.*
- *Environmental policy is a disaster throughout North America. It kills businesses that have no real impact on environmental problems.*

## Water (1)

- According to the Mayor we have to conserve water so our water bills went up, and business went down.

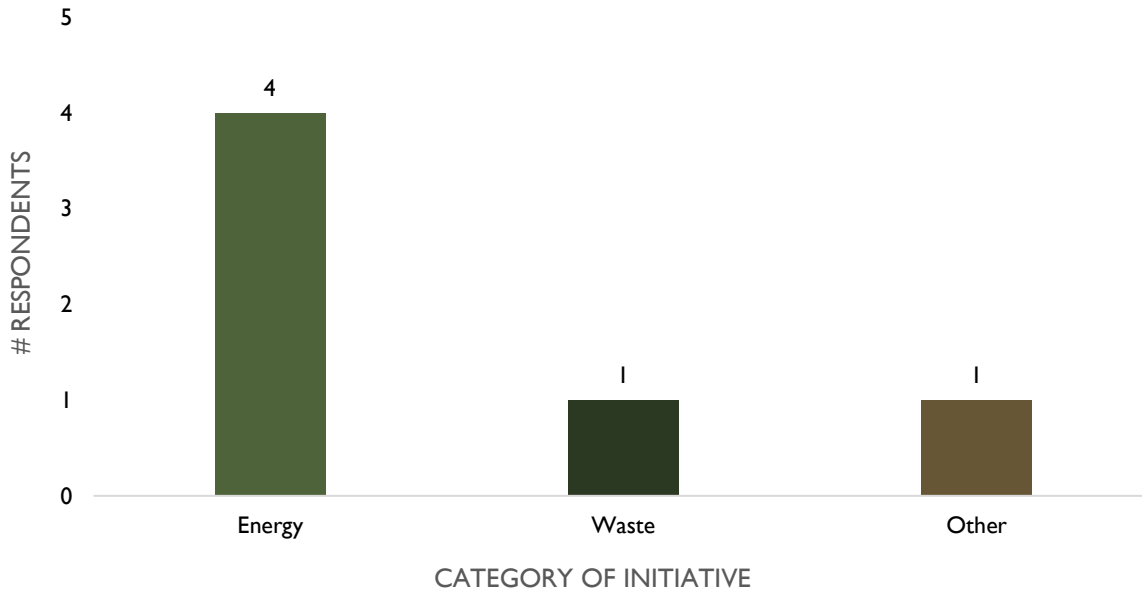
Question 6. Are you aware of any environmental initiatives that may have a positive impact on your business operations that you would like the Town to consider? If so, what initiative(s)?

Question 6 was asked to provide business owners and operators an opportunity to suggest environmental initiatives that may be beneficial to their business operations. Of the 18 respondents, six stated that they had suggestions for initiatives for the Town to pursue.



The six respondents generated a total of six suggestions for potential initiatives. They are categorized as follows.

- Energy (4).
- Waste management (1).
- Other (1).



The suggestions expressed in each category are summarized below.

#### *Energy (4)*

- *Government rebate programs for energy efficient upgrades.*
- *I've looked at using two different energy rebate programs and didn't pursue using either as their criteria and home auditing prices were astronomically high and impossible to claim successfully.*
- *Some sections of the Town do not even have sidewalks which makes it difficult or impossible for people to walk to my business. Provide more bike paths and public bike racks to encourage people to drive less.*
- *Incentives to go green like rebates for tankless water heaters or solar installations.*

#### *Waste management (1)*

- *More community trash and recycle bins throughout the Town will reduce litter and promote more engagement from the general public.*

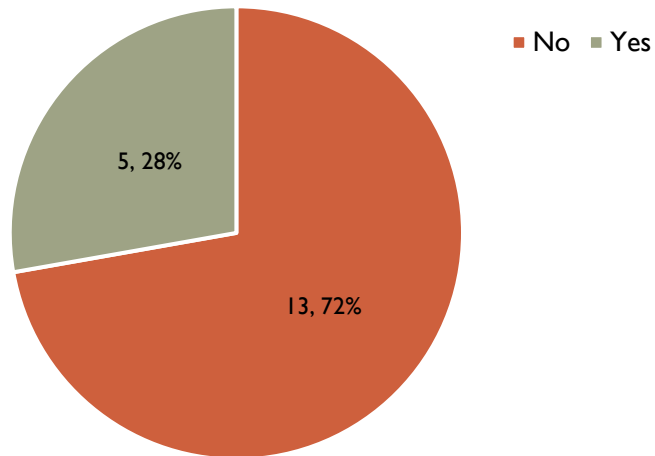
#### *Other (1)*

- *Green cleaning products.*

Question 7. From your perspective, are there barriers preventing you from being more environmentally friendly when owning and operating your business? If so, what?

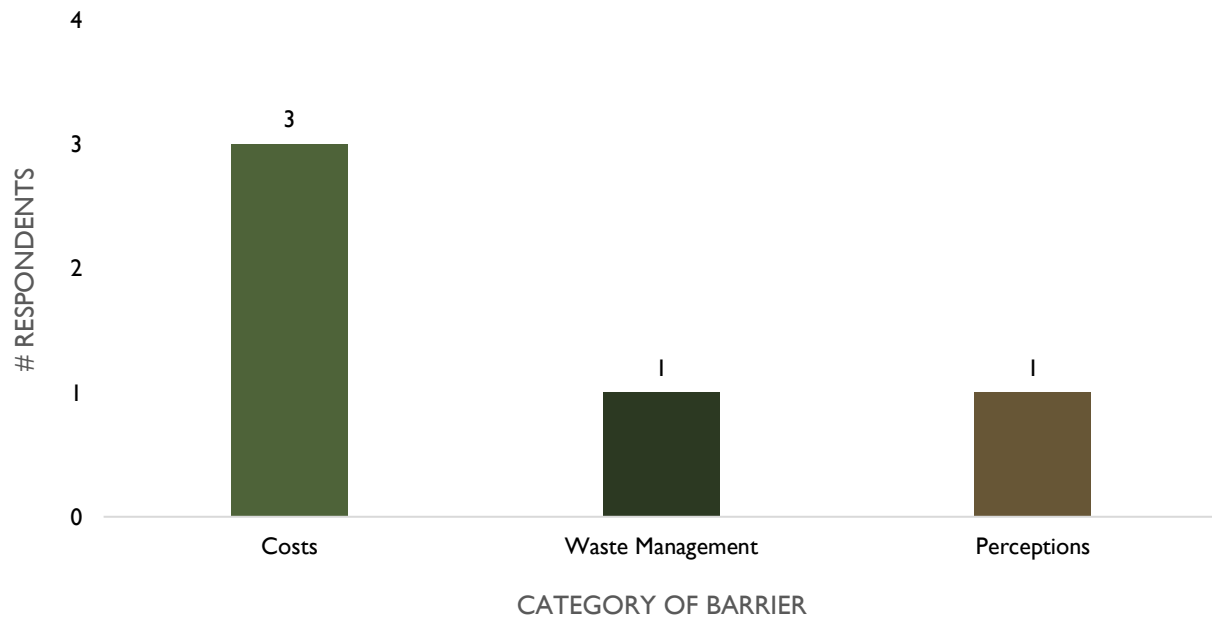
Question 7 was intended to identify barriers preventing environmental action within the business realm and understand how initiatives may be prioritized to address the needs of business owners and operators. Five respondents indicated that barriers exist that prevent them from being environmentally friendly when owning and operating their business. The remaining 13 respondents indicated either that no barriers existed or did not respond.





The responses for barriers identified are categorized as follows.

- Costs (3).
- Waste management (1).
- Perception (1).



The responses from each category are summarized below.

### Costs (3)

- *Usually cost prohibits more environmentally friendly options in my field of work for equipment and vehicles etc.*
- *It all costs me more money. These policies are worse for the environment than what we had originally.*
- *Cost, some projects are too expensive and not practical especially now with financial impact of COVID.*

### Waste management (1)

- *Limits to pickup of recyclables especially for businesses that have large enough quantity, lack of local supply for environmentally responsible commercial products & impacts of shipping.*

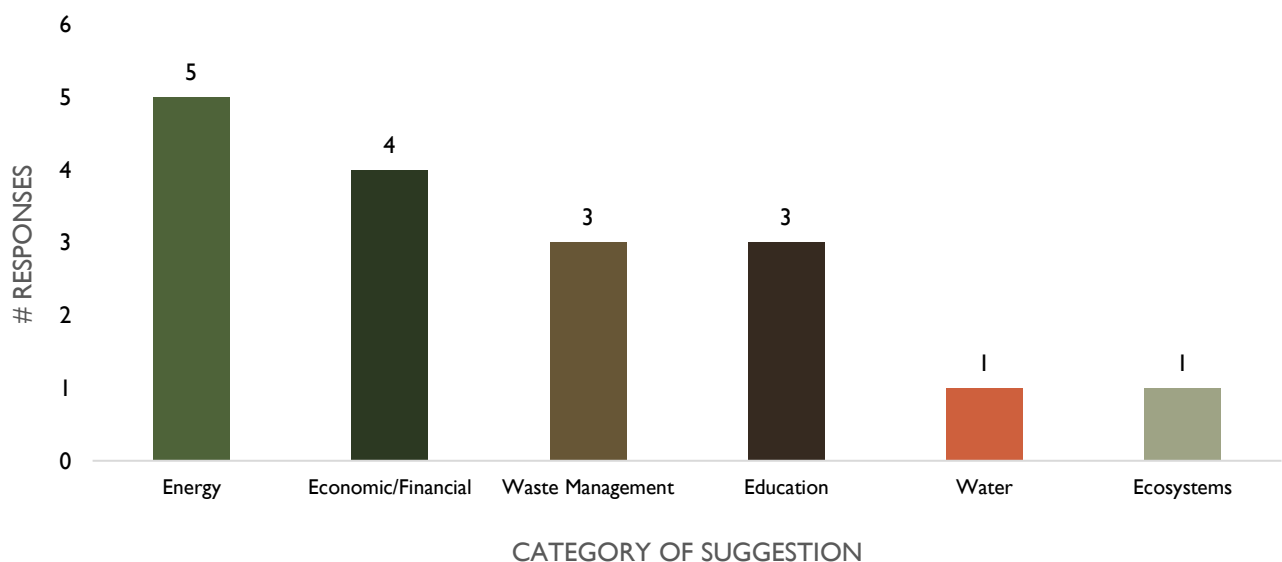
### Perceptions (1)

- *Attitudes, mainly. I think a lot of people are unable to see possibility and potential for themselves and some lack land stewardship awareness and why that is important.*

Question 8. What can the Town of Stony Plain do to support your business to become more environmentally friendly?

Question 8 intended to pinpoint specific suggestions for improvements the Town can make to support local businesses to enhance their environmental portfolio and reduce their ecological footprint. Of the 18 participants, six did not have suggestions and the remaining 12 generated a total of 17 suggestions for the Town to consider. The suggestions are summarized in the following categories.

- Energy (5).
- Economic/financial (4).
- Waste management (3).
- Education (3).
- Water (1).
- Ecosystems (1).



The responses from each category are summarized below.

### Energy (5)

- *Monitor power waste and help with improvements.*
- *Review the fueling facility at Public Works and perhaps make it more efficient.*
- *Solar streetlights. Also, I still feel there should be some higher to illuminate downward. As main street with new ones are nice but main street still seems dark and does not really make me comfortable for a walk downtown.*
- *The 3 hours parking signs are not monitored. Maybe consider putting up parking meter or some sort of accountability.*
- *Solar panel incentive. Power, natural gas efficiency reduction incentives.*

### Economic/financial (4)

- *Help find grants that can be offered to local businesses.*
- *Financial incentives in the form of property tax credits for improvements that reduce emissions and promote waste reduction.*
- *Advocate for priced carbon.*
- *Maybe if things are done in large quantities cost, availability would be better.*

### Waste management (3)

- *Making it possible to drop of some hazardous waste like batteries more than once or twice a year would be helpful. Shredding of personal documents more than once or twice a year would be helpful.*
- *Provide garbage waste assessment & help with improved pickup services.*
- *Proper weekly garbage pickup should be standard.*

### Education (3)

- *Provide information and resources to help businesses improve sustainability.*
- *List green companies.*
- *More REAL WORLD education for those that don't have a clue how the real world works.*

### Water (1)

- *Monitor water waste and help with improvements.*

### Ecosystems (1)

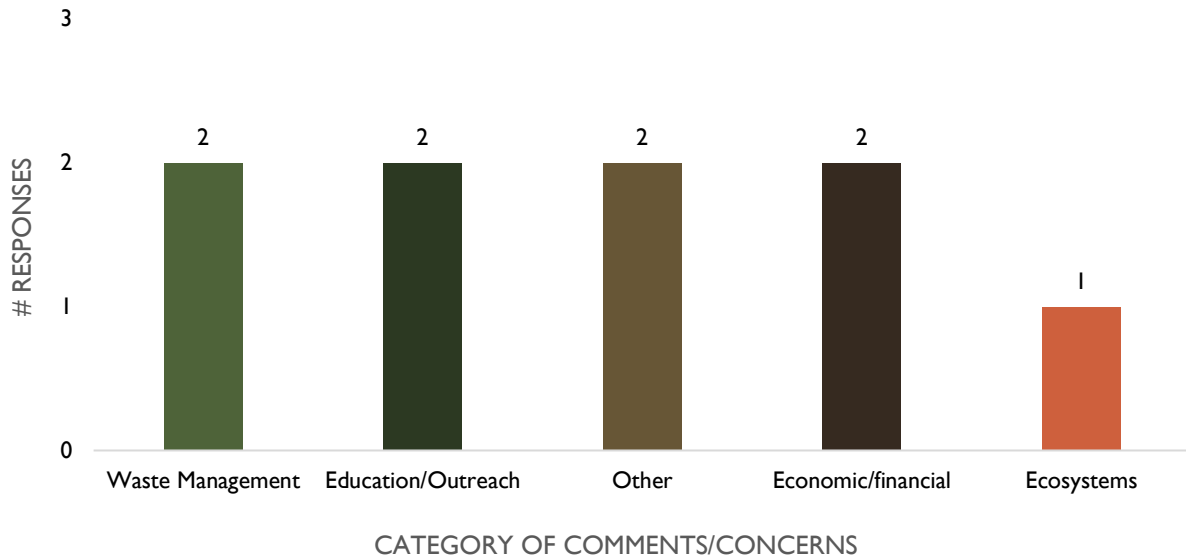
- *I love all the flowers but we can put some flowers and some fruit or veggie plants in. For new trees there are lots of apple trees, nut trees and even some fruit trees that work in our climate. We have more than enough evergreens. We should diversify.*

Question 9. Do you have any additional comments, questions, or concerns about environmental action in Stony Plain?

This question provided respondents with the opportunity to include additional suggestions not addressed elsewhere in the survey. Half of respondents (nine) indicated they had no further comments, questions, or concerns. The responses from the remaining nine are categorized as follows.



- Waste management (2).
- Education/outreach (2).
- Other (2).
- Economic/financial (2).
- Ecosystems (1).



The responses are summarized as follows.

#### *Waste management (2)*

- *There's inadequate garbage pickup, after using the recycling center I still have to dispose of garbage on my own that won't fit in an already full bin!?*
- *Make it mandatory for businesses to recycle. The number of boxes etc in the garbage is ridiculous.*

#### *Education/outreach (2)*

- *A new educational effort should be launched. Many new people have moved into Stony Plain and do not participate well in recycling and composting. Too many recyclables are going into the landfill.*
- *Perhaps get businesses involved in projects through local volunteers.*

#### *Other (2)*

- *If you are concerned about the environment, maybe you should rethink the placement and timing of traffic lights on Secondary 779. It makes absolutely NO SENSE to stop a whole bunch of traffic (idling, emissions, braking of big trucks) so that one vehicle can turn right on Red.*
- *How about actually looking at policies that would help businesses in the long run. Deal with infrastructure - our roads are as if we live in a freaking 3rd world country.*

#### *Economic/financial (2)*

- *Environmental action requires consistent investment to be effaceable. There is always a return on the investment so it is important to keep in front of us what that return is.*

- *Reduce our property taxes. Getting more expensive to do business in this town.*

### *Ecosystems (1)*

- *You should be looking at planting fruit trees and berry bushes and vegetables. That would create a sustainable community. There are so many areas along the walking path that would be perfect.*

### **External Stakeholder Survey**

Due to low sample size, responses were not categorized by theme or graphed visually. Responses are summarized by question.

*Question 1. Did you participate in the Environmental Awareness Survey available on the Town's website from October 16 - November 30, 2020?*

Question 1 was intended to determine if any members of the land development or consulting community had participated in the Environmental Awareness Survey as a resident. The one respondent indicated that they had not.

*Question 2. I consider the health of the environment a priority in my everyday development, sustainability, or planning operations:*

This question was asked to determine the value respondents give to environmental priorities in their respective corporate operations. Acknowledging that various individuals place the environment at varying degrees of priority, we wanted to allow all respondents the opportunity to provide feedback regardless of their personal views.

The one participant indicated “strongly agree” to this question.

*Question 3. I am supportive of making a shift toward increasingly environmentally conscious practices:*

Question 3 was asked to determine perceptions regarding the uptake of environmental action among the external stakeholder community.

The one participant indicated “strongly agree” to this question.

*Question 4. Have changes to the natural environment had an impact on your development, sustainability, or planning operations in the Edmonton region? If so, how?*

This question was asked to determine if participants acknowledged the role of the environment on their corporate operations in the Edmonton region. The question was intended to enhance our understanding of the unique environmental challenges facing Stony Plain’s external stakeholder community. The response was as follows.

- *Yes, having built a net-positive homestead North of Stony Plain a decade ago, I am now leading one of the Province's most potent permaculture firms in repairing land, conserving resources, preparing organizations, helping homeowners, and assisting municipalities.*
- *The rising effects of climate destabilization, mass extinction, global pandemic, techno-industrial disruptions and increasing cross-capital scarcity are each and all impacting and being addressed by our operations within the Greater Parkland Region.*

Question 5. Have changes to environmental policies or standards had an impact on your development, sustainability, or planning operations in the Edmonton region? If so, how?

Acknowledging that municipal decisions have an impact on external stakeholder operations in Stony Plain, this question was asked to gain insight on the unique factors and challenges that environmental policies place on these operations. The response was as follows.

- *Yes. Metastasizing sub-urban population, primary resource depletion, and increasing systemic pollution significantly challenge my team to keep up and work wisely so that we may constructively address the largest socio-environmental problems as is possible at this early stage of firm development.*
- *By and large, the existing policy framework of environmental standards and praxis is fundamentally insufficient to meet the local effects of the global crisis we are faced with. Our operational mission is to directly alter this scenario in practical, regenerative ways.*

Question 6. Is your organization involved with environmental initiatives in other municipalities that could be implemented in Stony Plain? If so, what initiative(s)?

Given that external stakeholders may operate in several municipalities, question 6 was intended to gather insight on potential initiatives that may be relevant in Stony Plain that have been successful in other municipalities. The response was as follows.

- *Yes; Afforestation, Regenerative Agriculture, Permaculture Design, Hydrology Restoration, Wildfire Management, Wildlife Enhancement, Sustainability Education, Eco-Entrepreneur Business Incubation, Homestead Establishment, et al.*
- *In the last few years, we've been active in Sturgeon, Lac Ste. Anne, Parkland, Yellowhead, Smoky Lake, & Strathcona Counties.*

Question 7. Are you aware of any environmental initiatives that may have a positive impact on your development, sustainability, or planning operations that you would like the Town to consider? If so, what initiative(s)?

Aside from initiatives ongoing in other municipalities, question 7 provided respondents with the opportunity to make additional suggestions on environmental initiatives that would benefit the respondents' respective operation. The response was as follows.

- *Responding adequately to this question may best involve sitting down in-person to directly target the Town's needs and intended project yields.*

Question 8. From your perspective, what are the barriers to environmental progress for industries related to land development, sustainability, or planning?

Question 8 was asked to enhance understanding of barriers preventing environmental action in the respondent's respective industry. The response was as follows.

- *The barriers to environmental progress are primarily cultural. Institutional momentum, political short-sightedness & educational incompetence contribute deeply to the challenges that industries face in terms of adequately preparing our homes, farms, and businesses for the crescendo of ecological, social, and economic Alberta, and more specifically, the Greater Parkland Region is facing.*



Question 9. What can municipalities do to support industries related to land development, sustainability, or planning to become more environmentally friendly?

After addressing barriers to environmental progress, question 9 was asked to obtain suggestions for initiatives the Town can implement to assist the respondent's respective industry in becoming environmentally friendly. The response was as follows.

- *Standardization of net-positive development bylaw and building codes.*
- *Worst-case scenario planning (drought, flood, famine, disease, peak oil, war, earth cataclysm)*
- *Economic re-localization (currency & tax based)*
- *Grassroots engagement & monthly hands-in-the-dirt civic mobilization*
- *Special Economic Zones (inclusive of foreign investment and inter-governmental initiatives)*
- *Regional Extension Programs*
- *Fiscal Carrots and Monetary Sticks*
- *Public - Private Partnerships (oriented around food, water, energy, shelter, and financial security)*
- *Supply Chain Diversification*
- *Municipal Co-operatives & Triple-Bottom-Lined Public Enterprises*

Question 10. Do you have any additional comments, questions or concerns about environmental action in Stony Plain?

Question 10 was designed to allow participants to provide additional feedback not explicitly asked previously in the survey. The response was as follows.

- *Thanks so much for your hard work. It is an exciting time to be a resident of and entrepreneur in the Greater Parkland Region, and indeed, living upon this planet.*

## **Feedback Obtained Outside of Public Participation Opportunities**

Throughout the public participation period, comments and suggestions obtained outside of the survey through email, phone, and social media were recorded. This feedback is summarized below.

### *Email*

- *Prior to planning any additional environmental issues provide those residences with oversized yards with a second green bin for the additional grass that one green bin does not accommodate large yards specifically in graybriar. If I recall the Town of Stony Plain has front footage on our yard that they do not maintain! An extra green bin is required here!*

### *Phone*

- A suggestion was given regarding the uptake of a community composting program led by community composting experts from the City of Edmonton.

### *Social Media*

While a variety of comments were left on social media posts that advertised the public engagements for the EMP, the relevant comments and concerns are summarized below.

- [Twitter] *Interesting reading on what residents indicated on the previous survey. The more I put into this important topic the better!*
- [Facebook] *With the extra concrete for the wider sidewalks, the silly circle and the 120 plus 3 ft lights on main street, I'm thinking our carbon footprint has gone through the roof.*

## Results

*Results of these survey findings are intended to present information as analyzed and not to provide a recommendation. Findings of the survey are generally qualitative and have therefore been carefully analyzed and grouped thematically to illustrate key areas of importance. These results will be considered during the finalization of the EMP and drafting stage of the ESS.*

### *Environmental Awareness in Stony Plain Survey*

Of the 65 participants, most hold a positive outlook toward the health and stewardship of the environment. Approximately 86% of participants strongly or somewhat agree that they consider the health of the environment a priority in Stony Plain. Furthermore, participants had diverse understandings of what it means to be environmentally friendly. Overall, recycling, stewardship of the natural environment, and the reduction of waste came up as predominant themes. While most respondents (67%) strongly or somewhat agree that EMP would be effective in improving the health of the environment in Stony Plain, those who disagreed or were neutral gave constructive feedback that included economic feasibility among other considerations.

A predominant theme throughout the survey was waste management. Specifically, 80% of respondents listed waste management as a having a large impact on their lives. Other important environmental considerations indicated by respondents were water quality/quantity (71%), food production/access/waste (69%), and air quality (66%). When respondents were asked to pick the single most significant area of concern in Stony Plain, waste management yielded the most responses (34%), followed by land management/farming/agriculture (22%), drastic weather events (18%), ecosystems/biodiversity/wildlife (14%), and water quality/quantity (12%).

Among survey respondents, 62% indicated they participate in community environmental initiatives while 38% did not. Among those who participate, the recycling and composting programs, waste management, and Arbour Day were found to be the most popular. The 25 respondents who indicated they do not participate in environmental initiatives provided various reasons for why they have not in the past and some proposed solutions for increased participation in the future. Two reoccurring reasons included personal choice and the lack of awareness of environmental initiatives in the community. These results are echoed in the Council Workshop results, in which Council emphasized the importance of education and community acceptance in implementing successful environmental initiatives.

48 (74%) respondents indicated they had ideas for initiatives that the Town could pursue and cumulatively generated 86 suggestions for potential initiatives. Waste/recycling again emerged as a dominant consideration followed by the natural environment. Some repeated suggestions were increasing options for recycling and waste disposal, preservation and proper maintenance of greenspaces/natural areas, and transportation. The importance of public education reappeared 10 times in the responses for future improvements that would support environmental progress. When asked

what the Town of Stony Plain could do to help respondents become more environmentally friendly, recycling initiatives appeared to be the predominant consideration.

### *Environmental Action in Stony Plain Survey*

Among the 53 respondents, we received responses from 40 individuals who had not participated in the Environmental Awareness Survey. This includes 22 residents, 17 business owners, one member of Council, and one external stakeholder. This results in a unique participant sample size of 105 from the two surveys combined. However, due to the sample size of one for both Council and external stakeholders, it is difficult to make meaningful conclusions regarding these groups. Despite this, the feedback received from the one member of Council was informative in affirming the interpretation of the first round of engagements. Furthermore, feedback obtained from the external stakeholder provided unique perspective not captured in previous surveys.

The following results will summarize the key findings obtained from resident and business stakeholders.

### *Resident Survey*

Participants indicated numerous factors inhibiting environmental progress in Stony Plain. Among these are financial limitations, lack of education/awareness, lack of willingness to accept change, trouble adapting to change, and trouble refining ideas into action. When asked what can be done to achieve environmental action in Stony Plain, 85% of respondents indicated that focusing on realistic projects that have a positive outcome on the community was the most successful approach. When asked the best method to reach residents with environmentally relevant information, 79% of respondents indicated social media, 24% the Town website, 18% the Stony Plain Reporter, 12% email newsletters, and 3% community bulletin boards.

When participants were given the opportunity to elaborate on waste management priorities, significant concerns expressed include the lack of weekly waste collection, increasing the ease of recycling non-collectable items, and increasing education on what can be recycled. Community-based approaches were also a prominent consideration. Furthermore, when given the opportunity to suggest additional initiatives, respondents generated 16 suggestions of which nine pertained to waste management. Nearly all initiative suggestions overlapped with suggestions provided in the Environmental Awareness Survey.

When respondents were asked what actions can be taken to increase participation in environmental initiatives, 63% of respondents who provided suggestions highlighted the importance of public education and community outreach. Financial incentives, making initiatives mandatory, and increasing the ease of waste management were other common suggestions received.

### *Business Owner Survey*

The majority of business owners held positive views toward the prioritization of the environmental action. Among the 18 respondents, 13 (72%) somewhat or strongly agree that they consider the environment a priority in their daily business operations. Similarly, 13 (72%) of respondents either somewhat or strongly agree that they are in favour of taking environmental action as a business owner.

Energy systems repeatedly emerged as a key area of concern for business owners. When asked if the environment had an impact on their daily business operations, 61% of respondents acknowledged the



specific environmental impacts on their businesses. Energy emerged as a dominant theme with a common concern being the environmental impacts of fossil fuels and the shift to renewable sources of energy. Financial constraints caused by environmental factors were also a common impact area. When asked how environmental policy has impacted their daily business operations, 57% of respondents who had been impacted by environmental policy indicated the financial consequences associated with regulations. The most noteworthy mention was the carbon tax that garnered both positive and negative feedback. When asked if barriers exist that impede environmental progress in the business realm, 13 respondents indicated there were no barriers impeding environmental progress. Of the respondents that did indicate barriers, financial limitations emerged as the common theme.

When asked if they have suggestions for environmental initiatives that may have a positive impact on the respondent's business, only one-third of respondents provided suggestions. Of these, most concerned the adoption of renewable resources and energy efficiency upgrades through financial incentives. However, when asked what the Town can do to help their business become more environmentally friendly, respondents generated a total of 17 suggestions. The predominant themes of these suggestions were energy-based and economic in nature. Some reoccurring suggestions were financial incentives for energy upgrades, lower taxes, and increased educational resources for businesses. Many of the initiatives suggested by business participants were new and had not been captured in previous resident surveys.

## **Next Steps**

Findings from the public participation strategy will be used to finalize the Environmental Master Plan and renew the Environmental Stewardship Strategy to ensure the needs and desires of residents and stakeholders are considered in the final draft of both documents. Findings of the public engagement will be presented to Council at the time of document acceptance and will be posted for public viewing on the Town website.

## **Conclusion**

This public participation opportunity allowed us to assess the extent of environmental awareness and community support for environmental initiatives in Stony Plain. Through the engagement strategy, we engaged residents twice and targeted specific stakeholders within our community who may be impacted by the adoption of environmental initiatives.

Receiving feedback from the community allows Town Administration to make decisions that serve the needs and desires of the community. We heard a diverse range of ideas, thoughts, and comments that will be instrumental in implementing future environmental initiatives in the town of Stony Plain.

We thank all participants who contributed their invaluable time to help Stony Plain become a leader in environmental stewardship.

## Appendices

### Appendix A. Public Participation Schedule

Engagement	Duration	Targeted Audience
Environmental Awareness in Stony Plain	October 16 – November 30, 2020	Residents
Council Workshop	November 12, 2020	Stony Plain Town Council
Internal Working Group	November 9, 2020 – April 12, 2021	Town Administration
Environmental Action in Stony Plain – Follow-Up	February 3 – March 3, 2021	Residents & Stony Plain Council
Environmental Action in Stony Plain – Stakeholders	February 3 – March 3, 2021	Business & Land Development Communities

## Appendix B. Environmental Awareness in Stony Plain Survey

### Welcome

The practice of sustainability ensures that we meet the needs of today's population without compromising the ability of future generations to meet their needs. When thinking about the environment in Stony Plain, how can we ensure current and future planning initiatives promote and preserve the health of the environment for future generations, considering legislative and financial factors? If you are passionate about the future of the environment in Stony Plain, we want to hear from you!

**I consider the health of the environment a priority in the Town of Stony Plain: \***

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

**What does it mean to you to be environmentally friendly? \***

**In your opinion, which of the following environmental topics have the biggest impact on your daily life? Check all that apply:**

- ☐ Air quality
- ☐ Water quality/quantity
- ☐ Land management, farming and agriculture, etc.
- ☐ Food production, access, waste, etc.
- ☐ Drastic weather events (flooding, drought, heavy snowfall, ice storms, etc.)
- ☐ Waste management
- ☐ Ecosystems, biodiversity, wildlife
- ☐ Energy systems
- ☐ Other

**What other environmental topics impact your daily life?**

**Of the topics previously listed, which do you believe is the most significant area of concern in Stony Plain, and why? \***

**Do you participate in environmental initiatives in the community? \***

- ☐ Yes
- ☐ No

**If so, which initiatives do you take part in?**

**If not, is there anything that would encourage you to participate more? \***



**Are there any environmental initiatives you would like to see take place in Stony Plain? \***

- ☐ Yes
- ☐ No

**If so, please describe the type of initiatives you would like to see:**

**What can the Town of Stony Plain do to help you reduce your impact on the environment?**

**I believe an Environmental Master Plan will help improve environmental health in the Town of Stony Plain: \***

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

**If not, what additional steps can we take to create positive, environmental change?**

**Do you have any additional comments, questions or concerns about the health of the environment in Stony Plain?**

### **Thank You**

Thank you for your interest in improving the health of the environment in Stony Plain. Please check the Your Opinion Counts webpage in spring 2021 to see how your feedback was incorporated into the Environmental Master Plan!

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## Appendix C. Environmental Action in Stony Plain Survey

### Welcome

For Stony Plain to become a leader in environmental stewardship, we are creating new strategies to mitigate impacts to the environment. Feedback from the community will guide the creation of an Environmental Master Plan and renewal of the Environmental Stewardship Strategy, which will propose actions for us to achieve our environmental goals.

As a valued stakeholder within the community, your participation in this survey is critical to help us finalize our environmental strategy. We acknowledge that the decisions we make as a municipality have a direct impact on you. As a result, we are interested in incorporating your feedback to bring about environmental change in the town.

**Did you participate in the Environmental Awareness Survey available on the Town's website from October 16 - November 30, 2020? \***

- ☐ Yes
- ☐ No

**Please select the specific group that best fits your role within the community: \***

- ☐ Business owner or operator
- ☐ Councillor
- ☐ External stakeholder (A member of the development community, consultant, or professional working in a field related to sustainability, land use planning, etc.)
- ☐ Resident

*Based on the response above, respondents were directed to one of four surveys, as shown below.*

### Resident Survey

**In your opinion, which of the following is the largest barrier to environmental action in Stony Plain? \***

- ☐ Lack of education/awareness
- ☐ Financial limitations
- ☐ Lack of willingness to accept change
- ☐ Trouble refining ideas into action
- ☐ Trouble adapting to change
- ☐ Other

**In your opinion, what change will have the greatest success creating environmental awareness in the community? \***

- Increasing education and outreach
- Focusing on realistic projects that have a positive outcome on the community
- Providing financial resources to assist in environmental projects
- Other

**One common suggestion from the Environmental Awareness Survey was to increase education on current environmental initiatives. What is the best way to reach you with environmentally relevant information? \***

- Town website
- Social media (Facebook, Instagram, Twitter, LinkedIn, YouTube)
- Community bulletin boards
- Information at Town Office
- Email newsletter
- Newspaper – Stony Plain Reporter

**80% of survey respondents indicated that waste management had a significant impact on their daily life. Increasing the options for materials that can be recycled and making recycling/composting easier were the common concerns expressed.**

**Are there any additional comments you would like to add on impacts of waste management?**

**In the previous survey, there was confusion expressed as to what an environmental initiative was. An example of existing environmental initiatives are the Town's recycling/composting programs and Arbour Day.**

**Knowing this, do you have any suggestions for future initiatives the Town could pursue, that you did not recommend on the first survey?**

**38% of respondents said they do not participate in environmental initiatives. In your opinion, what could be done to encourage residents to become more involved?**

**Do you have any additional comments, questions or concerns about environmental action in Stony Plain?**

## **Business Owner/Operator Survey**

**I consider the health of the environment a priority in my everyday business operations: \***

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

**As a business owner, I am supportive of participating in environmental action: \***

- Strongly agree



- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

**Have changes to the natural environment had an impact on your business operations? If so, how? \***

**Have changes to environmental policies or standards had an impact on your business operations? If so, how? \***

**Are you aware of any environmental initiatives that may have a positive impact on your business operations that you would like the Town to consider? If so, what initiative(s)? \***

**From your perspective, are there barriers preventing you from being more environmentally friendly when owning and operating your business? If so, what? \***

**What can the Town of Stony Plain do to support your business to become more environmentally friendly? \***

**Do you have any additional comments, questions or concerns about environmental action in Stony Plain? \***

## **Council Survey**

The following questions are intended to follow up on the feedback given by Council in the workshop on November 12, 2020 to gain further insight on the most significant suggestions received.

**Council repeatedly stressed the importance of increasing awareness and educating the public about environmental initiatives. Based on your interaction with the community, what are the best ways to reach residents with environmentally relevant information? \***

- Town website
- Social media (Facebook, Instagram, Twitter, LinkedIn, YouTube)
- Community bulletin boards
- Information at Town Office
- Email newsletter
- Newspaper – Stony Plain Reporter

**80% of survey respondents indicated that waste management has a significant impact on their daily life. Increasing the options for materials that can be recycled and making recycling/composting simpler were the major concerns expressed.**

**Do you have any suggestions for how we address these concerns in the EMP?**

**In the previous survey, 86% of respondents strongly or somewhat agreed that they consider the health of the environment a priority while 67% of respondents strongly or**

somewhat agreed that an Environmental Master Plan would be successful in improving the health of Stony Plain's environment.

In your opinion, what will make the Environmental Master Plan successful in achieving our vision?

The most significant environmental concerns identified in the previous survey were ordered as follows from most significant to least significant: waste management, land management and agriculture, drastic weather events, ecosystems, water, energy systems, food production, and air quality.

Do you feel this accurately reflects the issues you hear about and experience within the community?

Survey participants generated a total of 86 suggestions for initiatives for the Town to consider pursuing that encompassed numerous focus areas. Among existing initiatives, participants identified recycling/composting programs followed by Arbour Day as the most popular.

Given this information and your experience in the community, what other initiatives could the Town undertake that would have a similar level of community impact/success?

Do you have any additional comments about feedback given by the community?

## External Stakeholder Survey

I consider the health of the environment a priority in my everyday development, sustainability, or planning operations: \*

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

I am supportive of making a shift toward increasingly environmentally conscious practices: \*

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

Have changes to the natural environment had an impact on your development, sustainability, or planning operations in the Edmonton region? If so, how? \*

**Have changes to environmental policies or standards had an impact on your development, sustainability, or planning operations in the Edmonton region? If so, how? \***

**Is your organization involved with environmental initiatives in other municipalities that could be implemented in Stony Plain? If so, what initiative(s)? \***

**Are you aware of any environmental initiatives that may have a positive impact on your development, sustainability, or planning operations that you would like the Town to consider? If so, what initiative(s)? \***

**From your perspective, what are the barriers to environmental progress for industries related to land development, sustainability, or planning? \***

**What can municipalities do to support industries related to land development, sustainability, or planning to become more environmentally friendly? \***

**Do you have any additional comments, questions or concerns about environmental action in Stony Plain? \***

### **Thank You!**

Thank you for taking the time to complete this survey. Your feedback will help us finalize our environmental strategies.

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## Appendix D. Questions Received in the Survey.

Survey respondents were given the opportunity to ask questions in the survey. Questions also occurred throughout the survey. Questions relevant to the environmental action/awareness in Stony Plain are addressed below.

*Too much exhaust in the air from vehicles. An anti idling bylaw might help. Is there one already?*

Stony Plain's *Traffic Bylaw* prohibits idling for greater than 30 minutes for all vehicles.

*Why can't we use blue bins like green bins?*

Blue recycling bins are not used for multiple reasons, including collector safety, quality degradation, and spread of litter. Blue bins create a hazard for collection workers due to the non-concealed nature of bins. Secondly, many recyclable materials are sensitive to moisture and dust. For example, rainfall into an open bin can dampen paper making them unsuitable for recycling and dust can make plastics dirty making the recycling process inefficient. This is not the case for compostable items as the ultimate purpose of organics collection is decomposition. Lastly, recyclable items such as paper and single-use plastics are light and can be blown away on windy days leading to the problem of litter flying around neighbourhoods on collection day. Recently, the City of Edmonton also announced that collectors will no longer pick up recyclables up from blue bins due to the reasons mentioned above.

([https://www.edmonton.ca/programs\\_services/garbage\\_waste/garbage-collection-blue-bag-recycling.aspx](https://www.edmonton.ca/programs_services/garbage_waste/garbage-collection-blue-bag-recycling.aspx))

*What is being done to ensure the quality of our water? Personally we use a complex filtration system to ensure that as many toxins are taken out of the our water as possible.*

The Town of Stony Plain receives its water from the City of Edmonton. Please visit these websites for more information from EPCOR: <https://www.epcor.com/products-services/water/water-quality/Pages/water-wastewater-treatment.aspx>  
<https://www.epcor.com/products-services/water/Documents/edmonton-water-treatment-process.pdf>

*What environmental initiatives could take place in town?*

There are several possibilities for environmental initiatives in the town. Some existing initiatives are the recycling/composting programs, Arbour Day, annual Shred-It event, annual treasure hunt, and the Recycle Coach App. Future initiatives will be planned based on financial resources, impact, and community interest.

*Are there possibilities to encourage people to use environmentally-friendly alternatives? Can they be advertised?*

Yes. Increased education and community outreach are critical and will be explored through the recommendations in the Environmental Stewardship Strategy.

*We have also seen a lot of drastic weather over the last few years in our community and how can we manage that?*

As a community, we must take a holistic approach to understand and respond to the impacts of climate change on our infrastructure, residents, businesses, and environment. Municipal documents such as the Municipal Development Plan and Stormwater Management Master Plan have aimed to take an adaptive approach to make our community more resilient to future extreme weather events.

*Could some of the cannabis greenhouses be large organic food producers instead of cannabis, especially if some of them become unsuccessful in competing for the cannabis market?*

Potentially, depending on circumstances of the individual. If an individual is inclined to become a greenhouse producer, they are welcome to do so provided they obtain a business license, abide by the Town's Land Use Bylaw, and obtain necessary permits from the Town.

*Could we tap onto the exhaust of numerous large industry engines channeling the exhaust into a heat exchanger and then sending hot piped water into a greenhouse operation with fans to distribute the heat before returning the piped water back to the exchanger to be reheated?*

District energy (also known as community energy) is a process by which heat sourced from a single location is brought to multiple buildings using insulated piping. Strathcona County has explored and implemented district energy to provide heat and hot water to a number of buildings (<https://www.strathcona.ca/agriculture-environment/environment-and-conservation/environmental-initiatives/community-energy/>) and the University of Alberta campus also operates on a district energy system (<https://www.ualberta.ca/vice-president-facilities-operations/projects/our-district-energy-system.html>). Industrial heat channels are a potential source of district energy that could theoretically be used to heat greenhouses. Technology makes it possible, but there are challenges with practicality when trying to incorporate this technology in Stony Plain.

*I work in the environmental space, who can I speak to in regards to hydrocarbon clean up or brownfields?*

We recommend compliance with the Government of Alberta's standards and regulations for hydrocarbon remediation. Alberta Environment and Parks provides extensive resources on their two-tiered approach to remediating hydrocarbon contamination in land and water. A description of the various types of brownfield contamination, including hydrocarbon pollution, in addition to remediation response can be accessed through this link: <https://www.alberta.ca/part-one-soil-and-groundwater-remediation.aspx>.

## **APPENDIX B: RELATIONSHIP BETWEEN MDP AND EMP POLICIES**



**Table 2** summarizes the five environmental Directions outlined in the MDP and resulting EMP policies that aim to address this.

MDP Direction	Resulting EMP Policies
<b>1.1. Recognize the Town's commitment to the health of our environment.</b>	<p>1.2. The Town will strive to minimize and eliminate the use of compounds that deplete the ozone layer.</p> <p>2.1. The Town will aim to conserve forests, wetlands, soil, biodiversity, vegetation, and environmentally significant natural areas for future generations.</p> <p>2.2. The Town will aspire to enhance existing natural ecosystems and the Natural Conservation Area through effective ecosystem monitoring, management, and maintenance.</p> <p>2.3. The Town will aim to protect natural ecosystems from invasive species, pests, erosion, contamination, and pollution through environmental regulations, bylaws, and guidelines.</p> <p>2.4. The Town will promote the incorporation of existing ecosystems into new developments and encourage development practices that limit ecological disturbance.</p> <p>2.5. The Town will collaborate with neighbouring municipalities, regional stakeholders, and higher orders of government to manage the health of the regional ecosystem at-large.</p> <p>2.8. The Town will strive to enhance its urban forest through integrative urban forest management approaches that support the surrounding native ecosystems.</p> <p>2.9. The Town will aim to enhance its urban biodiversity by increasing habitat connectivity between natural areas, greenspaces, and waterways.</p> <p>2.11. The Town will aim to mitigate the impacts of the urban heat island through innovation in built form, architecture, and vegetation.</p> <p>2.12. The Town will promote the stewardship of Stony Plain's natural, agricultural, and urban ecosystems through public education and involve the community in initiatives and projects that foster the wellbeing of our ecosystems.</p> <p>3.1. The Town will explore innovative air quality monitoring technology to monitor air quality over time to inform future action.</p> <p>3.2. The Town will strive to reduce the amount of sulphur oxides, nitrogen oxides, volatile organic compounds, ammonia, carbon monoxide, fine particulates, and other noxious air pollutants that are emitted within municipal boundaries to acceptable levels.</p> <p>3.3. The Town will explore and strive to adopt innovative technologies that prevent the emission of noxious air pollutants within municipal boundaries.</p> <p>3.4. The Town will aim to adopt bylaws and regulations to control and limit the emission of pollutants within municipal boundaries.</p> <p>3.5. The Town will aim to collaborate with regional partners to participate in joint initiatives that improve the health of the airshed.</p> <p>3.6. The Town will strive to increase public education on the impacts of air pollution to encourage practices that limit air pollution and improve air quality.</p> <p>4.1. The Town will seek collaboration with local and regional stakeholders and organizations to improve and maintain the health of the North Saskatchewan Watershed and Sturgeon Subwatershed.</p> <p>4.2. The Town will strive to protect, conserve, and maintain native aquatic ecosystems through the monitoring of pollutants, bacteria, leachates, invasive species, discharge rates, and pests.</p> <p>4.3. The Town will leverage ecosystem services provided by native aquatic systems for the benefits of biodiversity, flood mitigation, and stormwater treatment.</p> <p>4.4. The Town will aim to ensure stakeholder compliance with provincial and federal water legislation through community education and municipal-level environmental leadership.</p> <p>4.7. The Town will strive to mitigate the negative impacts of stormwater discharge into the drainage basin by monitoring suspended solids, dissolved contaminants, invasive species, and discharge rate while incorporating ecosystem-based solutions for treatment and filtration.</p> <p>4.8. The Town will comply with provincial legislation regulating stormwater discharge into natural ecosystems.</p> <p>4.9. The Town will strive to minimize the prevalence of pesticides, herbicides, salts, and fertilizers entering stormwater.</p> <p>4.10. The Town will encourage property owners to adopt ecosystem-based stormwater management approaches to reduce infrastructural strain on the storm sewer system.</p> <p>4.11. The Town will strive to educate residents, businesses, and developers on stormwater actions and best practices.</p>

	4.13. The Town will aim to properly treat all storm-, grey-, and wastewater prior to discharge.
<b>1.2. Enable innovative renewable energy and water reduction strategies.</b>	<p>1.1. The Town will explore renewable energy options to reduce Stony Plain's reliance on fossil fuels in the municipal, residential, industrial, commercial, and agricultural realm.</p> <p>1.3. The Town will assess its facilities, vehicles, and infrastructure on an ongoing basis to ensure they are regularly updated to improve energy-efficiency.</p> <p>1.4. The Town will aim to assist the community in upgrading and retrofitting their assets improve energy-efficiency.</p> <p>1.5. The Town will promote the use of innovative energy-efficient design, engineering, and architecture in new developments.</p> <p>1.6. The Town will promote active and low-emission motorized transportation by endorsing active transportation and transit.</p> <p>1.7. The Town will promote collaboration with neighbouring municipalities, regional organizations, and other orders of government to reduce greenhouse gas emissions at a larger scale.</p> <p>1.8. The Town will strive to use creative approaches and diverse platforms to educate the community on energy-efficiency and alternative energy sources.</p> <p>1.9. The Town will aim to use community outreach to encourage residents, businesses, and developers to participate in the transition toward renewable energy resources.</p> <p>4.12. The Town will promote the use of water-efficient appliances, infrastructure, and technology in municipal facilities, businesses, and households.</p> <p>4.14. The Town will explore innovative technologies to increase the efficiency of water usage.</p> <p>4.15. The Town will support residents and stakeholders in the transition to increased water-efficiency.</p>
<b>1.3. Improve solid waste management.</b>	<p>5.1. The Town will encourage residents, staff, businesses, and developers to refrain from procuring and using products that degrade the environment.</p> <p>5.2. The Town will strive to reduce the amount of waste sent to landfills by pursuing progressive innovation in diversion initiatives.</p> <p>5.3. The Town will strive to conduct regular waste audits to set quantitative diversion, recycling, and composting goals and inform basis for future action.</p> <p>5.4. The Town will strive to reduce the amount of waste sent to landfills through reuse, reclaim, and rehome initiatives.</p> <p>5.5. The Town will strive to collaborate with stakeholders and residents to organize and promote initiatives that allow for reuse, reclaim, and rehome opportunities.</p> <p>5.6. The Town will strive to extend life of raw resources through the collection of recyclables.</p> <p>5.7. The Town will foster collaboration with regional partners and senior orders of government to deliver innovative recycling approaches.</p> <p>5.8. The Town will educate residents and stakeholders on items suitable for recycling and composting, and the management of environmentally hazardous products.</p> <p>5.9. The Town will strive to use its composting program to return food, garden, and yard organic materials to a natural state to sustain ecological processes and agriculture.</p> <p>5.10. The Town will strive to educate the community on items suitable for reusing, recycling, and composting.</p> <p>5.11. The Town will aim to be open and transparent about its waste management initiatives and will actively attempt to include residents in the decision-making process.</p>
<b>1.4. Avoid noise impacts and unwanted light.</b>	<p>3.7. The Town will explore noise level monitoring near railways and major roadways to assess environmental impacts and inform future action.</p> <p>3.8. The Town will promote inclusion of natural and artificial noise reduction infrastructure, technology, and architecture to reduce the impacts of noise pollution on humans and the ecosystem.</p> <p>3.9. The Town will strive to limit the use of unnecessarily bright and non-focused lighting across all Town-operated infrastructure while maintaining adequate lighting in the public realm.</p> <p>3.10. The Town will encourage residents and stakeholders to limit the use of unnecessary lighting that contributes to light pollution.</p> <p>3.11. The Town will aspire to preserve dark sky in natural areas for astronomical skygazing</p>
<b>1.5. Address issues of community resiliency.</b>	2.6. The Town will aim to reduce the fragmentation and loss of agricultural lands by encouraging development practices that promote efficient land use.

	<p>2.7. The Town will promote urban agriculture at the household and community-scales to increase local food security.</p> <p>2.10. The Town will leverage the sociocultural benefits of greenspaces and natural areas to improve human health and wellbeing.</p> <p>4.5. The Town will discourage development in flood-prone areas, while flood-proofing existing vulnerable areas by combining engineering and ecosystem-based approaches.</p> <p>4.6. The Town will encourage development practices that reduce the risk of urban flooding through the incorporation of catchment ponds and wetlands, resilient sewer infrastructure, permeable materials, and vegetation.</p>
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