

CONNECTING A PULP AND PAPER COMPANY TOWN: POWerview-PINE FALLS

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A practicum submitted to the Faculty of Graduate Students of the University of Manitoba

In partial fulfillment of the requirements of the degree of

Masters of Landscape Architecture

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Faculty of Architecture

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FROZEN WINNIPEG RIVER FROM BOAT LAUNCH

ABSTRACT:

The town of Powerview-Pine Falls, located along the shores of Winnipeg River, was originally two towns developed to serve a pulp and paper mill company. With the closure of the mill and merging of Powerview and Pine Falls, issues arose regarding poverty, segregation and poor pedestrian circulation. The goal of this practicum is to make the community a more pleasant place to live by enhancing the outdoor environment. It explores opportunities to better the lives of permanent residents by developing a system of landscape and pedestrian corridors that acknowledge the town's history and celebrate the beauty and diversity of the boreal shield, while enhancing opportunities for tourism.

Introduction





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University of Manitoba 2017

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Brenda Brown [Chair]
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DUCK LOOP SKI TRAIL CHALET DURING SPRING MELT

I would like to recognize the people who played an important role in the completion of this practicum project. First, I would like to recognize my committee chair and practicum advisor, Brenda Brown, for her encouragement, dedication and inspiration. You have motivated me throughout my Bachelor of Environmental Design and Masters of Landscape Architecture degrees, pushing me to further my knowledge and enhance my skills.

To Ted McLachlan and Shirley Thompson, I cannot thank you enough for your involvement throughout the practicum project. Your thoughtful advice, and encouragement greatly influenced the work produced, helping me complete the project in a short time-frame.

To the mayor, council, and community members of Powerview-Pine Falls, thank you for welcoming me into your community and exposing me to your personal stories.

To my relatives in Powerview-Pine Falls, thank you for opening your homes, sharing your stories and introducing me to your friends. Without your networking and advice, this project would not be all it is today.

Finally, thank you to my parents, brother, boyfriend and friends for all your love, encouragement and support throughout my education. I am truly lucky to have a strong social network that supported me throughout this process.

ACKNOWLEDGMENTS

I see the community of Powerview-Pine Falls as a second home, not just a practicum subject. Since I was a little girl, I have visited the community monthly to see relatives who still live there. My mother and father grew up and met in the community decades ago. After graduating from high school my parents moved to Winnipeg, but frequently visit their family in Powerview-Pine Falls.

Many of my relatives, including one of my aunties, a few uncles and my grandfather worked in the mill for most of their lives. The mill was a source of pride and livelihood for these community members. The closure of the mill in 2010 brought great pain to many people that I love. Their pain and perseverance throughout tough times served as inspiration for the practicum. I am grateful I had the opportunity to work in Powerview-Pine Falls, as I now feel closer to the community, and to my relatives who inspired me.

PERSONAL NOTE

My close connection to the community, and my continued visits over my twenty-four years of life, gave me an advantage going into the project: I already knew the community quite well though I needed to understand it from a design perspective. Over the course of the research I visited the community over fifteen times, performing site analysis on different areas, meeting with community members, and exploring the community on a personal level.

My personal experiences, my conversations with community and family members determined the questions this practicum addresses: How can a design intervention that enhances the outdoor environment better the lives of community members? Can the development of landscape and pedestrian corridors achieve this goal? How can the corridors acknowledge the town's history and celebrate the beauty and diversity of the boreal shield? Can the enhancement of the outdoor environment promote tourism in a way that respects permanent residents?



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I was attracted to Powerview-Pine Falls as the setting for this study because of the strong network of people in the community who have persevered through hard times since Tembec Pulp and Paper Mill closed eight years ago. Marcel Pitre, a local writer, expressed his confidence that Powerview-Pine Falls would survive through the hardship with his statement, “The town of [Powerview-] Pine Falls and the region will continue to grow from a paper mill era on into a bright future” (Pitre, 2013, p.71). With this practicum project I hope to enhance the possibilities of that statement. Powerview-Pine Falls has potential to become a beautiful Manitoba attraction.

Powerview-Pine Falls is approximately 132 kilometers northeast of Winnipeg. It was originally two separate townships: a company town, and a byproduct of it. In 2005, the two towns merged into one, as Pine Falls, the company town, was no longer maintained by the company and needed to become part of the rural municipality for survival. Pine Falls was formed in 1926 when John McArthur and the Spanish Pulp and Paper Company constructed the Manitoba Pulp and Paper Mill in Fort Alexander (Bayly, 2002). Original settlers of Pine Falls viewed their development as the first occupation of the region neglecting to acknowledge the First Nation settlers who occupied the region for

centuries prior (Pitre, 2013). Occupation of the region prior to mill development was comparatively less destructive. First Nations relied on their surrounding landscape for survival through harvesting and hunting practices. During the mill era, the towns of Powerview and Pine Falls threatened the integrity of the boreal forest ecosystem through their exploitive relationship that relied on the destruction of forest resources for economic gain. Learning about forest industry harvesting and paper making processes has allowed me to understand how destructive this industry has been on the quality and amount of mature forest habitat. For example: the desire to increase logging profits resulted in increased wood harvesting, a “Loss of old growth forests, degradation of wildlife habitats, and conversion from coniferous softwood dominated forests to hardwood” (CPAWS, n.d.).

Abitibi-Price took ownership of the mill and town in 1928 (Bayly, 2002). All of Pine Falls was owned and controlled by the company. With time, the mill grew into one of the most successful pulp and paper mills in western Canada. With success came growth of mill facilities, town resources and the new municipal community of Powerview, originally formed in 1951 during the construction of the Pine Falls Generating Station. With this success also came failure; failure to upgrade facilities, failure to amend policies and follow changing laws, and failure to respect the surrounding ecosystems. As controversies grew

PREFACE

and profits dropped in the changing newsprint market, the owners of the Abitibi-Price Pulp and Paper mill sold their shares and moved on. In 1995 the mill was sold to the workers who sold it in turn to Tembec Paper Company in 1998 (Pitre, 2013).

Tembec took over ownership of the mill and town site during a rough era in the forestry industry. The low American dollar, the increase in paper making costs, and the implementation of stricter forest management policies made it extremely difficult for Tembec Pulp and Paper Mill to profit in Powerview-Pine Falls. In 2009 the pulp and paper company closed its doors forever, locking out hundreds of workers and transforming a rural town of mill workers into a town of struggling individuals looking for opportunities in an area with few alternative employment possibilities (Pitre, 2013). Since then, the demographics have altered with residents over the age of 50 increasing from 445 in 2006 to 530 in 2016. Residents between the age of 20-50 decreased from 480 in 2006 to 415 in 2016 (Statistics Canada, 2007 & Statistics Canada, 2017). Other changes include a crashed housing market, an increased vacancy rate and rejuvenation of forest and aquatic ecosystems.

The goal of this practicum is to better the lives of permanent residents by enhancing their outdoor environment, and

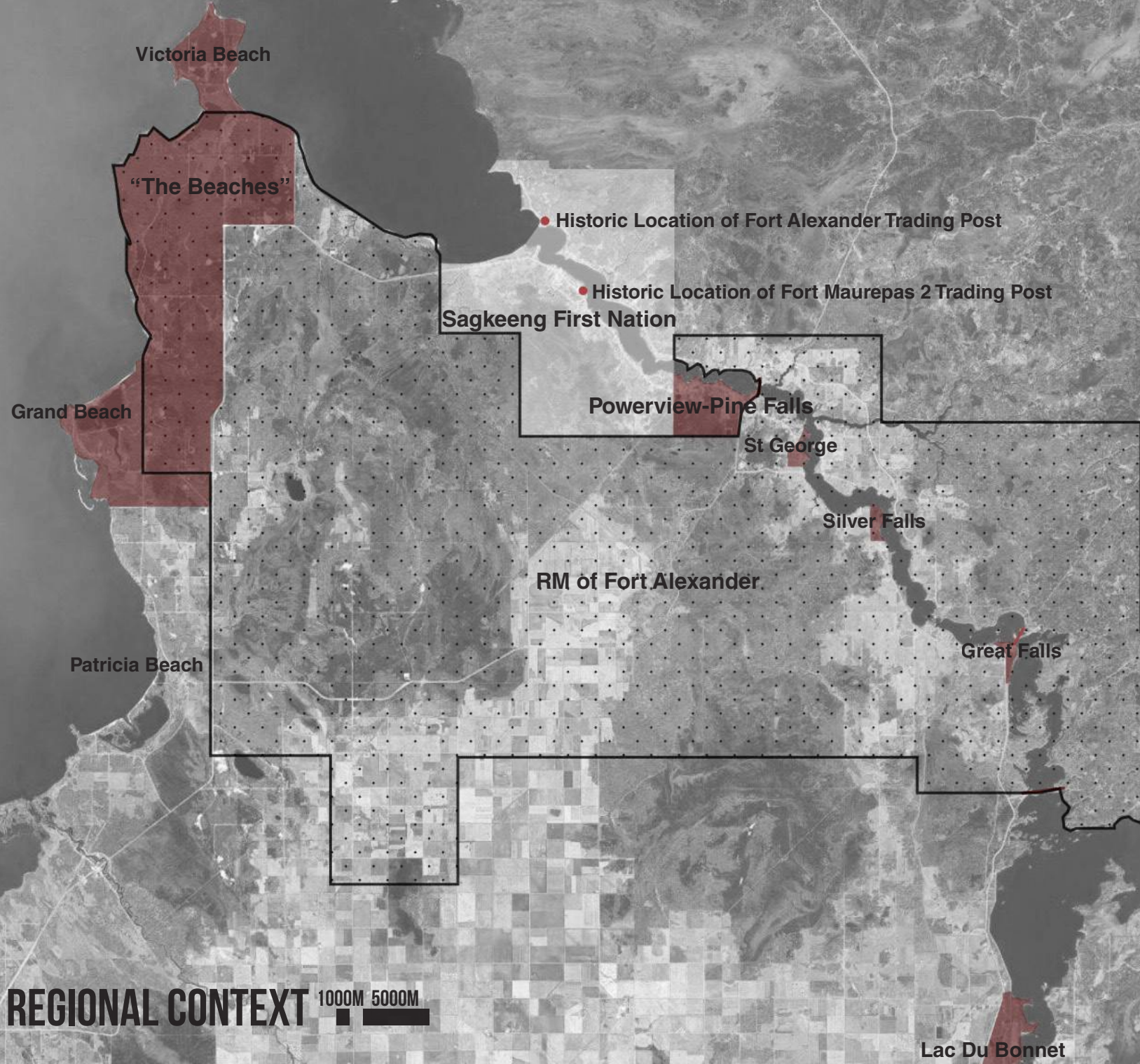
establishing a new relationship between Powerview-Pine Falls and the surrounding landscape. The project takes advantage of opportunities to rethink landscape and social networks and reintegrate landscape and pedestrian infrastructure.

The objectives are to:

1. Regenerate the landscape through the introduction of forest, riparian forest, shrub and meadow species.
2. Develop a system of pedestrian corridors
3. Enhance opportunities for tourism

To achieve these objectives I investigate the history of the town and the pulp and paper mill, the stories of locals still living in Powerview-Pine Falls, the practices of forest management and paper mill production in Manitoba, and analyze the site, exploring the context and specific elements of the community. I achieved Joint Faculty Research Ethics Board approval, and through interviews, I gathered baseline information that was not available in datasets. These four areas of investigation are detailed further in the practicum, with a final section outlining the design intervention that aims to achieve the goal by focusing on the three objectives and the related site analyses.

REGIONAL HISTORY



REGIONAL CONTEXT 1000M 5000M

Lac Du Bonnet

REGIONAL HISTORY: INTRODUCTION

In this section the history of the region is considered in order to understand how permanent residents historically lived and interacted with the landscape. The section explains how the region was developed, and why it worked previously and why it does not now.

This section is divided into four parts:

1. Life before the invasion of industry
2. The era of the pulp and paper mill
3. The region after the pulp and paper mill
4. Landscape changes

The social, infrastructural and landscape elements of each era are discussed in order to convey the complex dynamics that dramatically changed the region and Powerview-Pine Falls over a century.

Powerview-Pine Falls' history is intertwined with that of the region and so this section discusses the communities, areas and elements shown in the adjacent regional map.



HISTORY: TIME-LINE OF PRIMARY CONTACT

Pre-mill Era

FIRST NATIONS

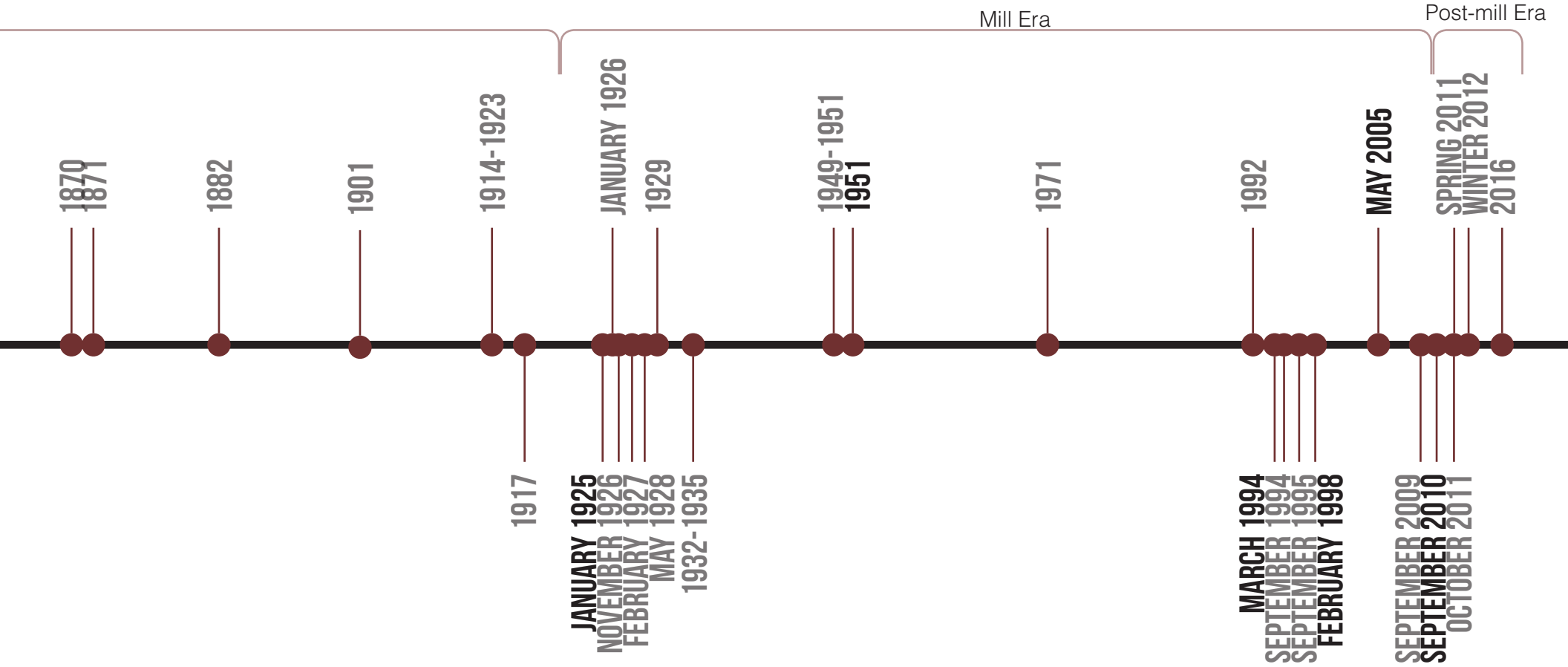
1734
EUROPEAN CONTACT

1821

This time-line demonstrates the rapid development that occurred in the region between the years of 1925-2011. Looking at the history holistically demonstrates the short duration of the mill era in the larger context of the occupation of the area.



PINE FALLS, 1948



7

300 YEARS AGO

Salteaux Indians migrated from Upper Great Lakes to Sagkeeng First Nation

1734

First settlers traveled to region, erected Fort Maurepas 2 Trading Post.

1818

Fort Alexander Trading Post erected.

First Nation Settlement before the Invasion of Industry

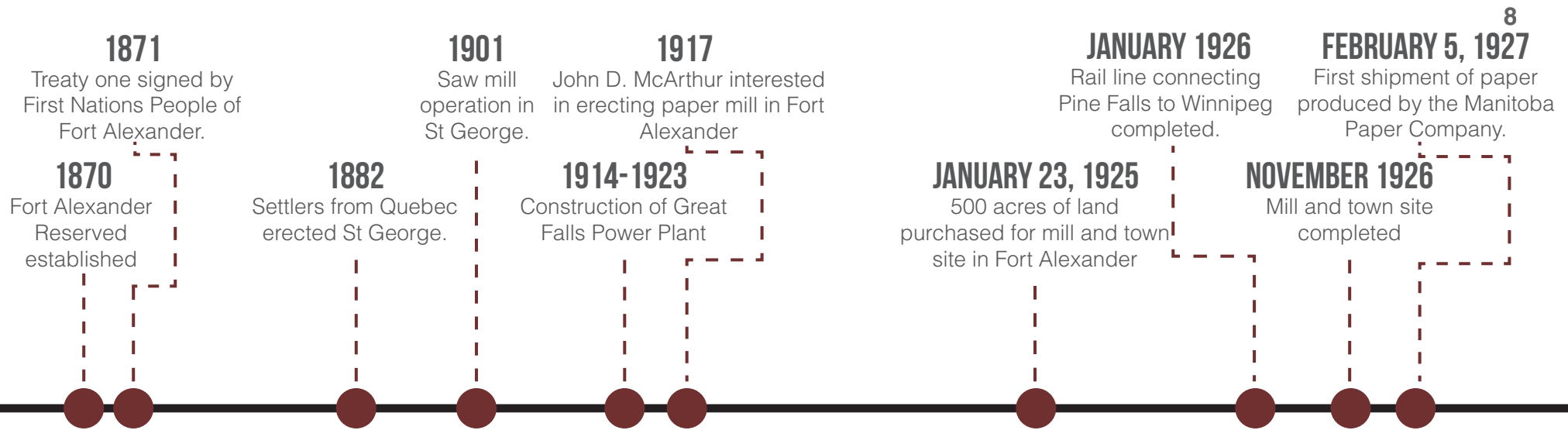
Many early residents of Powerview-Pine Falls neglected to acknowledge that the territory was occupied prior to mill development by Salteaux Indians who had migrated westward from the eastern woodlands of the Upper Great Lakes some three centuries prior (Buckley and Sprenger, 1995). These First Nations inhabited land historically known as Fort Alexander. European contact with residents of Fort Alexander was documented in 1734 when the son of La Verendrye (a famous Manitoba explorer) discovered the area occupied at the mouth of Winnipeg River (Rotoff, n.d).

Shortly after this discovery, Fort Maurepas 2 trading post was constructed on Fort Alexander land along the banks of Winnipeg River by the North-West Trading Company (Goldsborough, 2013). Trading of goods, such as furs, food and alcohol between First Nations and European settlers occurred at Fort Maurepas 2 from 1739 to 1742. The trading post was burned down in 1747 and rebuilt in 1748. Trading operations ended at Fort Maurepas 2 sometime between 1748 and 1763, permanently halting in 1763 when the fort was once again burned down (Manitoba Historical Society, 2016).

HISTORY: PRE-MILL

Approximately ten kilometers downstream of Fort Maurepas 2, Fort Alexander trading post was established by Hudson's Bay Trading company. This fort traded goods between First Nations and European settlers from 1818 until 1941 (Bayly, 2002). In 1870 First Nations of Fort Alexander were limited by Canadian officials to land in an area now known as Sagkeeng First Nation Reserve (Buckley and Sprenger, 1995). On August 3, 1871, Treaty One, the first of eleven Canadian treaties, was signed between Canadian officials and First Nations people of Sagkeeng First Nation and the surrounding region (Sagkeeng Anishinaabe, 2015). The First Nations hoped it would protect their traditional lands and livelihoods, while the Canadian officials aimed to assimilate First Nations people and organize settlement in the surrounding territory. Due to this disconnect between participants, conflict remains regarding the affects of Treaty One (Albers, 2015).

Prior to the invasion of industry, the Anishinaabe First Nations of Fort Alexander had a relationship with the landscape that was comparatively less destructive than modern industry. First Nations relied on their surrounding landscape for survival, through harvesting and hunting practices. These survival practices became significantly limited by the exploitative practices of the forestry industry through deforestation and pollution.



Earlier Settlements Upstream along Winnipeg River

Upstream on Winnipeg River settlers arriving from Chateauguy County, Quebec erected the town of St. George of Chateauguy in 1882 (Bayly, 2002). In 1901 a small saw mill operation started in the community capitalizing on the surrounding mature boreal forest (Buckley and Sprenger, 1995). Further upstream, the town of Lac Du Bonnet was built with a rail-line connecting the area to Winnipeg. Between St George and Lac Du Bonnet the small settlement of Great Falls formed in 1914 when the Winnipeg Hydroelectric Company constructed Great Falls Hydroelectric Power Plant. World War I postponed the hydroelectric plant's completion until 1923 (Bayly, 2002). The development of this and other hydroelectric dams along Winnipeg River, as well as the abundance of mature boreal forest spurred the interest of forest industries, significantly altering the landscape and the lives of original settlers (Bayly, 2002).

Conception of the town 1917-1927

Western pioneer railroad builder, John D. McArthur explored Fort Alexander in 1917 and examined the region's water and forest resources (Rotoff, n.d.). In 1924 he negotiated the erection of Manitoba's first pulp and paper mill (Lavallee, n.d.). The pulp and

paper mill originally was commissioned to be built in St Boniface to solve Manitoba's unemployment problems (Lavallee, n.d.). However, the development of the mill in St Boniface was controversial, as residents desired employment opportunities but feared pollution of their land. Numerous Canadian and American newsprint manufacturers were concerned about increased competition and discouraged pulp and paper manufactures from proceeding with development. McArthur persevered, eventually securing the Spanish Pulp and Paper Company as a viable pulp and paper manufacturer. This company was interested in mill development outside the district of Winnipeg (Lavallee, n.d.). On January 23, 1925 McArthur and the Spanish Pulp and Paper Company purchased 500 acres of Fort Alexander land from the Department of Indian Affairs, an organization historically responsible for crown land in Canada. They constructed the town site of Pine Falls and the first pulp and paper plant in the prairie provinces (Bayly, n.d & Lavallee, n.d.).

By fall 1925 groundwork began on the mill and town site in Fort Alexander. Pine Falls was designed by landscape architect and town planner, Leonard Schlemm, as a Garden-City, with town houses surrounding a town park. It is considered the first planned Manitoba town (Rotoff, n.d). By January 1926 a twenty mile railway

HISTORY: MILL ERA

MAY 1928

The Manitoba Paper Company transferred ownership of the mill to the Abitibi-Price Ltd. Company

1932-1935

The Abitibi-Price Paper Mill stops operations during the Great Depression

1929

Construction of road between Pine Falls and Lac Du Bonnet begins

to Beaconia, in “the beaches” was developed, speeding up the shipment of construction materials. By November 1927 the mill was completed and the town site was livable. It contained 110 modern dwellings, a five room school, a twenty-bed hospital, a tennis court, golf course, baseball facilities, football facilities, a curling rink and an outdoor hockey rink and was equipped with electricity, sewer systems and water mains. On February 5, 1927 the first Manitoba newsprint shipment was exported to the Manitoba Free Press via the railway. The majority of the newsprint produced by the mill in Pine Falls was shipped to American companies (Pitre, n.d). The company town of Pine Falls attracted workers from all over North American, offering employment and cheap living conditions in a beautiful setting. “Where miles of dense woods were growing but a few months ago, the land is now dotted with little buildings for the welfare of the working community” (Lavallee, n.d.).

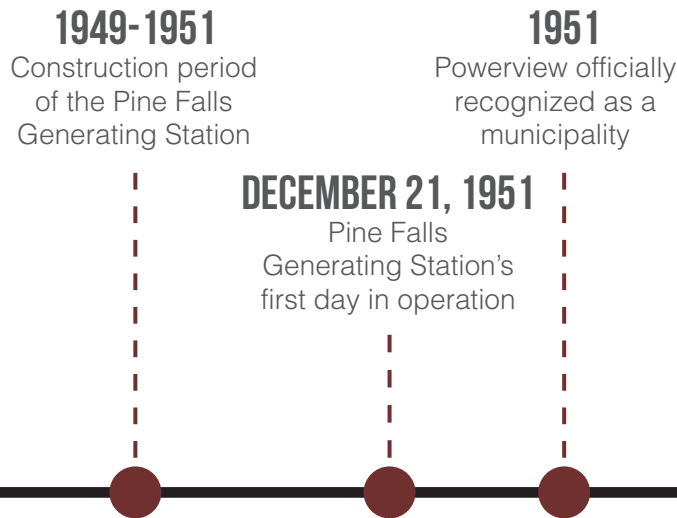
Abitibi-Price Paper Mill 1928-1994

Abitibi-Price Ltd merged with the Spanish Paper Company to become the Abitibi-Price Pulp and Paper Mill in 1928 (Gale, 2006). When John D. McArthur passed away in May 1928, Abitibi-Price became the sole owner (Nicholson, 2000). At the start of Abitibi-Price’s reign the mill was hit hard by the Great Depression which forced it to cease operations from 1932 to 1935. The stock market

crash in USA led to a lack of newsprint orders. The closure of Pine Falls’ one industry could have been devastating, but Abitibi-Price lowered rent charges and provided subsistence wages to workers to ensure the mill had a viable workforce post-depression (Pitre, 2013). After the depression the mill reopened and did not close again until its final day in 2010.

The economic benefits from mill activities were felt beyond Pine Falls, particularly in Great Falls, Lac Du Bonnet, and both sides of Lake Winnipeg where locals were hired to work on bush projects. Bush projects involved the harvesting and shipping of timber to Pine Falls (Pitre, 2013). This process is further described in Section 4: Forest Management and Paper Making. In 1929 road construction began between the communities of Pine Falls and Lac Du Bonnet, making the commute to Winnipeg more fesiabile (Pitre, 2013).

The success of the Abitibi-Price Pulp and Paper Mill required more power from a direct source. From 1949 to 1952 Pine Falls Generating Station was constructed on Winnipeg River. 638 employees worked on its construction. The project cost \$23.5 million and required a two kilometer extension of the railway from the mill to the construction site, the relocation of 2.5 miles of Provincial Trunk Highway #11 between St George and Pine Falls, the removal



of 88 cubic yards of coffer dam material, excavation of 126,000 cubic yards of rock and erection of the dam made up of 117,000 cubic yards of concrete (Province of Manitoba, 1949). Pine Falls Generating Station contained six 115kv and two 66kv transmission lines with two of the 115kv transmission lines directly sourcing the Abitibi-Price Pulp and Paper Mill. By 1951 the new hydroelectric plant was powered on (Manitoba Hydro, Pine Falls.). Many of the construction workers from the dam remained in the region, acquiring positions at the mill. Most took residence outside of Pine Falls, on land that in 1951 officially became recognized as the municipality of Powerview (Pitre, n.d).

Powerview emerged because of the lack of available housing for new residents in Pine Falls and restrictions on Pine Falls residents. Pine Falls residents were unable to buy their houses because the company owned all the homes. These residents were forced to rent or lease their property. These housing policies changed around 1950. Moreover, only workers from the mill or Pine Falls business owners and their family members could live in Pine Falls and retired workers could no longer able to reside in the town, and were forced to move following retirement (Pitre, 2013).

However, living in Pine Falls had many benefits as Abitibi-Price

developed and funded every aspect of Pine Falls including facility upgrades and maintenance, house repairs, street work, sewer work, event organization, and sport facilities. Residents of Powerview did not enjoy the subsidies from Abitibi-Price and felt left out. Many residents of Powerview struggled to get jobs at the mill. The differences made for tensions between the towns. However, over time these tensions subsided as amenities and opportunities expanded in both communities. Powerview expanded to contain facilities that once were only available in Pine Falls, such as a school, hockey rink, restaurants, hotel and sport facilities. Expansions and continued maintenance over time in both towns attracted residents to the region, creating an environment that was considered a good place to live (Pitre, 2013).

In 1975 Abitibi-Price organized a vote in Pine Falls to determine if the town should remain a company town or incorporate into the municipal government system. An overwhelming majority of residents voted to remain a company town, as they appreciated the company's continuous contributions to their community (Pitre, 2013).

During the mill era the towns of Powerview and Pine Falls threatened the boreal forest ecosystem through their exploitive relationship with the landscape that relied on the destruction of forest resources

1971

Development of the Pulp and Paper Effluent Regulation (PPER), not yet enforced on Abitibi-Price

1975

Pine Falls voted to remain a company town

1992

PPER changes rules to enforce regulations on Abitibi-Price, provides two year transition period

JANUARY 1 - MAY 7, 1994

Abitibi-Price mill operating in violation of the PPER

DECEMBER 31, 1993

Deadline for Abitibi-Price mill to upgrade facilities

MARCH 1994

Mill illegally dumped a ton of buzan-52 into Winnipeg River

1994

Members of Sagkeeng First Nation march in protest over buzan-52

for economic gain. These impacts included “damage to wildlife habitat, fragmentation of forest and wetlands with roads and other disturbances, changes to water and nutrient cycles and contamination of wilderness areas with toxic chemicals” (CPAWS, n.d.). Forest management practices and policies regarding these impacts are discussed further in Section 4: Forest Management and Paper Making.

The Fall of Abitibi-Price Ltd. and the Rise of the Mill Workers

In 1992 the Pulp and Paper Effluent Regulations (PPER) were updated to enforce new effluent quality standards for all mills in Canada. Prior to 1992 the regulations were only enforced on mills formed post 1971 (Environment and Climate Change Canada, 2016). These updated regulations required Abitibi-Price Pulp and Paper Mill in Pine Falls to upgrade their facilities by December 31, 1993 (Daywalker, 1994). The company did not comply with the PPER’s demands and requested a transitional authorization (TA) which would allow it to continue dumping untreated effluent into Winnipeg River. During the negotiation period the company continued operating in violation of the PPER from January 1, 1993 to May 7, 1993 (Chambers, 1998). Further negotiations permitted the mill to operate as long as development was occurring on a new water treatment plant. No development was observed and in March

1994 the mill released a ton of buzan-52 into Winnipeg River without immediately reporting it. It was reported three days later, again in violation to the PPER and creating tensions in the downstream town of Sagkeeng First Nation. Sagkeeng residents marched the streets of Pine Falls and Winnipeg in protest, demanding the immediate full closure of the mill due to its failure to comply with PPER standards (Daywalker, 1994).

The decreasing newsprint market, the increase in harvesting costs, and the needed funding for facility upgrades discouraged the owners Abitibi-Price. After attempts to generate funds for mill upgrades by negotiating a 10% wage cuts from workers, the mill still struggled and the Abitibi-Price Mill sought new ownership in 1994 after their violation of PPER regulations (Pitre, 2013).

On September 1, 1994 the mill workers took over the mill for \$40 million dollars and a 10-year agreement with Abitibi-Price Ltd permitting Abitibi-Price to continue selling 80% of the produced newsprint, leaving a remainder of 20% for the new owners. There were 470 full time staff and 700 seasonal staff employed by the mill during this period (Habing, 1994). The government of Manitoba loaned the new company \$30 million to fund a Waste Water Treatment Plant which was in full operation by December

SEPTEMBER 1, 1994

Mill workers buy mill from Abitibi Price to form the Pine Falls Paper Company

FEBRUARY 1998

Tembec Inc bought the paper mill from the workers, making it the Tembec Paper Mill.

DECEMBER 1995

Construction of Waste Water Treatment Plant completed

MAY 1, 2005

Pine Falls merges with Powerview to become Powerview-Pine Falls

SEPTEMBER 1, 2009

Negation attempts over new contract fail. Mill workers locked out the Tembec Paper Mill.

SEPTEMBER 2010

Mill was permanently closed

1995 (Habing, 1994, Pitre, 2013). During this period the paper mill was known as the Pine Falls Paper Company. The workers/owners explored new exports in Asian markets and generated profits totaling \$61.8 million in 1995 and \$44 million in 1996 which permitted them to buy out of their agreement with Abitibi-Price five years earlier than anticipated. To keep the mill viable workers/owners agreed to an additional 10% wage cut (Waytiuk, 1997) and a 5-year wage freeze (Pulp & Paper Company, 2001). The company was interested in further upgrades including a thermo mechanical pulping mill for which added funding from a partner was required (Pulp & Paper Company, 2001).

Tembec Inc. Takes Over

Instead of partnering with the workers/owners Tembec Inc purchased the mill in February 1998 (Nicholson, 2000) committing to the mill workers desired \$400 million expansion plan (Waytiuk, 1997) and restoring worker wages to their salaries prior to 1995 (Pulp & Paper Company, 2001). Later, residents of Pine Falls learned that Tembec had no interest in maintaining the town site and on May 1, 2005 Tembec released all their responsibility for the town, forcing Pine Falls to join the municipal system. Pine Falls was too small to form an independent municipality and negotiated an amalgamation with the village of Powerview to form Powerview-Pine Falls

(Powerview-Pine Falls, n.d.). Residents informed me that during this period new tensions between residents of Powerview and Pine Falls flourished, as needed improvements to Pine Falls infrastructure increased taxes for Powerview residents.

During this period newsprint prices continued to decrease. Several North American newspaper companies closed their doors during the recession in the United States of America. The higher Canadian dollar affected the profits of the Tembec Pulp and Paper Mill because most of the mill's customers were located in Midwestern United States (Kusch, 2010). In this market Tembec desired a new contract requiring employees to take wage cuts. A contract agreement could not be reached and employees were locked out on September 1, 2009. In January of 2010 all employees were officially laid off and by September 2010 the mill was permanently closed after failed attempts between Tembec and interested buyers, such as the mill workers (Pitre, 2013). Demolition of the mill began in 2011 setting in motion the complete destruction of the historical structure and igniting increased uncertainty among residents of Powerview-Pine Falls (Pitre, 2014).

SPRING 2011

Construction starts on New ambulance facility, completed March 20, 2012.

OCTOBER 7, 2011

Land and mill facilities sold to the Pine Falls Development Corporation

WINTER 2012

Construction began on Aboriginal Healing and Modern Medicine Center, anticipated to be completed March 2017.

The Region after the Pulp and Paper Mill

The land and the mill facilities were sold to the Pine Falls Development Corporation, a subsidiary of NRI Global Inc on October 7, 2011. NRI Global Inc is a private investment firm that specializes in dismantling and reselling industrial sites (NRI Global, 2011). "The sale included the industrial buildings, equipment, waterfront lands and facilities, residential communities, the recently upgraded thermo-mechanical pulp mill, the waste water treatment plant, the landfill, and approximately 1000 acres of vacant land (Manitoba Wildlands, 2014)". The Pine Falls Development Corporation promised to regenerate the mill site to promote investment recovery, site development and environmental closure but has only removed and sold parts of the mill, the rail-line and the brand new waste water treatment plant (NRI Global, 2011). Pine Falls Development Corporation pledged to take two to five years to complete the remediation process (Manitoba Wildlands, 2014). Based on my observations work is not completed and the site remains vacant growing successional grasses and containing scrap metal, an abandoned rail engine car, a hydro electric transmission station and a large concrete pad, along with many unknown elements below ground.

HISTORY: POST-MILL

I was informed by community council of organizations that worked or are working in Powerview-Pine Falls and the region to develop future possibilities to ensure the longevity of the region. These organizations include the Winnipeg River Community Adjustment Corporation, Edgewater Economic Development Corporation and community councils from Powerview-Pine Falls, Fort Alexander and Sagkeeng First Nation. Powerview-Pine Falls' population declined from 1,400 to 1,294 between the years of 2001 and 2006 when the mill was still running but had decreased its operations (Statistics Canada, 2007). In 2011 the population stabilized at 1,314 residents with an increase of two residents in 2016 (Statistics Canada, 2017). Many residents believe that the community has maintained its stable population despite numerous people moving, because of an influx of residents migrating from Sagkeeng First Nation into Powerview-Pine Falls and a changing demographics.

New facilities and amenities that emerged in Powerview-Pine Falls since the mill's closure include:

1. A 2,500-square-foot ambulance facility with two ambulance bays. Construction on this site began in spring of 2011 and it was opened March 20, 2012 (MEGU, 2012).
2. A 16,000-square-foot expansion of the Pine Falls Health Complex called the Aboriginal Healing and Modern Medicine Facility. The

2016

Construction started
on Lake Winnipeg East
System Improvement
Transmission Project



facility officially opened May 8, 2017 and contains aboriginal approaches to palliative care, areas for traditional ceremonies, smudging and sacred fires, kitchen facilities for people to prepare traditional food and medicine and a place for educating others on aboriginal history and healing and wellness (Interlake-Eastern Regional Health Authority, 2017).

3. Construction of the Lake Winnipeg East System Improvement (LWESI) Transmission Project consisting of the development of a 71.6km transmission line connecting Pine Falls Generating Station to Manigotagan, Manitoba began in 2012. The anticipated completion date is sometime in 2017 (Manitoba Hydro,n.d).

Other than these upgrades, few other restorations have occurred in town throughout the last eight years. There have been many issues with maintenance, and upkeep of facilities, road ways and homes. These issues will be further discussed in Section 2: Interviews with Residents.

Understanding the complex history of the mill, the community and its people is essential for establishing a design intervention that remembers the past, and celebrates the community's achievements while developing a different relationship between the community and its landscape. In the upcoming pages I demonstrate how

devastating the development of these communities and their practices were on the landscape inside and outside of Powerview-Pine Falls. Moving forward with this project, the community will establish a relationship with nature that will capitalize on its beauty without jeopardizing its longevity.



PINE FALLS, 1928



FORT ALEXANDER, 1928



PINE FALLS, 1964



MILL WORKERS RECEIVE GOVERNMENT LOAN, 1994

HISTORY: LANDSCAPE CHANGES

PRE-MILL ERA

Winnipeg River is a travel and trade route, an area for hunting, fishing and harvesting wild rice.

A dense riparian corridor skirts the magnificent Winnipeg River protecting the landscape from erosion and pollution runoff.

A few settlers make refuge in small clearings, minimizing impact on forest landscapes.

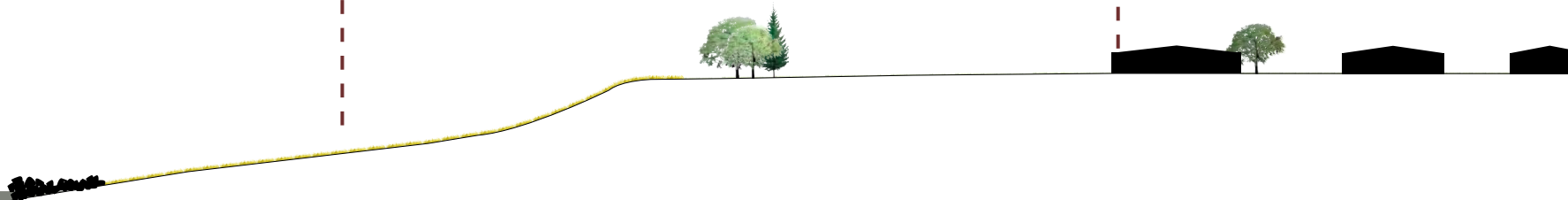


MILL AND POST-MILL ERA

Winnipeg River not suitable for harvesting wild rice. Well known for fishing but it is not possible to travel by boat past the hydro electric dam.

Winnipeg River skirted by rip rap in many areas. Riparian forest has been removed and replaced with tall grasses; persistent issues with erosion and pollution runoff.

Migration of workers into town, erection of houses and commercial buildings severely impact forest landscapes.



Dense boreal forest with species including: Black and White Spruce, Balsam Fir, Jack Pine, Tamarack, White Birch, Trembling Aspen, Balsam Poplar.

Upland hills and bedrock outcrops provide unique habitat for different animal and plant species.

Swamp and bog regions characteristic to the boreal forest essential for certain animal and plant species survival.



Most of boreal forest cleared, replaced with Silver Maple, Cedar, Blue Spruce, Ash, Elm, and ornamental trees.

Small bedrock outcrops exploded and removed, rolling hills excavated, swamps and bogs filled to create flat land suitable for settlement decreasing habitat for numerous plant and animal species.



Lake Winnipeg

Province of Manitoba

Province of Ontario



Pine Falls Generating Station
established 1952



Great Falls Generating Station
established 1928



McArthur Generating Station
established 1955



Point Du Bois Generating Station
established 1922



Slave Falls Generating Station
established 1948



Seven Sisters Generating Station
established 1952



Whitedog Falls Generating Station
established 1958



Kenora and Norman Generating Stations
established 1906 and 1898

POWER GENERATING STATIONS ON WINNIPEG RIVER

Lake of the Woods



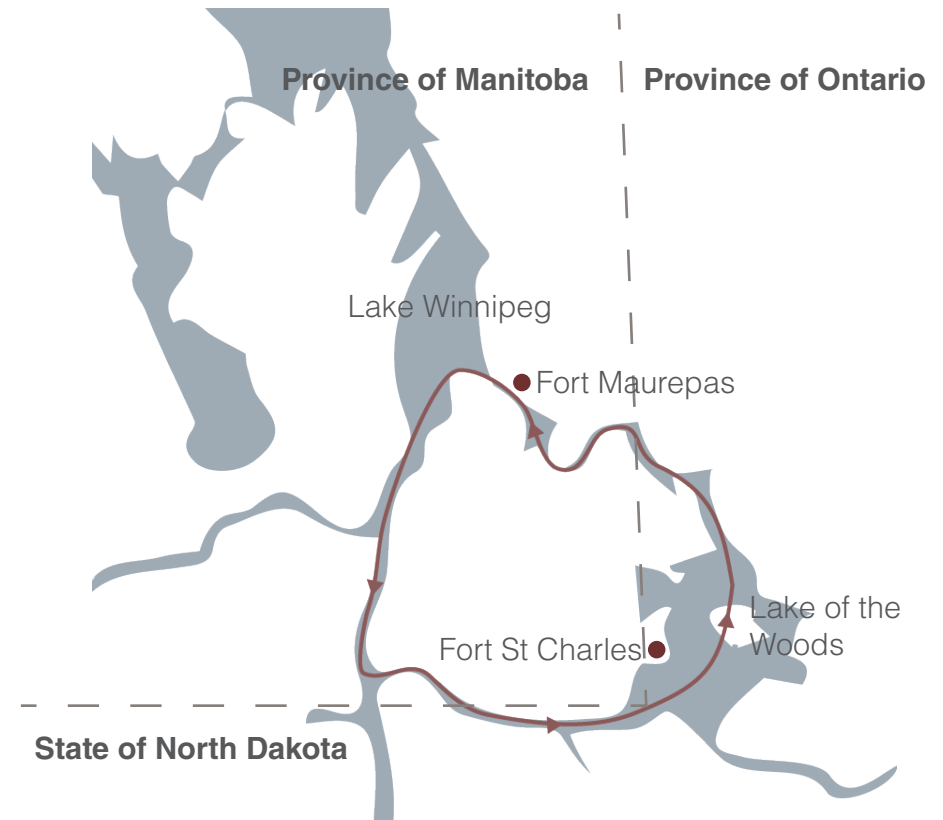
PINE FALLS GENERATING STATION, 2016

Changes to the Winnipeg River System

Winnipeg River flows through Powerview-Pine Falls and is an important feature in the community. The river has dramatically changed due to hydroelectric development. Nine generating stations are distributed along the waterway between Lake of the Woods in Kenora and Powerview-Pine Falls. The river is approximately 235 kilometers long (Energy Manitoba, n.d.) and historically dropped 105 meters in a series of impressive waterfalls. Many of these waterfalls have been destroyed and replaced with hydroelectric generating stations. Large elevation changes from the foot to the mouth of the river control fluctuations of water flow based on need for electrical generation rather than the natural cycle (GPP Architecture Inc, n.d.).

The development of generating stations and increased settlement and agriculture along the banks of Winnipeg River altered the region by creating unstable river banks, moving trading posts and historical routes away from the river corridor and changing wildlife and aquatic habitats. The figure to the right outlines the La Verendrye trading route that historically passed through the site where Powerview-Pine Falls stands, a route that is no longer possible to take (GPP Architecture Inc, n.d.).

HISTORICAL TRADING ROUTE



INTERVIEWS WITH RESIDENTS

INTERVIEWS WITH RESIDENTS: INTRODUCTION

Interviews can reveal baseline data unavailable through secondary sources. The interviews I did for this practicum allowed me to gather useful information about wants and needs of residents. It was essential for developing the three objectives: landscape regeneration, pedestrian circulation and tourism.

Personal information from real people, telling stories about their day to day experiences living in their environment, further connects designers to their projects. For a third party designing a town they do not live in, it is essential to understand from residents what it is like to live there and what kind of visions they have for their communities.

For that reason, I conducted interviews with nine community members from Powerview-Pine Falls and the surrounding region over a two week period. Participants were asked about their personal experiences in Powerview-Pine Falls, what they like or dislike about their community/town, the changes they have observed in Powerview-Pine Falls, and their vision for the town.

Participants were selected from different ages, genders, and occupations to gain diversity. This diversity includes:

Gender: Male: 3 Female: 6

Age: 30-40: 2; 40-50: 1; 50-60: 3; 60+: 3

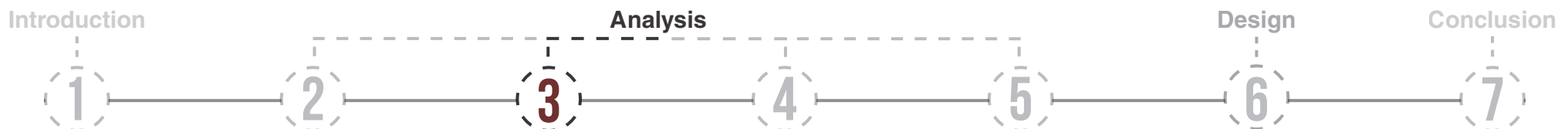
I did not gain approval to interview participants under the age of eighteen and did not organize an interview with a resident between

the age of 19-30. Therefore a bias exists in the information gathered as those age demographics are missing. The interview process would have benefited from an extension of the two week time frame, but restrictions limited that opportunity.

Seven participants still live in the community and two participants live in the surrounding region but formerly lived in Powerview-Pine Falls.

Each participant was introduced to me through existing contacts. Once they agreed to hear more about the project, I was supplied with their contact information and emailed or called them using a recruitment script that is attached on the follow page. If they agreed to participate in the study I forwarded them a consent form to read over and sign. Interviews were conducted in person, excluding one which was done through a phone conversation. Interviews lasted 30 minutes to an hour. I followed a semi-structured interview guide and many participants took advantage of the open ended format, answering all of the questions, plus. The interview guide is attached on the adjacent pages.

In this section, I summarize each interview and include a diagram of the interviewee's community vision. These interviews helped me to understand how my expertise can enhance their community/town. Conducting the interviews early in the research period focused my practicum project, helping me establish objectives.



Dear _____.

I am a student in the Masters of Landscape Architecture Program at the University of Manitoba. The purpose of this practicum is to create a conceptual landscape design for Powerview-Pine Falls, a town that has come on hard times since the paper mill was abandoned in 2009. Within this practicum I intend to acknowledge the history of both Powerview-Pine Falls, as well as represent the different stakeholders that have been or are still being affected by the paper mill. I hope to answer the following questions through the design process: How can corridors for people and animals work to integrate the town physically and socially? Can the old paper mill site be incorporated into a design that benefits the community and embraces its history? How can the design process and finished design reflect the values, wishes and beliefs of the town? More generally I wish to investigate how designers and planners can work within rural communities and more specifically I wish to investigate how a designer or planner might encourage this community to work together to create a positive future for the town.

To better understand these issues, I am conducting interviews with various members of Powerview-Pine Falls. I am contacting you because I think that you may have knowledge and experience that will benefit the research.

As a participant, you will be asked to participate in an interview, in-person or by phone, that will take anywhere 30 minutes to 2 hours (depending on how much information you want to share). Questions will focus on what you believe are strengths and/or weaknesses in your community, what you believe should happen to the large area of land where the Tembec Paper Mill was located, how you feel/felt about the paper mill, and what you think has been the most significant changes to your community since the mill closed. I am particularly interested in your take on what it was like living in/beside a company town.

Please let me know if you are interested in talking with me. This study has been approved by the Joint Faculty Research Board and any concerns can be directed to the Human Ethics Coordinator at 204-471-7122 or email: humanethics@umanitoba.ca.

Thank you for considering this, Lesley St Godard

INTERVIEWS: RECRUITMENT SCRIPT



MAP USED FOR PARTICIPATORY MAPPING EXERCISE

Integrating Personal Stories into the Theoretical Redesign for Powerview-Pine Falls, Manitoba

Introduction

Thank you for participating in this research project, your participation is greatly appreciated. I am Lesley St Godard and I am a Masters of Landscape Architecture student studying at the University of Manitoba. I am gathering information and stories about Powerview-Pine Falls. The questions I will ask are intended to foster an open-ended conversation, so feel free to add in any information that you feel will be beneficial to the project. Following the completion of this interview, your information will be summarized so as to inform the design process. Please remember that your participation in this project is voluntary and any questions that you do not wish to answer can be skipped.

Topic One: General Questions about Community and Background

Could you talk about your home, how your family ended up here, and how long you have been here?

What sort of family connection do you have here?

What is community for you?

How do you experience community? Ex: Spaces? People? Activities?

How has your experience of community changed throughout your time in Powerview-Pine Falls? How has this change made you feel?

Topic Two: Tembec Paper Mill

What are your memories of the paper mill?

How has your community and your life changed since the mills closure?

Do you know of any specific issues I should be concerned with as I move forward with the project on the Tembec Paper Mill site?

Topic Three: Design Ideas/Community Vision

What would you like to see be built on the abandoned paper mill site? Why?

What kind of vision(s) do you have for the town of Powerview-Pine Falls?

Complete the participatory mapping exercise attached to this form. Participatory Mapping Exercise (on adjacent page):

Map out areas in town that you believe would benefit from design.

Please note:

- Any significant spaces in town
- Any area you spent most of your time in
- The spaces that contribute to key memories in your livelihood/ career
- Specific sounds, smells, feelings that you remember when you were in the space
- Sites of significant events, (personal or public)
- Indicate the paths you take to get around town and what mode you use

Before this interview comes to a close, is there anything else you would like to share? Are there any questions that you have for me about this project's processes, time-line, distribution, and/or how to contact me?

Conclusion

Before the interview comes to a close, I would like to inform you that I am looking for other participants. If you feel comfortable recruiting participants that you believe will be beneficial to the work that I am doing feel free to pass on my contact information to them. This is completely voluntary. If you feel comfortable recruiting participants for me, it is important that you do not inform others who you have asked to participate and if they have agreed to participate or not. This is essential for keeping participants anonymous, and allowing to be comfortable if they refuse to participate.

Thank you very much for your participation. If you have any concerns about this project feel free to contact me by email or phone. If you wish to receive a digital copy of the project it will be available upon your request. If you know of any other individuals who you think would be interested in participating in this research please contact them, encourage them to be in touch with me, and give them my contact information. You may choose to terminate your participation in this project any time before February 28, 2017.

INTERVIEWS: INTERVIEW GUIDE

Personal Story

This participant was originally from Toronto. He met his wife in East Selkirk and they moved to Powerview to be closer to her parents over 40 years ago. They continue to be residents of Powerview-Pine Falls. When they first moved into town he acquired a position at the paper mill. Nine months later he left his position to pursue an electrical apprenticeship at Red River College in Winnipeg. Two years later he was reemployed at the paper mill as a journeyman electrician, working there until 2004. With the sale of newsprint declining he foresaw the future closure of the mill, and decided it was best for him to part ways with the company. He opened a local business in town where he continues working.

What Powerview-Pine Falls means to this Participant

This individual's favorite thing about Powerview-Pine Falls is its contrast to the city. He describes the community as a quieter pace than busy city life. He appreciates the open view of the Hydro Dam that he has from his house because to him the dam is a beautiful historic landmark. This participant defines community as the process where everybody works together to live in union and believes that Powerview-Pine Falls has a strong sense of community. He states that it is a great area to live when everyone is working together but notes at times conflicts do occur amongst people affecting progress and his sense of community.

He does not participate in many community events or organizations in Powerview-Pine Falls but is an active participant in Maskwa Project. Maskwa Project is a wilderness retreat center approximately 20 minutes north of the town on highway 304. Outdoor activities occur in this area including skiing, hunting, fishing, and photography club. He appreciates the proximity of the town to this attraction and hopes in the future the town and Maskwa Project will collaborate.

Changes this Participant Observed in Powerview-Pine Falls

Positive Changes:

1. The ecosystem is healthier. Particularly the air is cleaner.

INTERVIEW 1

Negative Changes:

1. Fighting occurs at the municipal level. Positive changes could occur in the region but will not until different municipalities in the region develop a system to work together.
2. Negative changes in community demographics. He observed an increase in older and younger generations but a lack of middle generations noting that some communities are thriving as retirement communities but does not believe Powerview-Pine Falls can operate as a retirement destination without a properly functioning hospital. To prosper as a community with an aging demographic the hospital needs to obtain permanent doctors. The town needs to attract middle generation families through industry and services.

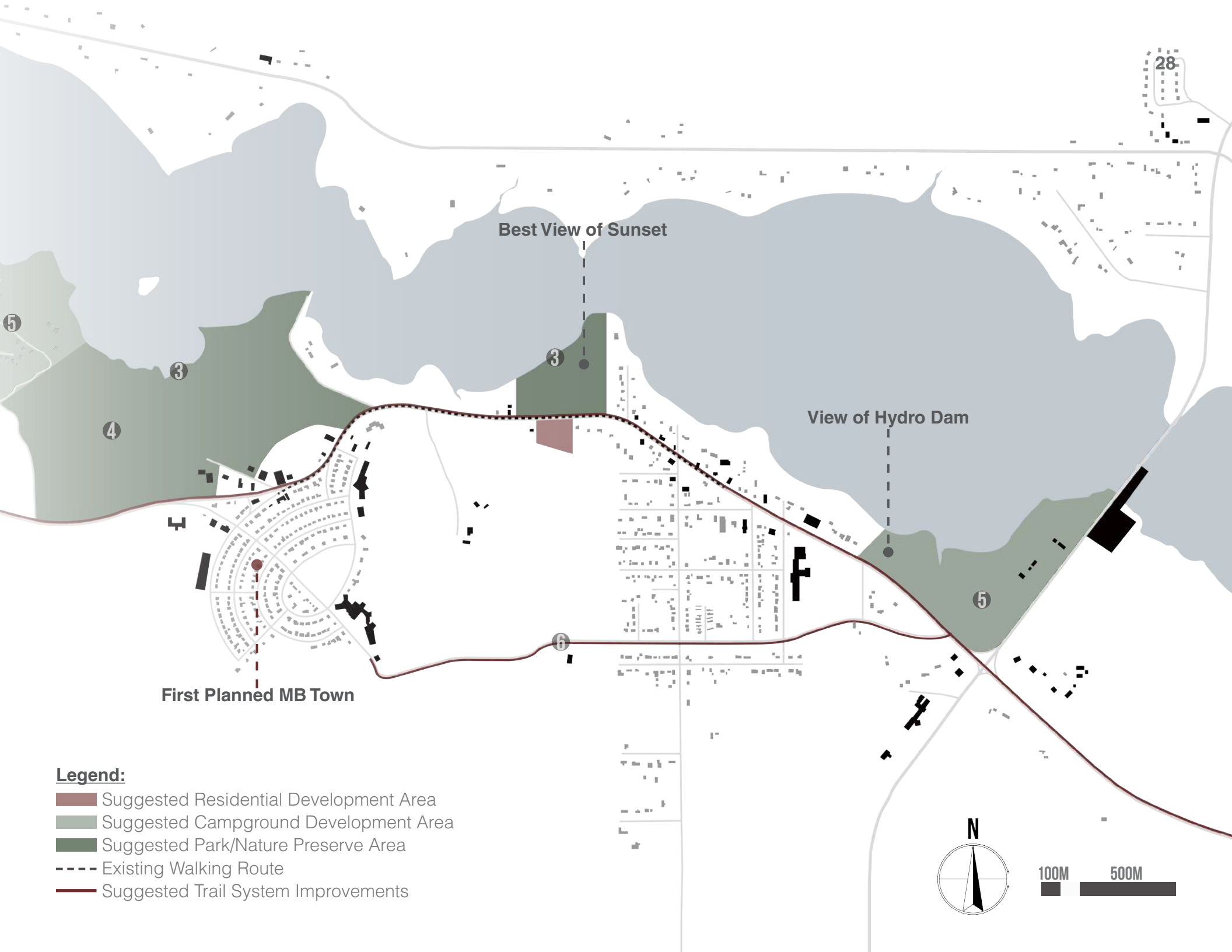
Future Vision for Powerview-Pine Falls

This participant's community vision includes (numbers in figure correspond to numbers below):

1. Increase in industry for economic growth.
2. Construct a marina to establish the community as a destination on Winnipeg River. Since the dam is a barrier preventing boats from traveling westward on Winnipeg River, the community's boat launch is the only point of entrance for boat Lake Winnipeg in the region.
3. Protect and promote non-commercial/non-residential waterfront areas. Geography in this region is an attraction, thus, the view of the magnificent waterway should remain public.
4. Develop the mill site into natural preserve, like a park, forest or trail system.
5. Develop weekend campgrounds (specifically tenting) on top "the rock" and/or along highway 304.
6. Upgrade Dupont Road.

Additional Points

Pine Falls is celebrated as the first planned town in Manitoba. People from the city would travel to the area to examine its unique shape. It was meant for expansion and growth. In comparison, Powerview is poorly planned with numerous dead end streets. He believes it is important for any designer working in the community to consider how the shape of each town affects the overall community dynamics.








Best View of Sunset

View of Hydro Dam

First Planned MB Town

Legend:

-  Suggested Residential Development Area
-  Suggested Campground Development Area
-  Suggested Park/Nature Preserve Area
-  Existing Walking Route
-  Suggested Trail System Improvements



Personal Story

This participant and her family moved into Powerview for employment at a local restaurant in 1994. The restaurant is no longer in business but was a large component of their family. In 2005, she and her family moved to Stead to obtain more space in the country. When her kids grew up she obtained work at organizations throughout the community and continues to work at a local facility just outside of Powerview-Pine Falls. One of her three children resides in Powerview-Pine Falls, the others have procured opportunities to work and live elsewhere.

She define community as the process of everybody coming together to make something better, whether it is a school system, a community center or a recreation facility. When she was growing up in an alternative rural community, she had a strong sense of community and found Powerview-Pine Falls' sense of community to be less strong. She lived in Powerview-Pine Falls for ten years and stated that there were times when she felt like an outsider because some residents, particularly the elder generations, obtain a strong mentality that unless you are born in Powerview-Pine Falls. You may be a member of the community but you are not and will never be from Powerview-Pine Falls.

What Powerview-Pine Falls means to this Participant

To this participant the best thing about Powerview-Pine Falls and the surrounding region is the natural resources including the river, forest and green-spaces. These spaces are opportunities for industry and recreation in forms of fishing, boating, and trail systems. During the spring to fall months she observes an influx of cabin residents who contribute to local economy by supporting local businesses, organizations and facilities.

Changes Participant Observed in Powerview-Pine Falls

Although this participant is no longer a resident of Powerview-Pine Falls, she has observed positive and negative changes. Her place of employment has given her the opportunity to observe these

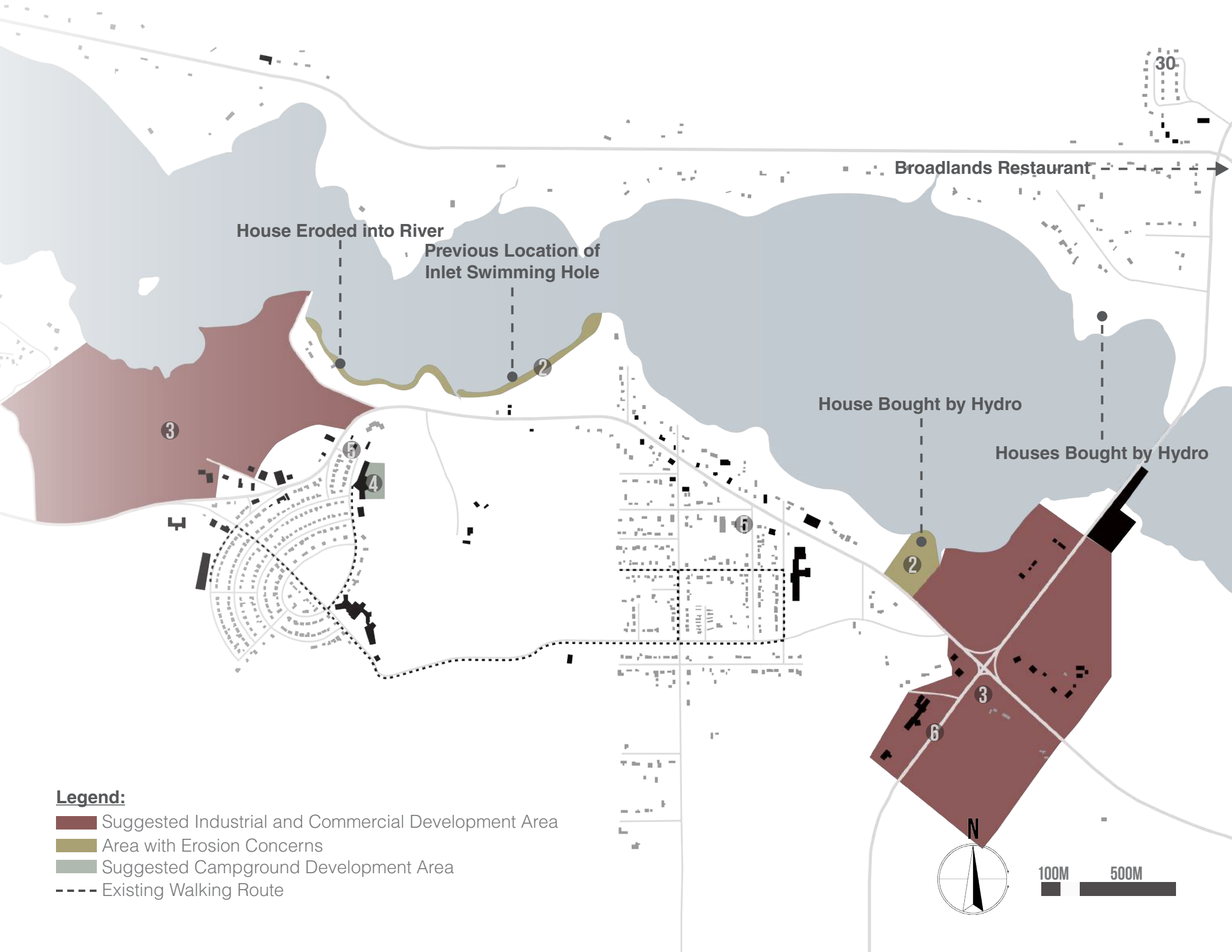
changes from a third-party perspective. These changes include:
Positive Challenges:

1. Decreased conflict between Powerview and Pine Falls. Younger generations do not have the mentality that one community is better than the other. People of middle to younger generations believe the two communities are one and have always been. The closing of Pine Falls School, Powerview Arena, and some of the baseball diamonds have made the separation between Powerview and Pine Falls a matter of physical location of a members house, and not a matter of location where that member interacts with other members in the community. Unfortunately, some elders are still paralyzed by the old mentality.
2. Influx of new residents in Powerview-Pine Falls decreased cliques and tensions between residents of Powerview and Pine Falls. People migrating into town previously would often feel like outsiders in the small town atmosphere where everybody knows everybody. This atmosphere was good for long time residents but sometimes intimidated newcomers, making it more difficult for them to build relationships.
3. Development of a second access point to Pine Falls has created a critical second connection between Powerview and Pine Falls, eliminating some circulation issues.

Negative Changes:

1. Decreased sense of community and voluntarism. During the mill era employees of the mill were permitted to work on community projects during work hours because the mill owned and was responsible for most of Pine Falls. Mill workers fixed the arena, tennis courts, hospital, pool, whatever needed to be done. "A lot of the people who had the skills to fix these facilities have either moved away or are traveling long hours to work every day. They barely get enough time to see their family, which makes it harder to volunteer." Consequently, community facilities struggle to obtain volunteers, but gradually people are realizing they have to step up and chip in for their town to survive.
2. Recreational and educational community facilities are struggling because residents have less disposable income for recreational and educational facilities.

INTERVIEW 2



3. Poor municipal relations between Powerview-Pine Falls and the Rural Municipality of Alexander limit both municipalities growth. Borders between the two communities should be invisible, but councils struggle working together and seeing beyond their border. Furthermore, no chamber of commerce exists, even further limiting community growth.
4. Demographics have changed because of limited employment opportunities in the region, especially for younger generations seeking work after high school. The main employers in the area are the regional health authority and sunrise school division. To seek employment and education children move out of the region and often do not return home later in life.
5. Increased amount of vacant commercial buildings along Provincial Trunk Highway #11. Approximately 5 businesses in Powerview-Pine Falls have closed down or have moved into a different region.

Future Vision for Powerview-Pine Falls

This participant's community vision includes (numbers in figure correspond to numbers below):

1. Construct an assisted living center for seniors who require more care. There are three senior homes between Pine Falls and

St George but no assisted living center to further cater to the community's aging demographic.

2. Repair erosion issues along Winnipeg River. Anywhere where rip rap does not exist along the river edge is suffers from severe erosion issues.
3. Increase industry in the community to improve its tax base.
4. Implement a tent campground behind Pine Falls School. Across the river is an existing campground for trailers and RV's that often has no vacancies. A campground in Powerview-Pine Falls would utilize the community facilities. Locating a campground behind Pine Falls school would utilizing the local swimming pool, and provide privacy for campers by utilizing the existing forest that borders the area on three sides.
5. Utilize the five churches between Pine Falls and St George for various other activities, including a community hall, daycares, etc.
6. Develop the area around Highway 304.
7. Develop a bylaw for all commercial buildings along Provincial Trunk Highway #11 forcing them to employ a similar architectural style. Guidelines would create a unique town character. For example, building fronts' could be cladded with wood planks to represents the surrounding boreal forest ecosystem.

Personal Story

This participant spent her early adolescent years in Lac Du Bonnet with a brief period spent in Powerview when her parents owned the bakery. She graduated from Lac Du Bonnet High School and moved to Winnipeg. Through frequent visits to Powerview and Pine Falls, she met and married a local boy, who was born and raised in Powerview. She has lived in Powerview for over 40 years and felt immediately welcomed into the community. She has been an active participant in community organizations, including the town council, for the last couple decades.

This participant works with Manitoba Model Forest, a non-profit organization that represents the partnership of those with an invested interest in the wise management of natural resources and the sustainability of rural communities in forested regions of Manitoba (Manitoba Model Forest Inc., 2010). This organization worked closely with Tembec Paper Mill. Today, the organization is still in operation but runs on a part-time basis. Her husband worked in the paper mill for thirty years until it closed. After the lock out he started a local construction business with a former coworker until retirement.

What Powerview-Pine Falls means to Participant

Community is defined by this participant as the process of people getting together to nurture and build the community. She recognizes Powerview-Pine Falls has a strong sense of community. Volunteers shape the town, and without them the town of Powerview-Pine Falls would not survive. She noted, the region always has had a large sense of community and voluntarism. This is especially true in Powerview where the community did not receive external help to facilitate growth and organize facilities, thus growth and change depended on voluntarism from residents. This sense of voluntarism carries on today, with added volunteers from Pine Falls residents. She also loves the natural beauty of Powerview-Pine Falls, believing it is a truly unique feature of the community that distinguishes it from other areas. Residents, or visitors driving along Provincial Trunk

Highway #11 experience to picturesque views of Winnipeg River and the dense boreal forest.

Changes Participant Observed in Powerview-Pine Falls

This individual has been a member of council for over 15 years. Her part on council exposes her to significant changes including:

Positive Changes:

1. Reduced conflict between councils. The worst thing about Powerview-Pine Falls is the conflict that occurred between the different communities in the region. There are feelings of sadness and distrust between residents of different municipalities. Fortunately younger generations and newcomers have different feeling then their elders, exposing hope that the tension between the municipalities will continue to diminish.
2. Despite a lose of industry the population is stable. As residents leave the community, newcomers, mostly from Sagkeeng First Nation, are replacing them.
3. Many businesses remained in the community, including Midway Foods, Dancyt's, Osis Building Supplies, etc. Powerview-Pine Falls contains most of the services in the region and the surrounding communities utilize them. This relationship strengthens businesses.
4. Provincial Trunk Highway #11 redevelopment is underway, occurring in three phases. Phase one involved developing a detour for the construction process in phase two by paving the adjacent road and was completed in 2016. Phase two involves correcting a portion of highway were erosion is an issue. This process started in Winter 2017. Phase 3 involves the reconstruction of the entire highway from the junction of highway #304 and #11 to the mill site.

Negative Changes:

1. The paper mill site will remain vacant until negotiations occur with the current owners to determine ownership, intention, environmental concerns, etc.
2. Increase in drugs and theft.
3. Increase in deteriorating houses. People living in Pine Falls homes during the company's ownership had their homes taken care of by mill workers. Since the mill cut ties with the community residents now assume the responsibility of keeping up their homes

INTERVIEW 3

and properties. Not all residents have the skills or money to upkeep their homes. An increase in lower income and aged families has attributed to the increase in deteriorating homes.

Future Vision for Powerview-Pine Falls

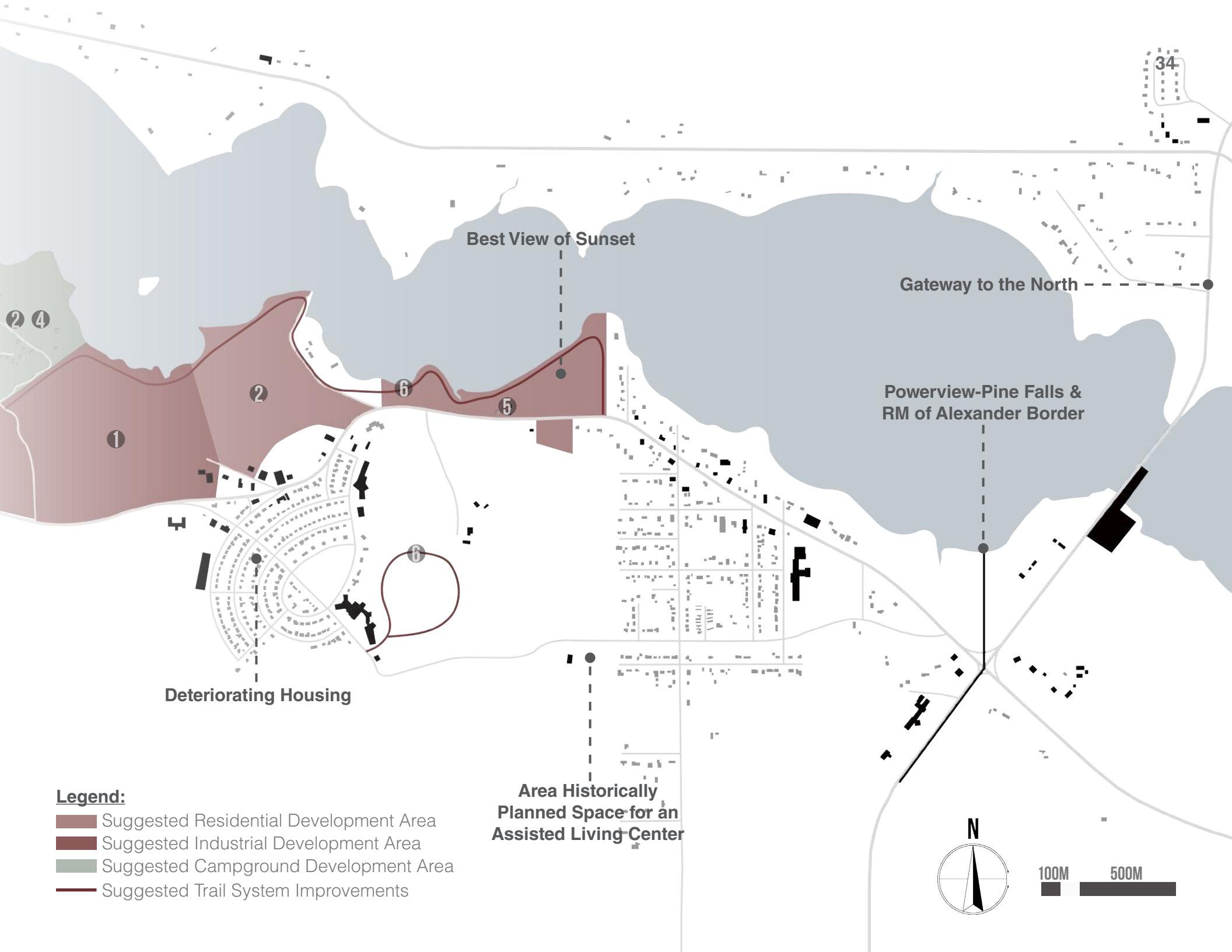
This participant's community vision includes (numbers in figure correspond to numbers below):

1. Develop an industry or group of industries on the paper mill site to utilize the infrastructure and resources remaining in the region. For example: A company was interested in purchasing the mill site and intended to turn wood waste into diesel fuel, utilizing dead-fall and fibers that are building up in northern forests. The contract fell through and the space remains empty.
2. Divide the mill site into different uses including campgrounds, recreational facilities, residential subdivisions and industrial development. Develop the site based on the contamination levels in different areas. Some areas are in worse shape than others. The areas that suffered from the least amount of pollution should be developed first. For example: "the rock" did not have any industry on it. The houses currently on the rock are leased to residents and are in disrepair. It should be one of the first places where development occurs.
3. Develop the dock into a marina. This can only be done if ownership of land is determined because the town does not want to invest money improving the dock until they are certain that the space will not be taken away from them.
4. Increase tourism opportunities by developing campgrounds, trails and events.
5. Develop condominiums along town owned river lots to increase the communities tax base and utilize the view.
6. Construct an assisted Living Center to cater to the older residents in town who wish to sell their homes but want to remain in the region. There are little opportunities for elderly requiring additional assistance.
7. Develop a river trail to bring people down to the water and give them the opportunity to capitalize on the Winnipeg River resource through fishing, watching the sunset, and/or experiencing the view.

Additional Points

Any cooperative action between municipalities will not happen until boundaries between communities are viewed differently. Change will occur overtime, and with councilors who have open minds and the ability to look beyond what is going on today, and to stop wishing for what was here yesterday. It is truly a struggle to gain momentum when people fear losing something by trying something new.

Powerview-Pine Falls is fortunate to be geographically located where it is. Many other former single industry towns were isolated and when their industry closed, their town disappeared. Powerview-Pine Falls' proximity to other communities and organizations is the reason why it is still holding strong. The town still hopes for industry on the paper mill site and is hopeful industrial development will occur sooner rather than later. No changes can occur in the space until the people owning the land take innovative.



34

Best View of Sunset

Gateway to the North

Powerview-Pine Falls &
RM of Alexander Border

Deteriorating Housing

Area Historically
Planned Space for an
Assisted Living Center

Legend:

- Suggested Residential Development Area
- Suggested Industrial Development Area
- Suggested Campground Development Area
- Suggested Trail System Improvements



Personal Story

This participant moved to Powerview from Victoria Beach in tenth grade because Victoria Beach did not have a high school. After graduating from Powerview School, she moved to the city for work keeping in contact with friends of Powerview and Pine Falls. She later married a local boy from Powerview who worked in the mill from age sixteen till retirement. She has lived in Powerview-Pine Falls since they married.

Once married, her and her family moved into the hotel, and then into 5 different company owned houses in Pine Falls. In 1973, after decades in town, her family purchased their first home in Pine Falls. She remembers conflict between Powerview and Pine Falls, due to attitudes about one town being better than the other. The conflict amongst the two sister towns was a struggle for her family because they had friends in Powerview.

This participant worked numerous jobs in the region, not because her family needed money, but because she wanted something to do. Prior to her position in the mill, she worked as a secretary at Indian Affairs, then Powerview School. For fifteen years she worked at the mill office in the payroll department. When she retired she volunteered her time at the now closed library in the former Pine Falls School building.

What Powerview-Pine Falls means to this Participant

Other than the feud between the two towns, Pine Falls was the perfect place for her family to live. Abitibi was an excellent company to work for, providing the community with everything they needed, including sports facilities, entertainment and maintenance. When Abitibi sold the mill and town to the workers, she described the situation as less than ideal, but at least the workers still had a livelihood. When the mill workers sold the mill and town to Tembec, there were promises of a new, cheaper technique of paper making. Unfortunately the government would not permit this technique and Tembec could not profit in the economy. Throughout all the changes she stated that she still loves Pine Falls,

and thinks most people still living here are happy. She loves the layout of Pine Falls and appreciates its walk-ability, as she is able to walk to the store, golf course, river and other facilities. It is a beautiful safe small town to live in.

Changes Participant Observed in Powerview-Pine Falls

After Tembec shut down, this participant observed outside consultants attempt to demonstrate how industrial towns restored their economies post industry. Unfortunately these consultants have not succeeded. Changes she observed in town include:

Positive Changes:

1. Better community relations between Powerview and Pine Falls. At one time Powerview was less developed than Pine Falls, now that both communities have developed and conflict has diminished.

Negative Changes:

1. Significant changes in demographics. Many remaining residents are older and retired, or are young woman left to raise their family alone while their husbands work out of town.
2. Facilities, including the pool, curling club and golf course are in disrepair because of poor attendance and limited funding.
3. Increased criminal activity, including break-ins and petty crime. She believes this affects the housing market because future home owners are aware of theft and are deterred from moving into the area. The RCMP are stretched over too large of an area and there are not enough young men in town for neighborhood watch.

Future Vision for Powerview-Pine Falls

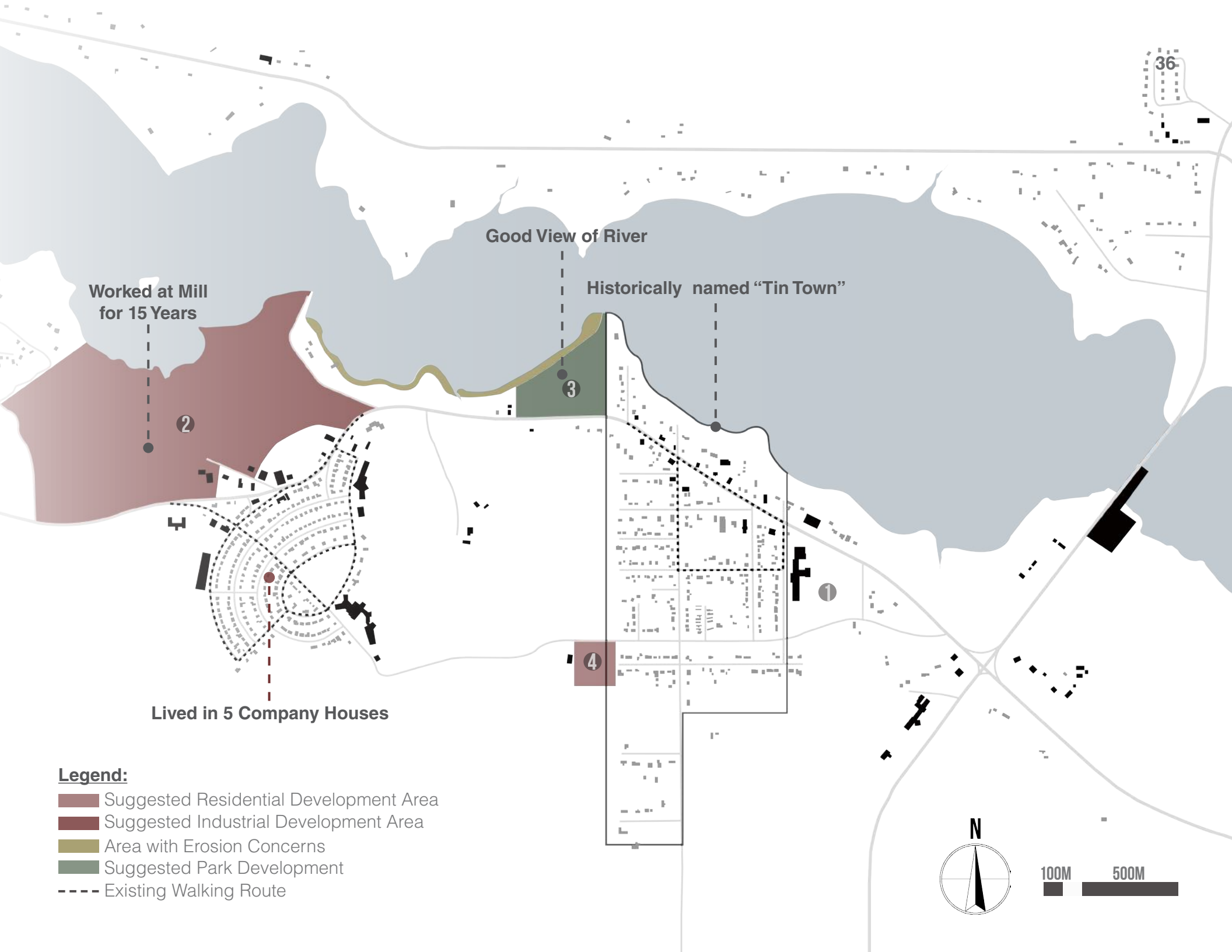
This participant's community vision includes (numbers in figure correspond to numbers below):

1. Better maintained activity spaces for children.
2. Develop the mill site, preference for heavy industry.
3. Do not restrict access to the river.
4. More facilities for seniors (Assisted living facilities, condos).

Additional Points

She loves the area that she lives in and believes that the town needs to find opportunities to attract the middle and younger generation.

INTERVIEW 4



36

Good View of River

Historically named "Tin Town"

Worked at Mill for 15 Years

2

3

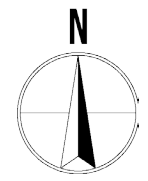
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4

Lived in 5 Company Houses

Legend:

- Suggested Residential Development Area
- Suggested Industrial Development Area
- Area with Erosion Concerns
- Suggested Park Development
- Existing Walking Route



Personal Story

This participant was born and raised in Winnipeg and obtained a education degree. After graduating university he taught in the rural community of Grand Rapids, Manitoba where he met his wife and started a family. In 2007 him and his family moved to Powerview-Pine Falls in search of a community that would offer more for their them.

What Powerview-Pine Falls means to this Participant

This participant defines community as the feeling of belonging. Over the last ten years his family has developed relationships with friends, neighbors and colleagues who have made them feel a part of the community. He participates in community events like the 4P festival. He volunteers for his kids' sport teams, and community organizations like Wings of Power and the arena board. The small town feeling where everybody knows everybody adds charm to Powerview-Pine Falls. In Winnipeg there were minimal chances of seeing someone he knew when he went out in public. In Powerview-Pine Falls he cannot go out in town without seeing somebody that he knows, or that he is familiar with. Not everybody likes that dynamic but he personally enjoys that connection. The people, the region's geography, the golf course, ski trails and river are what he loves most about Powerview-Pine Falls.

Change Participant Observed in Powerview-Pine Falls

This participant lived in town for two years while the mill was in operation, and observed numerous changes that were a direct result, or a byproduct of the mill closing. These changes include:

Positive Changes:

1. Change in demographics. Families from Sagkeeng First Nation are migrating into the community, making the community and school more diverse.
2. Increase amount of student enrolled at Powerview school since the mill closed. This contradicts peoples concerns that Powerview-Pine Falls is becoming a retirement community.

INTERVIEW 5

Negative Changes:

1. Families have less disposable income for their kids sports, and school activities.
2. Most graduates from Powerview School have to leave the community to pursue post-secondary education or obtain work positions. Some graduates have found decent employment in the community working with Manitoba highways, local businesses, trucking companies or construction companies. Some graduates work outside of the community but live in Powerview-Pine Falls, requiring them to travel for periods of time.

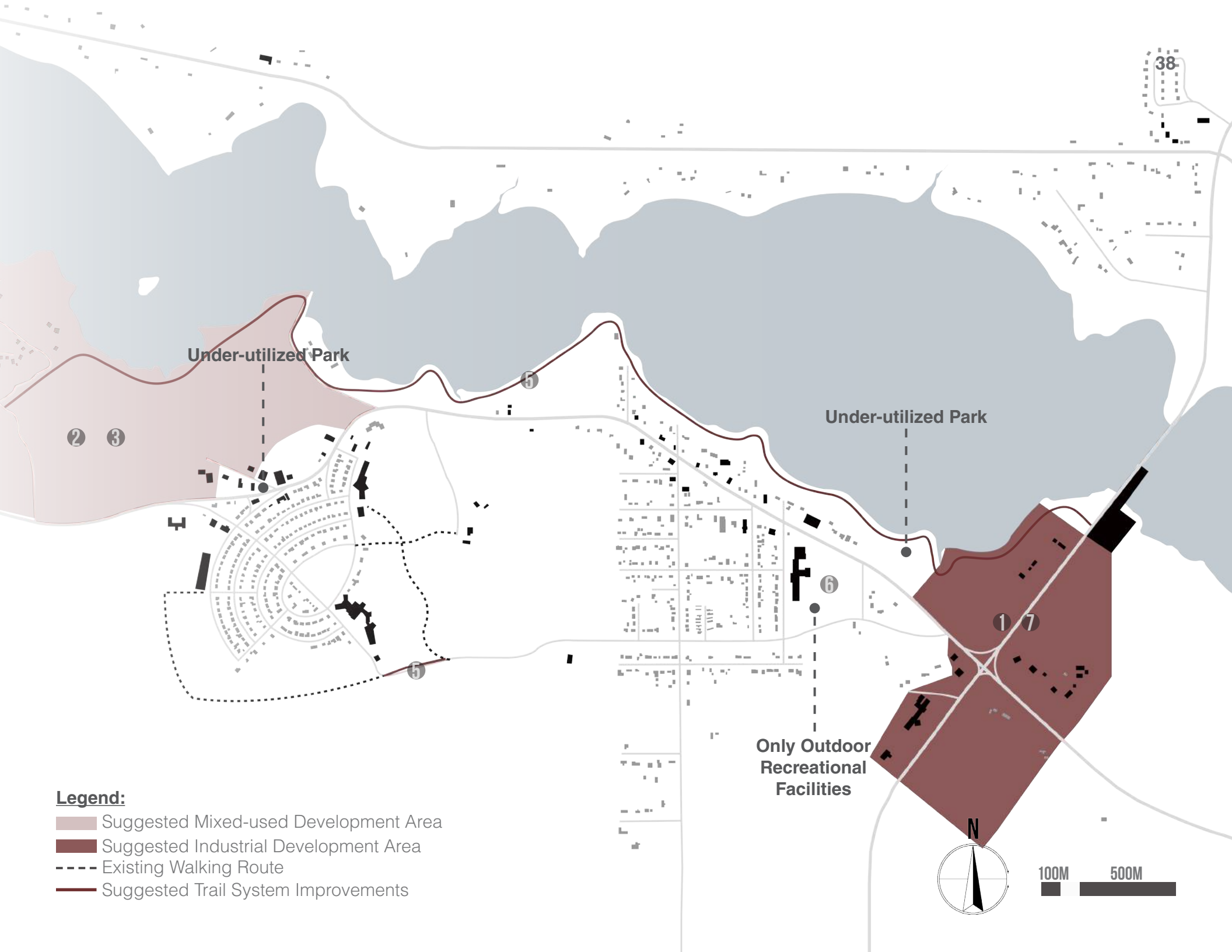
Future Vision for Powerview-Pine Falls

This participant's community vision includes (numbers in figure correspond to numbers below):

1. Reestablish industry [manufacturing or tourism] to add to the community's economy. The rest of the community will naturally flow out of that change because industry would create jobs, and increase the tax base and disposable income.
2. Develop a campground and/or a resort on the mill site.
3. Develop new housing complexes.
4. Develop a marina at the boat launch.
5. Develop a walking trail system capitalizing on the beautiful of the community. People currently walk and bike on the school track or highway.
6. Develop more outdoor recreational facilities. There are small parks that do not get used like: Linden Park, the Knights of Columbus Park and Anniversary Park. Powerview School is the only park that contains outdoor recreational opportunities.
8. Develop around highway #11 and #304 to generated a better first impression.

Additional Points

The mill site is a prime space for mixed use development, including industry, walking trails, residential development and campgrounds. Powerview-Pine Falls is in the middle of three crown Manitoba tourism jewels: The Whiteshell, Birds Hill Provincial Park, and Grand Beach Provincial Park. Powerview-Pine Falls has similar geography that could be exploited to form of a park.







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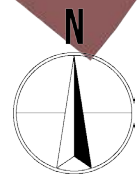
Under-utilized Park

Under-utilized Park

Only Outdoor Recreational Facilities

Legend:

-  Suggested Mixed-used Development Area
-  Suggested Industrial Development Area
-  Existing Walking Route
-  Suggested Trail System Improvements



Personal Story

This participant grew up in Powerview. Her father worked in the mill, while her mother worked odd jobs throughout town. In 2000 her parents moved to Lac Du Bonnet to pursue a position in that community. By 2000 this participant was pursuing post-secondary education in Winnipeg, where she worked for ten years until her and her husband, a born and raised Sagkeeng boy, moved back to the region. They moved to Silver Falls, a community past St George. She works as a mechanical engineer and is able to work from home most of the time. Her family does not live directly in the community of Powerview-Pine Falls, but considers it to be their home because it is the area where they participate in all of their community activities, including hockey, gymnastics, and golf.

What Powerview-Pine Falls means to this Participant

The time this participant experienced outside of the community provided her with the opportunity to explore different community dynamics. She misses the endless opportunities Winnipeg offered relating to sports and activities like woman's hockey or mixed martial arts but is happier residing in Silver Falls because she feels a better sense of community. The small town feeling of everyone knowing everyone provides her with a sense of community spirit and togetherness. Being just outside of the community of Powerview-Pine Falls provides her family a calming feeling controlled by quietness and seclusion. She loves the community and has become an active participant in community organizations.

Changes Participant Observed in Powerview-Pine Falls

Some changes this participant has observed include:

Positive Changes:

1. Demolition of the mill building. Although it was an iconic town symbol, the removal of the decrepit structure was necessary.
2. Increased feeling of togetherness. The closure of the mill brought community members together to support one another.

Negative Changes:

1. The amount of residents from the younger generation is lacking because of a decrease in employment opportunities. The community needs to find a way to attract younger people through work opportunities or tourism.
2. Inability for some residents to move beyond the mill mentality. They are not willing to contribute money to organizations to improve facilities. This results in organizations going into debt.
3. Less voluntarism from the middle to younger generations. Previously mothers and woman had more time to give back to the community. Changed family dynamics and aging demographic has left less people to volunteer.
4. Deteriorating streets and facilities.

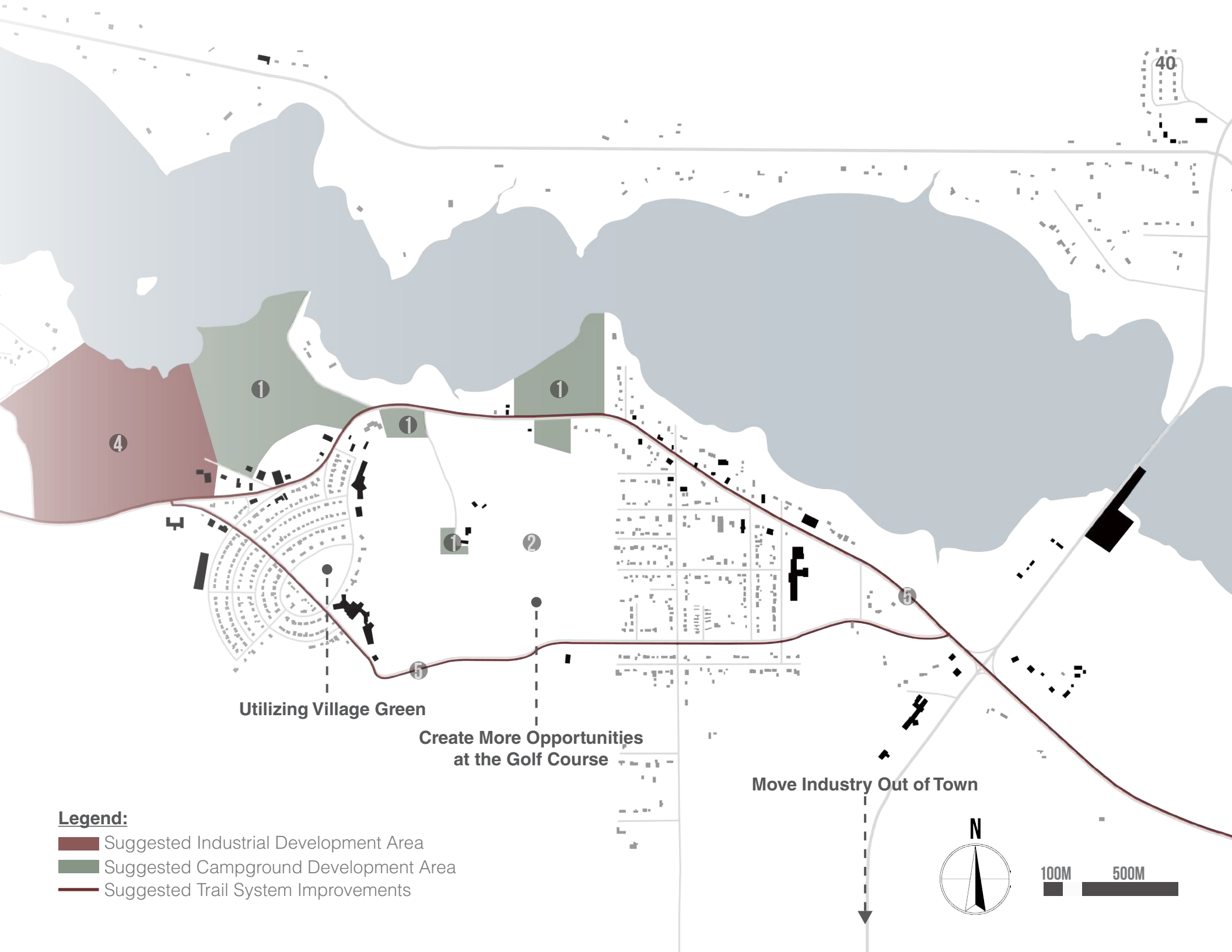
Future Vision for Powerview-Pine Falls

This participant's community vision includes (numbers in figure correspond to numbers below):

1. Create RV parks and campgrounds.
2. Organize community events at the golf course.
3. Market the community as a tourist destination with skiing, hunting, fishing, boating, golfing, snowmobiling, etc.
4. Develop industry on the mill site, around highway #304 or further out of town by the garbage dump.
5. Develop a trail system along Provincial Trunk Highway #11 for people to bike, walk, run, roller-blade from Sagkeeng to St George. A trail system could also occur on Dupont Road.

Additional Points

People of Powerview-Pine Falls tend to not like change. This has been a detriment to the community's growth. In order to grow as a community she feels like things need to be done differently. Too much opposition from residents in Powerview-Pine Falls who are stuck in the mill mentality has made Powerview-Pine Falls' growth stagnant while the rest of the region around it is evolving. People need to move past the closure of the mill for the community to move forward. Neighboring communities like Lac Du Bonnet, survive without heavy industry. It is important to look at them as a precedent when moving forward.



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Utilizing Village Green

Create More Opportunities
at the Golf Course

Move Industry Out of Town

Legend:

-  Suggested Industrial Development Area
-  Suggested Campground Development Area
-  Suggested Trail System Improvements



Personal Story

This participant was born and raised in Powerview. After high school she pursued post-secondary education in Winnipeg where she lived and worked for a few years after schooling until obtaining a position at the Pine Falls Paper Mill. She moved back to Powerview in search of a community that would better suit her family, providing safer streets, where everyone is looking out for everyone. She was hired at the mill during an ownership transition from Pine Falls Paper Mill to Tembec Paper Mill. This transition initially made her uncertain about her position in the work place. After six months she acquired the position that she was originally hired to work. She worked at the mill until it closed and was one of the last employees to set foot in it. She was fortunate to acquire a new position in the region. Her son moved to Winnipeg after graduating high school to attend Red River College and her daughter remains in Powerview-Pine Falls attending Powerview School.

What Powerview-Pine Falls means to this Participant

This participant considers Powerview-Pine Falls her home. Leaving the community made her aware of that. She loves having the opportunity to converse with somebody that she knows every time she is in town. Her favorite thing about Powerview-Pine Falls is the support residents have for one another, especially during times of need. For example, a resident's house burnt down and the community came together to support and fundraise for the family. She is an active participant in community organizations including the golf course and the arena board. She has a strong sense of voluntarism and enjoys giving back to organizations.

Changes Participant Observed in Powerview-Pine Falls

Some changes this participants has observed include:

Negative Changes:

1. Deteriorating roads and buildings with limited funding.
2. Decreased voluntarism with changed community demographics.

3. Less people utilizing community facilities. For example: the mens curling league folded because of limited men available in town. Many men travel to work on a work schedule limiting the amount of time they have for community participation.
4. Most kids leave town to further their education or acquire a job, because of limited work opportunities.
5. Lower housing market attracts residents who cannot afford to upkeep their properties, leading to deteriorating housing.
6. Increased crime rates, especially theft and break-ins making residents feel unsafe.

Future Vision for Powerview-Pine Falls

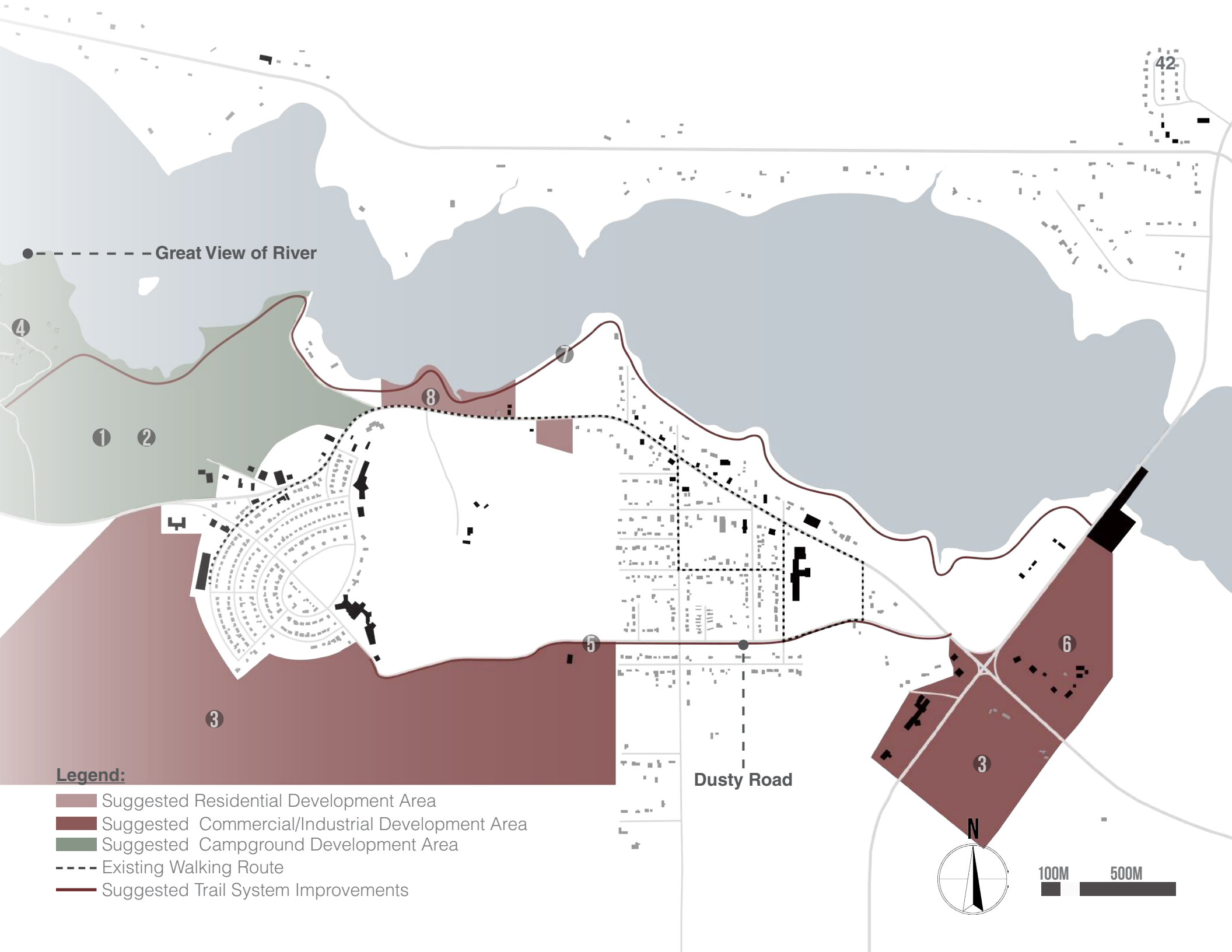
This participant's community vision includes (numbers in figure correspond to numbers below):

1. Develop tourism areas.
2. Develop campground on mill site that includes cabin rentals.
3. Develop heavy industry away from the river because the areas along the river are premium land for public spaces, tourism and housing.
4. Remove deteriorated housing on "the rock" and replace it with something that capitalizes on the pretty view.
5. Improve Dupont Road because it is too dusty in the summer time for pedestrians to walk on.
6. Develop commercial and industrial facilities around Highway #304 and #11 to provides employment for residents.
7. Develop a river trail for people to walk on, deterring them from walking along the shoulder of Provincial Trunk Highway #11.
8. Increase residential development areas.

Additional Points


Powerview-Pine Falls is an amazing community with great people and beautiful surroundings. She truly appreciates having nature surrounding her because it allows her to experience the outdoors without having to travel far.

INTERVIEW 7



Great View of River

Legend:

-  Suggested Residential Development Area
-  Suggested Commercial/Industrial Development Area
-  Suggested Campground Development Area
-  Existing Walking Route
-  Suggested Trail System Improvements

Dusty Road



Personal Story

This participant was born and raised in Pine Falls and moved to Winnipeg after high school to obtain a diploma in nursing. After completing that program a three month term position opened up at Pine Falls Hospital. After three months, her term was extended into a forty year career. She had three children who all moved out of the community for employment after graduating high school. Her husband worked at the Paper Mill until it closed. She felt that Powerview-Pine Falls was an excellent place to raise her family because its amenities including the arena, pool, and curling club which are all within walking distance of her home.

What Powerview-Pine Falls means to this Participant

This participant's favorite thing about Powerview-Pine Falls is its natural beauty. It is a picturesque town built along an amazing river, surrounded by old growth boreal forest trees. Her father and husband both worked at the paper mill for most of their lives. The mill was a major contribution to the livelihood of this participant's family and now that the mill is closed, they stay in the community because of their friends, their memories, and their love of being surrounded by the wilderness.

Changes Participant Observed in Powerview-Pine Falls

She lives in Pine Falls in a home previously owned by the company and has observed changes to the region over time that include:

Positive Changes:

1. The landscape is cleaner since the garbage around the waste water treatment plant was removed.
2. The air is cleaner. When the mill was operating the sulfur odor from the mill and the stink from the water treatment plant occasionally polluted the air around the community.

Negative Changes:

1. Decreasing population which makes it difficult to operate

- facilities that previously were core components of community life.
2. Deteriorating housing in Pine Falls because many residents are not maintaining their homes or properties. When the mill owned the town, the houses were well maintained by the company.
 3. Tensions between Powerview and Pine Falls are growing as infrastructure crumbles in Pine Falls requiring tax payers dollars to repair it. For example, the aging sewer system in Pine Falls needed to be replaced using the municipality's tax base.
 4. Increased crime in the form of theft.

Future Vision for Powerview-Pine Falls

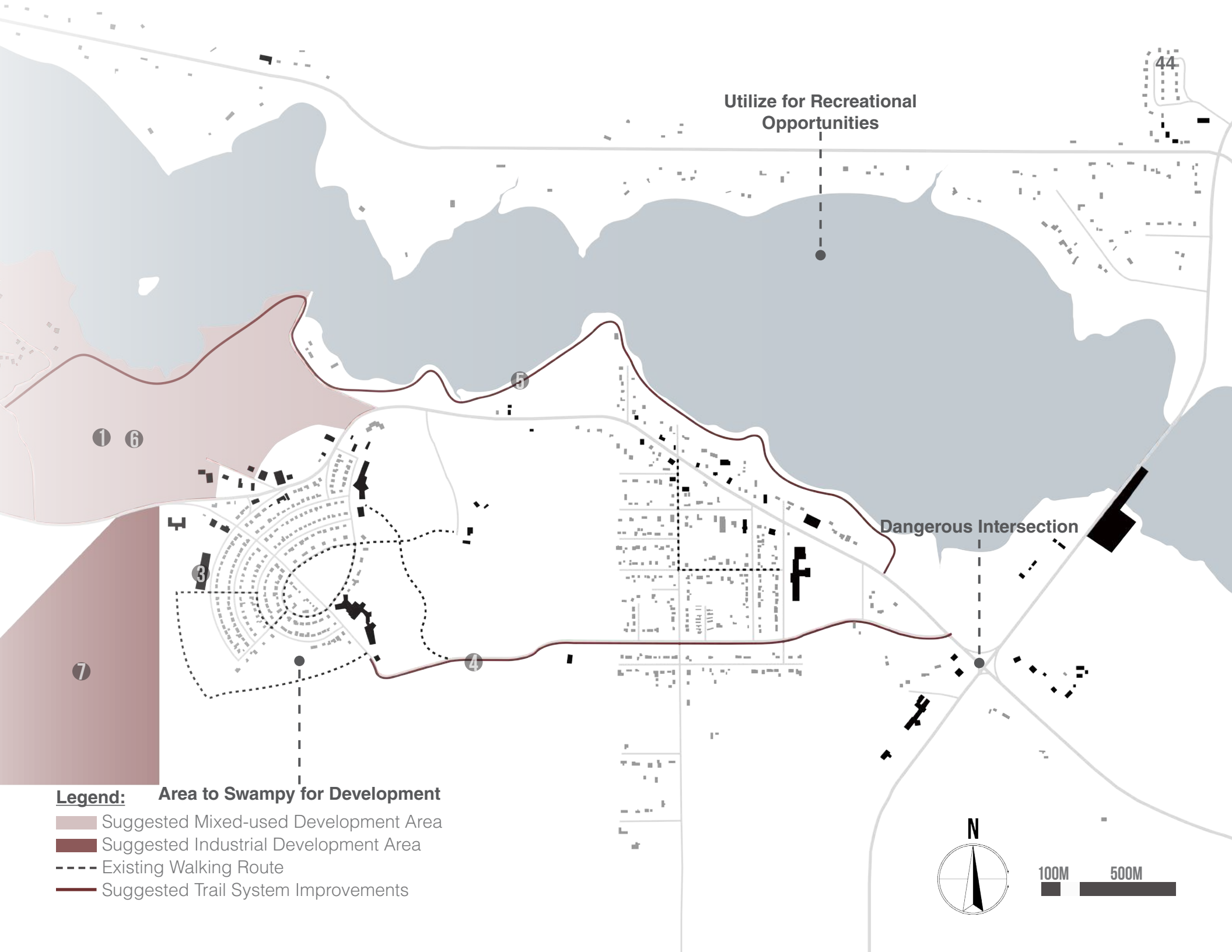
This participant's community vision includes (numbers in figure correspond to numbers below):

1. Develop the paper mill site into a mixed used space with forms of industry and recreation.
2. Establish recreational community activities, similar to work done in Pinawa where they utilize the waterway for economic gain in the form of fishing and other water sports.
3. Keep the rink, curling rink and other facilities viable.
4. Establish a bike trail.
5. Develop walking trails along Winnipeg River that connect Anniversary Park to Pine Falls.
6. Develop a campground.
7. Develop heavy industry on the waste water treatment plant site.

Additional Points

It does not matter exactly where in town the changes occur, just as long as something happens. The community needs to take advantage of the opportunities that it has with its natural resources. Other communities along Winnipeg River have survived without an industry. What have they done that we, the town of Powerview-Pine Falls, can do?

INTERVIEW 8

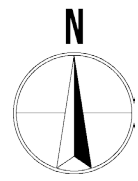


Utilize for Recreational Opportunities

Dangerous Intersection

Legend: Area to Swampy for Development

- Suggested Mixed-used Development Area
- Suggested Industrial Development Area
- - - Existing Walking Route
- Suggested Trail System Improvements



Personal Story

As a born and raised Powerview-Pine Falls resident, this individual has watched the town transform over the decades. His family moved here from the Pas prior to his birth and purchased the Pinewood Hotel (most recently known as the Rusty Nail). After years of work his father sold the Pinewood Hotel after becoming employed at the mill as a clothing specialist. This position made him responsible for the felts that paper dried on. Later in life, he followed in his father's footsteps and took a position at the mill as a power engineer in the coal-burning steam plant. This participant spoke about employment at the mill stating, "It was a well-paying job for someone with minimal education, which was ultimately the detriment for many when the mill shut its doors." As sale of newsprint faded due to rise in technology, he predicted the end of the mill and sought employment in Winnipeg. For over ten years he worked and lived in Winnipeg and then Selkirk, but never felt comfortable in the communities. A lower housing market in Powerview-Pine Falls, and a desire for more space and better community connection encouraged him to move back into his childhood home. He spoke about this experience stating "Sometimes you need to go out in the 'bush' by yourself, get some solitude to realize how amazing the town of Powerview-Pine Falls is." For a while this participant traveled back and forth forty minutes to work in Selkirk at Praxair. He now works in town at a local restaurant and has participated in numerous local organizations including: Edgewater Development Cooperation (an economic engine developed to spur economic growth), town council and Winnipeg River Chainsaw Carving Corporation.

What Powerview-Pine Falls means to this Participant

"I believe that we the people of the river have decided that we are all here because of this majestic river and I think that we could capitalize on such opportunities." He compared Winnipeg River to Red River stating, "If I got my pinky toe wet in the Red River I would have to cut my leg off at the hip, but here, I have heard of

people drinking directly out of Winnipeg River." This participant emphasized that the ecosystems and the river are truly the most magnificent things about the community. The environment is a rarity that cities only dream of. He believes that Powerview-Pine Falls is the edge of civilization, as stated "Coming out here there are fields and developments, but beyond us is the wild. We are the gateway to the wild green north." What he believes sets Powerview-Pine Falls apart from 'the beaches' is the size of the lots. In the beaches the lots are close together, it is like living in the city, comparatively, many residents of Powerview-Pine Falls own acreages.

Changes Participant Observed in Powerview-Pine Falls

"There were consequences of losing our single industry, but it's a natural process. We are not the first town to lose our industry and we won't be the last." He stated that there is a grieving process, it is just like losing a family member; it's losing a way of life. The council tried different industries that could have fit the community template but the town's dream for big industry died when the Waste Water Treatment Plant and the rail-line that connected the community to Winnipeg were removed. The mill building was not essential, but those two elements would have encouraged an easier transition for new industry. This hometown boy has observed positive and negative changes that occurred throughout the years including:

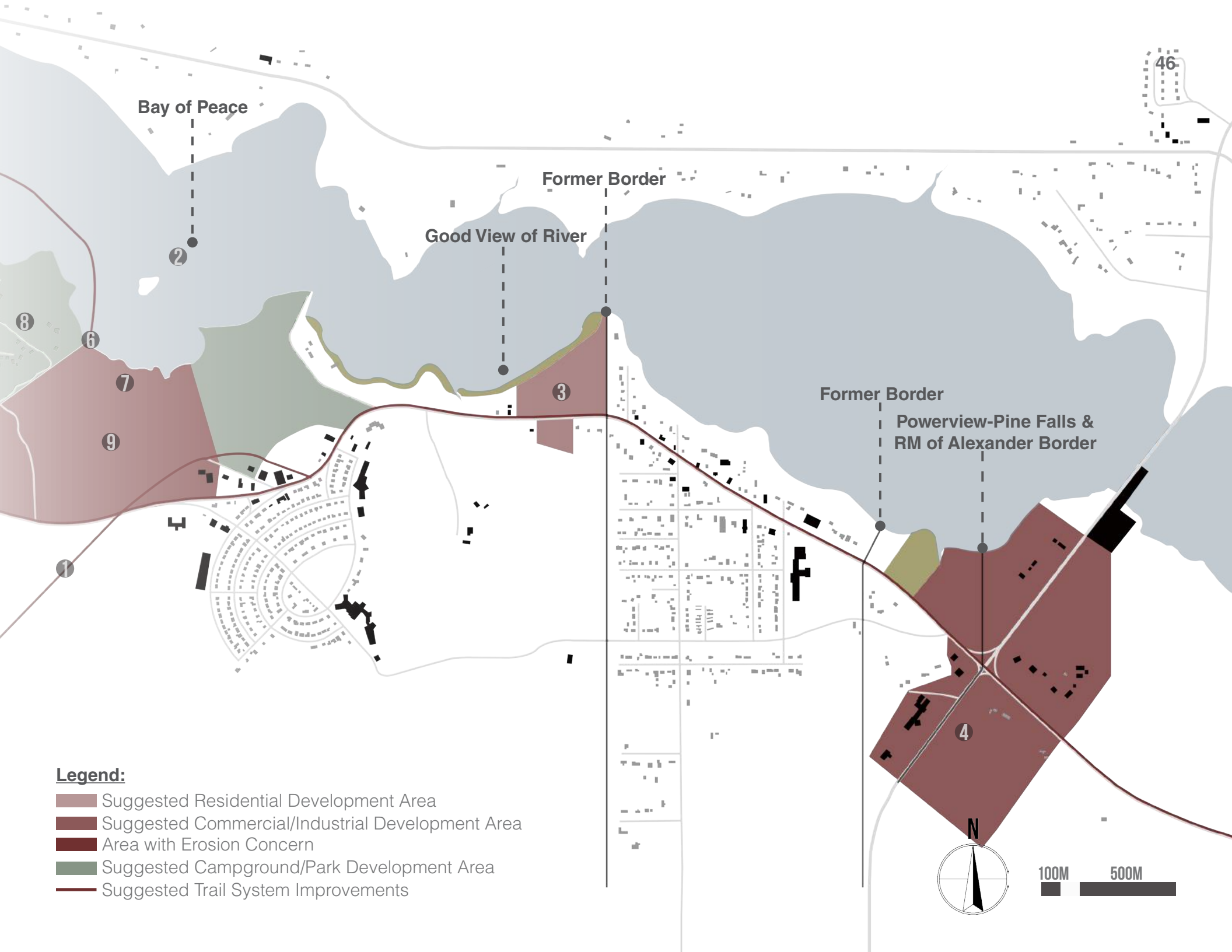
Positive Changes:

1. Over time Winnipeg River has progressively become a healthier ecosystem due to the closure of the following industries: Kenora Paper Mill at the head of Winnipeg River the, Atomic Energy of Canada Limited research plant between Lac Du Bonnet and Silver Falls and Tembec Paper Mill in Powerview-Pine Falls.

Negative Changes:

1. Loss of a way of life.
2. Disagreements between community councils. The chamber of commerce is nonexistent.
3. Decreased voluntarism decreased because residents have limited time due to extensive traveling for work.

INTERVIEW 9



Bay of Peace

Former Border

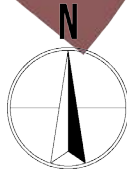
Good View of River

Former Border

Powerview-Pine Falls & RM of Alexander Border

Legend:

- Suggested Residential Development Area
- Suggested Commercial/Industrial Development Area
- Area with Erosion Concern
- Suggested Campground/Park Development Area
- Suggested Trail System Improvements



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Future Vision for Powerview-Pine Falls

This participant's community vision includes (numbers in figure correspond to numbers below):

1. Develop a trail system connecting Powerview-Pine Falls to Birds Hill Park utilizing the removed trail system.
2. Develop the area around the Bay of Peace, recognizing the history of the Bay of Peace. It was the final waterfall on the Winnipeg River where voyagers would travel through on their final portage. Voyagers would stay for a day or two around the Bay of Peace until they continued their portage into Lake Winnipeg. He calls this bay the trifecta because it is bordered by Powerview-Pine Falls, the Rural Municipality of Alexander and Sagkeeng First Nation.
3. Develop residential developments along Winnipeg River, utilizing Parisian's Point and the land adjacent to Midway Foods. This participant believes that approximately ten lots could be sold at a higher cost beside Midway Foods to raise the town's tax base because the view from each lot onto the water would be tremendous. "It's the most beautiful sunset over the final waterfall, over the Bay of Piece." Unfortunately the bank of Winnipeg River suffers from sever and the area would have to be secured before development could occur. Council determined the cost of securing the land was \$800,000. Manitoba hydro offered to input \$300,000, thus requiring the town to procure \$500,000.
4. Increase commercial development around highway #304 and #11. This area would be the new heart of the future community, capitalizing on the heavily traffic flowing through this intersection from neighboring communities. One side of this area is owned by the Rural Municipality of Alexander while the other side is owned by Powerview-Pine Falls. Before anything successful can occur in this area the two communities need to learn how to work together.
5. Develop the mill site as a mixed use space. Contamination issues on site need to be study. There are possibilities to convert the space into a green space.
6. Develop a marina.
7. Develop an amphitheater along the Bay of Peace facing Dynamite Island where festivals could occur.
8. Develop a campsite on the rock .

9. Develop heavy industry off of Winnipeg River.
10. Increase the amount of tourism and community events. Winnipeg River Chainsaw Carving Corporation is working with Festival du Voyager to organize a summer Festival du Voyager that creates a canoe challenge with people beginning the race at the head of Winnipeg River in Kenora, portaging for seven days until they arriving at the foot of the Winnipeg River in Powerview-Pine Falls or Sagkeeng First Nation. The race would symbolize the portage that voyagers made on their root to Winnipeg and would connect the old paper mill sites in Kenora and Powerview-Pine Falls.

Additional Points

He left me this quote to conclude our interview, "Instead of dwelling on the loss of the mill, lets really look at the beauty that we have right in front of us. We have to bring people up these trails, we need to bring people up this river. We need to focus on more than just the mill site. There are other significant spaces in town. The more people we attract in volumes to these spaces the more income we create for existing facilities."

Participants expressed a love for their surrounding geography, emphasizing that their small town is situated in a unique boreal forest landscape that is full of diversity and scenery. Many participants appreciated the surrounding mature trees that skirted the edge of their town and emphasized the desire to develop that beauty inside of Powerview-Pine Falls by rejuvenating the landscape of the mill site. (The landscape areas participants were interested in enhancing are outlined on page 63). This encouraged me to enhance the town's landscape by regenerating the areas that are vacant and left to grow successional grass species.

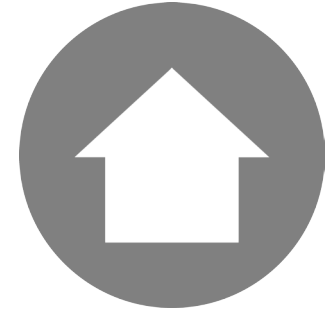
Participants described how they move around the town, expressing concerns over the lack of designated walking trails connecting Pine Falls and Powerview. Many participants were concerned about the poor design of Highway #11, noting that the highway is commonly used by pedestrians walking, running and biking between Sagkeeng First Nation, Powerview-Pine Falls and St George. However the road has heavy traffic and has poor shoulders for pedestrian movement. Many pedestrians, including young children walking to school, use this route daily. Participants also saw the lack of opportunities to leisurely walk around the community and engage with the surrounding landscape as an issue. These concerns of participants lead to an understanding that improving pedestrian circulation a necessary objective for this practicum. Proposed circulation trails, as well as current walking routes of participants, are outlined in the diagrams on page 62 and 63.

All participants emphasized the need for new businesses in town, whether industrial, commercial and/or tourism. The pulp and paper mill was previously the main source

of employment in the community and the main supporter of the town's economy. Participants reported that after it closed the population demographics, community participation, and disposable income changed. They saw the changing of age demographics and the decreasing population as particularly detrimental to the community. They observed that a loss of residents between the ages of 20-40 and the increased number of residents above 60 contributed to less voluntarism, more crime and less participation in community activities. They attribute the demographic change to a lack of local industry and job opportunities.

Areas where participants proposed industrial and/or commercial development are outlined on page 62. Proposed areas for tourism are outlined on page 63. The need for businesses encouraged me to develop tourism opportunities. Tourism development is an objective, as opposed to commercial and industrial development because tourism provides opportunities to boost the community's economy through increased visitor traffic, while minimizing destruction on the landscape. Improving tourism infrastructure encourages residents and visitors to engage with the landscape and the locals.

People encouraged me to explore the similarities and differences between Powerview-Pine Falls and the towns of Pinawa and Lac Du Bonnet. Specifically they encouraged me to analyze those towns' pedestrian circulation systems and tourism infrastructure. They are located along Winnipeg River, in the boreal forest and attract fisherman. They do not have major industries but survive through tourism. In Section 5: Site Analysis I briefly look at these two towns, how they attracted tourism, and the similarities and differences that they have with Powerview-Pine Falls. A notable difference is the quality of trail systems in Powerview-Pine Falls vs. Lac Du Bonnet and Pinawa. Powerview-Pine Falls lacks



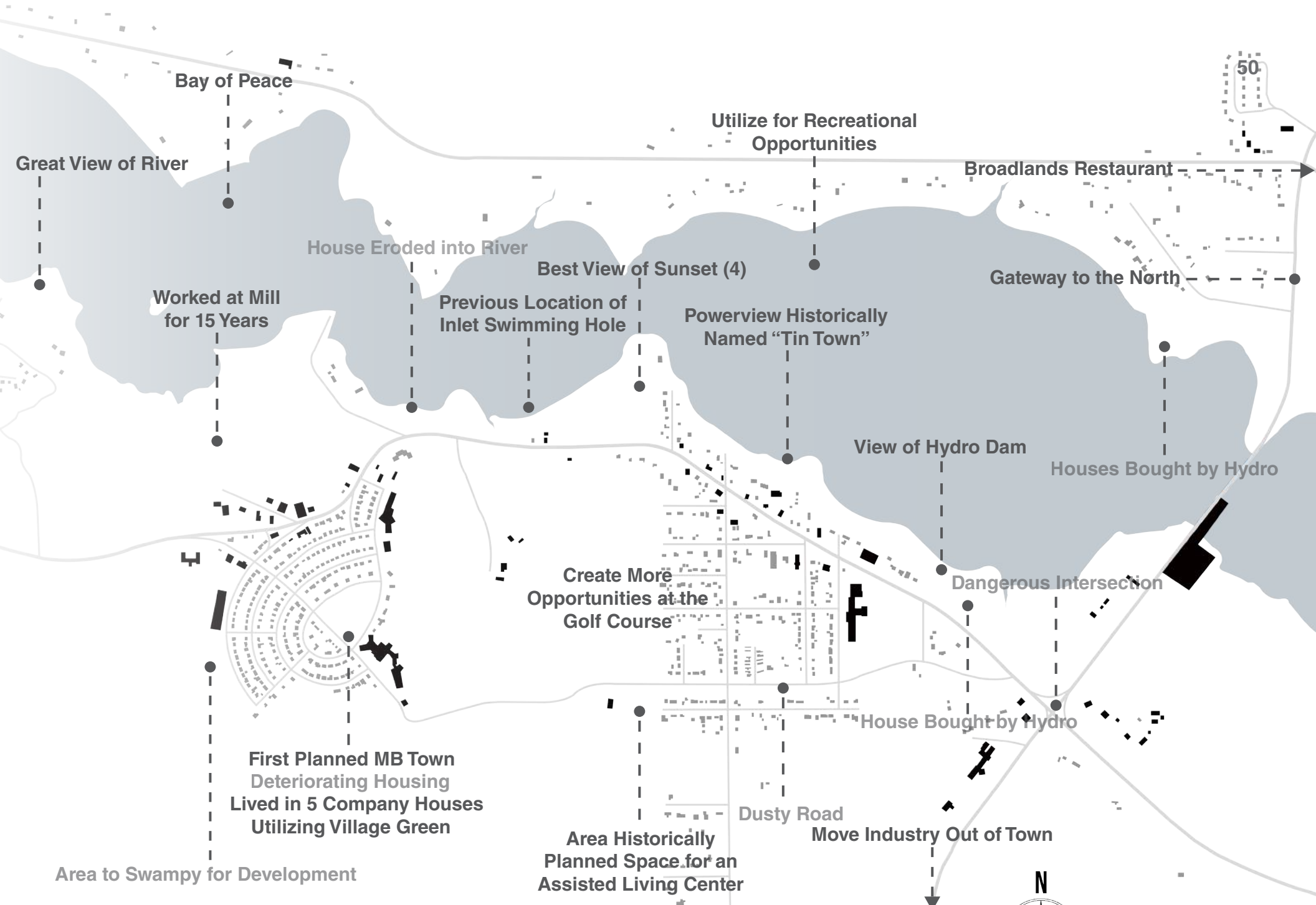
INTERVIEWS DISCUSSION

hiking, bike and walking trails, which attract outdoor enthusiasts and better the movement of permanent residents. The other two towns have developed hiking trails through their surrounding forests.

Powerview-Pine Falls is full of amazing people, who were grateful for my contribution to their community and welcomed me into their lives with open arms. The stories participants told me were full of love, passion, hardships, resilience, and hope. Everybody's journey to the community was different but in the end almost all of the participants remained in this community because it is where they call home. The information these participants provide was a catalyst for the project. It allowed me to move towards a goal of bettering the lives of permanent residents by enhancing their outdoor environment. Their suggestions regarding locations of landscape enhancement (parks), walking trails, bike paths, and campgrounds are important and have been considered in the design intervention.

The relationships participants have in town, their appreciation for the geography, and the love they have for the small town community feeling, fills each of these participants with hope that a better future is possible. Although everyone's journey through life different, each participant portrayed similar observations of change and ideas for the future community. In a diagram on page 61 significant spaces, points of history, and/or areas of activity are outlined to demonstrate the unique features that participants liked or disliked about their community.



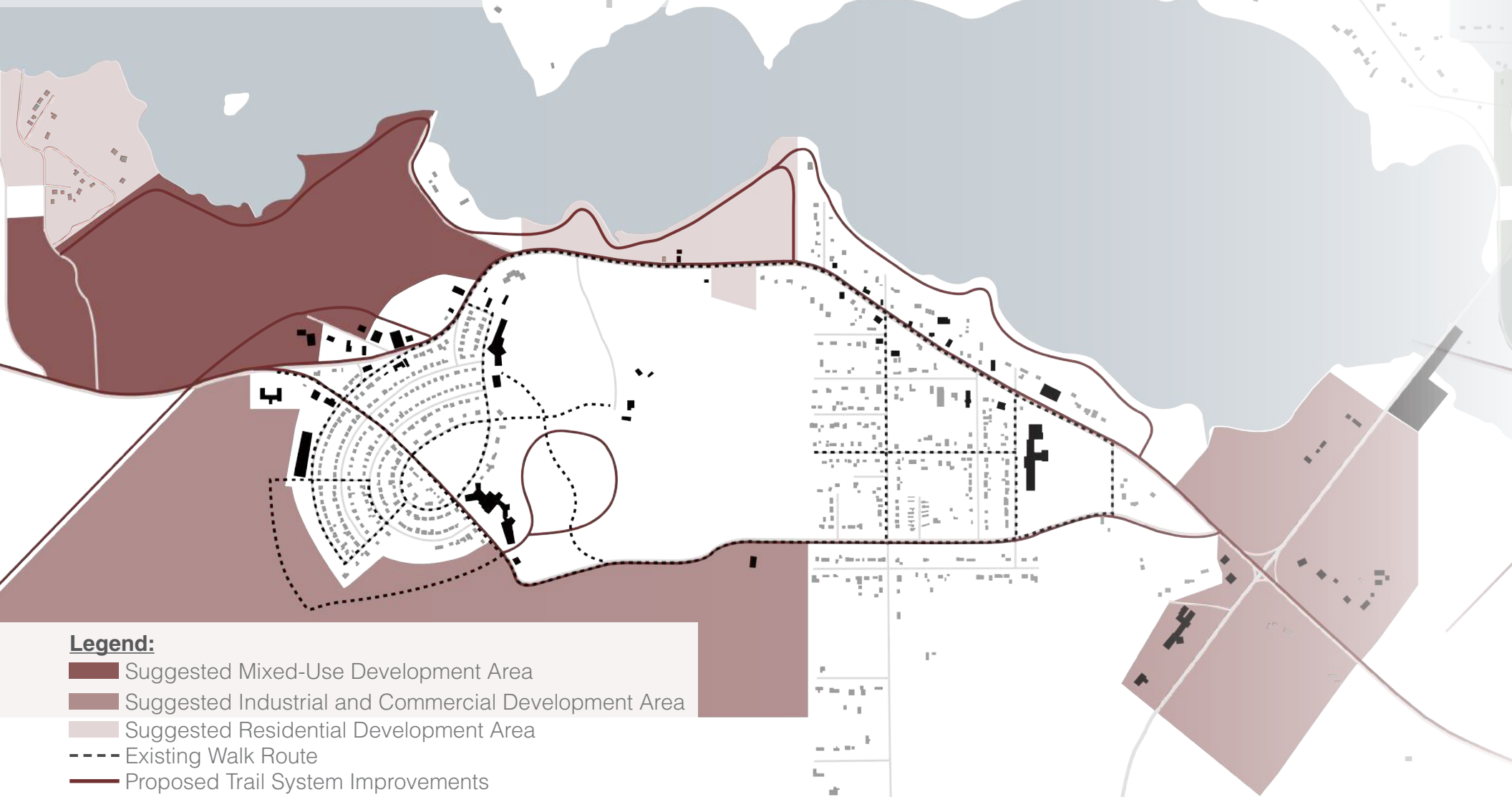


UNIQUE AND/OR SIGNIFICANT SPACES MENTIONED BY PARTICIPANTS



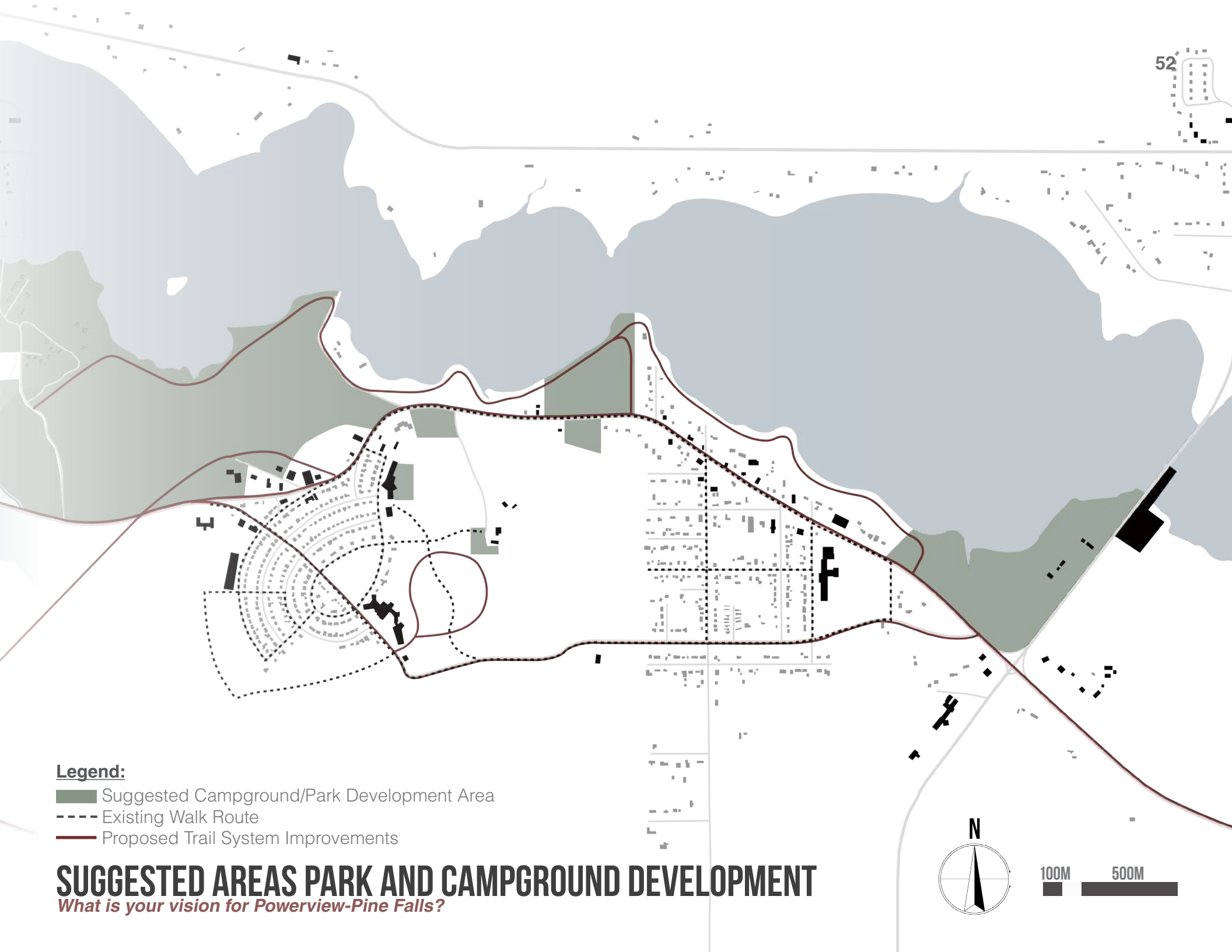
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The diagram above outlines all the areas where participants recommended residential, commercial and/or industrial development. The diagram on the right page outlines areas where recreational or campground development was recommended. Both diagrams demonstrate existing and proposed walking routes outlined by participants.






SUGGESTED AREAS FOR RESIDENTIAL, COMMERCIAL AND INDUSTRIAL DEVELOPMENT

What is your vision for Powerview-Pine Falls?



Legend:

-  Suggested Campground/Park Development Area
-  Existing Walk Route
-  Proposed Trail System Improvements

SUGGESTED AREAS PARK AND CAMPGROUND DEVELOPMENT

What is your vision for Powerview-Pine Falls?



FOREST MANAGEMENT AND PAPER MAKING

FOREST MANAGEMENT AND PAPER MAKING: INTRODUCTION

Forest management is defined as the “way of using and caring for forests so as to maintain their environmental, social and economic values and benefits over time” (Natural Resource Canada, n.d.). To enhance the outdoor environment of Powerview-Pine Falls, I need to understand residents’ previous relationship with the landscape. Forest management policies and practices influenced people’s historical relationship with the surrounding landscape. Here I discuss forest regeneration during the mill era, the mill’s relationship with the landscape, and the policies that influenced them.

I also discuss current forest management practices that did not affect the Pine Falls paper mill but would affect any future forest related activities. Topics are treated in the following order.

1. Canadian forest management practices (before and now),
2. The pulp and paper making process,
3. Powerview-Pine Falls’ paper mills’ source of wood,
4. Regeneration techniques,
5. The type of wood harvested

This information is critical to understanding the mill’s relationship with the environment. It also emphasizes the importance of the boreal forest and current practices and policies that will affect future reforestation and forest industry practices. The design intervention includes reforestation, incorporating current best practice in order to meet the landscape regeneration objective.



Canadian Boreal Forest

Canada's 384 million hectares of forest land is a major source of wealth (Natural Resource Canada, 2016). Canadian forests provide economic, social and environmental benefits (Natural Resource Canada, n.d). "Canada accounts for only 9% of the world's forest land but Canada accounts for only about 0.3% of global deforestation" due to rigorous sustainable forest management practices (Natural Resource Canada, 2016, p.1). The federal definition for deforestation is the "permanent clearing of forest to make way for new, non-forest land uses" (Natural Resource Canada, 2016, p. 2), such as roads, buildings and development. Current forestry practice in Canada demands that all land harvested be regenerated (Natural Resource Canada, 2016) Regeneration is defined federally as "The renewal of a forest crops by natural or artificial means" (AgroInfo.inc, 2015). Although it can be argued that all clear cutting is detrimental to forest ecosystems, current logging practices are less detrimental when proper regeneration procedures are executed.

Canada's forest industry started in 1870 and is one of the country's oldest industries. There are three different forest industry sectors in Canada; solid wood manufacturing, pulp and paper manufacturing, and logging (Canada, 2016).

History of the Forest Industry

Manitoba's pulp and paper manufacturing industry started in 1927 with the construction of the Spanish Pulp and Paper Mill. The industry expanded in 1971 when Churchill Forest Industries Pulp and Paper Mill established itself in The Pas (Environment Canada, 1984). The mill in Pine Falls has permanently closed, and The Pas mill has severely limited its operations.

All forest harvested in Canada are boreal forests. "Pre-settlement boreal forests existed as a patchwork mosaic of pure stands of aspen, spruce and jack pine" (Natural Resources Canada, 2016, video). Natural disturbances, such as insects, fires and wind disturb the boreal forest, allowing opportunity for natural regeneration of tree species and forest habitat. Canada's current forest industry practices clear cutting to emulate the process of natural disturbance. Mimicking natural disturbances this clear cutting provides direct sunlight for all seedlings. Historically harvesting was done in much larger clear cuts of geometric

CANADIAN FOREST MANAGEMENT





OLD GROWTH BOREAL FOREST



CLEAR CUT BOREAL FOREST



REGROWING CLEAR CUT BOREAL FOREST

shape (Natural Resources Canada, video). Around the beginning of the 90s patchwork clear cutting became common practice as it is less detrimental to the environment, creating corridors within the harvested areas to promote species movement, while still providing direct sunlight for all seedlings. Policies, programs, agreements and organizations have been established by government and non-profit groups to ensure stability and longevity in the forest industry.

Forest Industry Harvesting Policies, Practices and Organizations

Currently each province and territory controls its region's forest industry, developing and enforcing laws, regulations and policies that comply with their condition (Natural Resource Canada, n.d.). These laws, regulations and policies are based on sustainable forest management practices as developed by the federal government and are in place to "set aside protected areas, protect wildlife, respect Aboriginal and treaty rights, specify harvesting and regeneration practices and prevent illegal logging in Canada and the import of illegal timber products into Canada" (Natural Resource Canada, n.d.). Forestry companies planning to harvest timber must submit a forest management plan to their province or territory that outlines a strategic plan that protects forest values, assesses the current condition of the desired harvest area, details the future state of the desired harvested area, outlines management objectives and describes harvesting and reforestation agendas. Once a forest management plan is approved, provinces and territories continue to monitor the forest company's practices, ensuring they comply with their objectives (Natural Resource Canada, n.d.). The policies made headway in 1996 when Manitoba forest practices committed to sustainable forest management. Earlier agreements and policies that contributed to that commitment are discussed below (Manitoba Conservation, 2007).

Prior to such agreements, shortages of local wood affected forest industry practices because regeneration policies and management plans were not well established and forests historically harvested were left to naturally regenerate themselves. Prior to forest management plans, regeneration processes were less vigorously applied and enforced, with minimal assisted regeneration occurring before 1981. Many of these forest areas failed to naturally regenerate themselves, leaving barren patches in the mosaic. Real strides towards better harvesting practices began in 1981 when the Forest Sector Strategy for Canada and Manitoba Forest Management Plan

were established to regulate and protect Canada's forest resources (Environment Canada, 1981). The province of Manitoba established the Manitoba Forest Management Plan as part of the Forest Sector Strategy for Canada agreement to focus on developing and enforcing regulations that protect and persevere Manitoba's forest areas (Environment Canada, 1984). These agreements mandate reforestation of harvested areas and reforestation of previously neglected harvested areas where natural regeneration did not succeed. Artificial regeneration, including planting, weeding and fertilizing, is intended to accelerate the regrowth in these areas (Environment Canada, 1981). Both Forest Sector Strategy for Canada and Manitoba Forest Sector emphasize economic growth, aiming to develop opportunities for employment in forest harvesting (Environment Canada, 1981 and 1984).

On March 15, 1984 the Government of Canada and the Province of Manitoba established a five year Canadian Manitoba Forest Renewal Agreement that was consistent with the above two agreements (Cataldo, 1998). Under this program the two government organizations established primary objectives which include forest renewal, intensive forest management, applied research, technology transfer and opportunity identification, and public information, evaluation, and administration (Cataldo, 1998). These objectives make forest industry companies responsible for administering programs in surveying, mechanical site preparation, seed acquisition, tree planting, stand tending, spraying, cone collection, and seeding.

In the survey program workers survey forest sites using aerial and ground level reconnaissance. Pre and post treatment surveys monitor survival, regeneration, and space and spraying activities. In the mechanical site preparation program workers shear-blade, alternate strip-blade and disc trench sites to prepare them for regeneration. In the seedling acquisition program the federal government provides Manitoba paper mills with plant stock of black and white spruce in container and bare root form. Past mill workers from the woods department planted these seedlings. Forest companies are only required to regenerate one third of their harvested area, leaving two thirds to natural regeneration. Workers mechanically thin and release young black and white spruce and jack pine species under agreements made in the stand tending

program. In the spraying program workers apply Roundup in ground and aerial applications to reduce weed and invasive species growth. Workers collect white and black spruce and jack pine cones in the cone collection program, later dispersing the collected seeds by hand in the seeding program (Cataldo, 1998).

Contemporary Forest Industry Policies, Practices and Organizations

Manitoba Model Forest (MMF) is a non-profit, non-government organization established in 1993 that works to balance the needs of Manitoba's forest industry with environmental organizations and local stakeholders. It aims to educate the public and engage local groups to spread awareness of forest values and the importance of forest protection. MMF worked closely with the paper mill in Powerview-Pine Falls. It was concerned about the paper mill's practices regarding the wise management of its' natural resources, as well as the sustainability of the forestry-dependent community. Powerview-Pine Falls' heavy reliance on the forest left them vulnerable to economic instability, and employment and tax-base loss. (Kotak, Dube, and Austman, n.d.). Since Tembec Paper Company closed, an MMF worker informed me, MMF has explored opportunities for Powerview-Pine Falls to continue capitalizing on the forest resources surrounding the community.

Canadian Boreal Forest Agreement (CBFA) is a conservation agreement established May 10, 2010 that works to protect 73 million hectares of public Canadian boreal forest. The agreement aims to establish peace between the forest industry and environmental groups (CBFA, n.d.). An understanding of the linkage between ecological integrity, strong economy and strong social fabric encourages forest industries to undertake wildlife management to ensure longevity of the forest base. (CBRA, 2010). This agreement was signed after Tembec Paper Company stopped making newsprint but reinforces my conviction that a design for Powerview-Pine Falls needs to respect the boreal forest surrounding it.

Policies, programs, agreements and organizations in Canada have been established to protect forest ecosystems and allow future forest industries to prosper. Forest industries in Canada still suffer significant ups and downs in their economic cycles due to external forces.

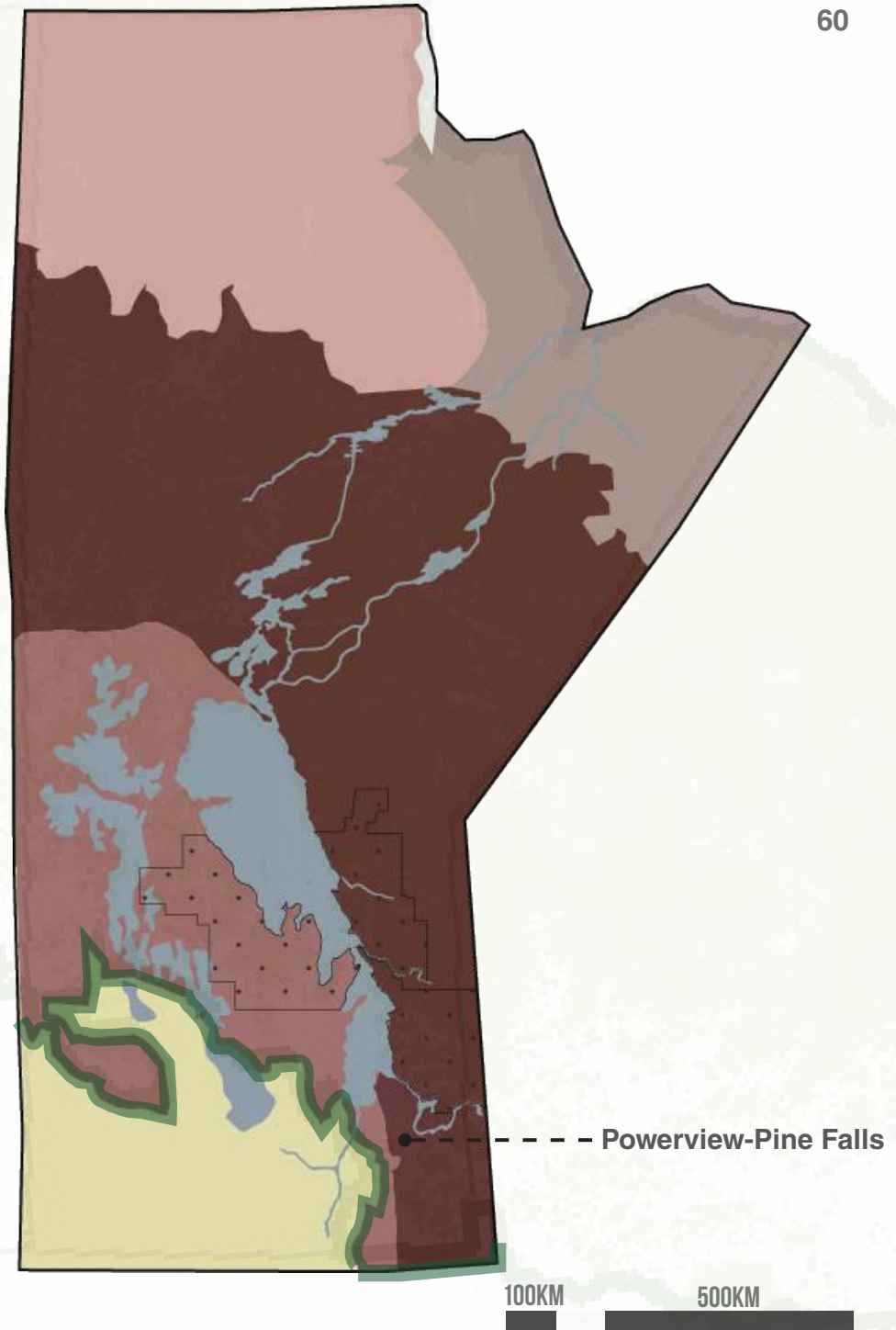
Recent stresses have been due to rising energy costs, the previously strong Canadian dollar, new international competition and reduced timber supplies. Pulp and paper sales have severely suffered due to an increase use of electronic media and a decline of newsprint communications. The paper mill in Powerview-Pine Falls was influenced/ affected by this cycle, and ultimately closed because profits and interests in newsprint communications dramatically declined (Canada, 2016).

The adjacent map situates Powerview-Pine Falls in the boreal forest biome and shows the extent of the boreal forest in Manitoba. Manitoba lies in two biomes, the boreal forest and the great plains. The thick green line indicates the boundary between the two biomes; the north of the line is the boreal forest. In the boreal forest there are 5 ecozones: boreal plains, boreal shield, Hudson plains, taiga shield and southern arctic. Powerview-Pine Falls is located on the western edge of the boreal shield.

Legend:

- Prairies
- Boreal Plains
- Boreal Shield
- Taiga Shield
- Hudson Plains
- Southern Arctic
- Forest Harvesting Areas

BOREAL FOREST BIOME IN MANITOBA



There are five major steps in converting boreal forest timber into newsprint: forestry, debarking, chipping and/or recycling, pulp preparation, paper formation and paper finishing (Wisconsin Paper Council, n.d.). The process of making paper is an important part of the history of Powerview-Pine Falls. The processes and the locations where each occurred influenced this practicum's design.

Step One: Forestry

Wood is harvested and shipped by river or truck to the paper mill plant. The exact location, harvesting process, reforestation process and species of timber used by the Pulp and Paper Mill in Powerview-Pine Falls is discussed on later pages (Wisconsin Paper Council, n.d.).

Step Two: Debarking, Chipping and/or Recycled

Logs are debarked, chipped and/or recycled. Logs can be debarked hydraulically with high-pressure water jets, mechanically by rubbing logs against each other, or mechanically using metal cutting tools. Tree bark is not valuable for pulp making because it contains little fiber, is dark and carries large quantities of grit which are not ideal in pulp (Tersche, n.d.).

Logs are chipped into one inch pieces and mechanically or chemically pulped (Wisconsin Paper Council, n.d.), which is the crushing or mashing of logs into a soft, shapeless mass. Pulp is a soft, moist, slightly cohering mass used to make paper (Dictionary.com, n.d.). Mechanical pulping separates the wood into fibers by grinding the wood against stones or between metal plates. Chemical pulping uses chemicals to dissolve the lignin between the wood fibers, separating the fibers from the wood. Waste paper can also be recycled and reused to create. Each process eventually produces pulp (Wisconsin Paper Council, n.d.).

Step Three: Pulp Preparation

The pulp is washed, refined, cleaned, bleached, and turned into a slush called pulp slurry. Bleaching refines and brightens the raw pulp (Tersche, n.d.).

PULP AND PAPER MAKING PROCESSES

Step Four: Paper Formation

To form paper, all the water is removed from the pulp slurry and spread on a screen to drain. This produces a crude paper sheet that workers squeeze between large rollers to remove excess water and refine into smooth paper. The remaining water is removed by heated dry rollers. Prior to 1992, contaminated water was released directly into adjacent water bodies, such as Winnipeg River (Environment and Climate Change Canada, 2016). Post 1992, the PPER enforced regulations stating all water goes through the waste water treatment plant to be cleaned, and reused or released into Winnipeg River. Any left over fiber particles and chemicals are filtered out of the waste water at the treatment plant and burned (Wisconsin Paper Council, n.d.).

Step Five: Paper Finishing

The newspaper is rolled, cut into small sheets and shipped. In the final years of paper production at the paper mill in Powerview-Pine Falls the company produced approximately 500 tones of paper per day and treated approximately 25,000 m³ per day of waste water (Daher, 2008).

At Pine Falls finished paper was originally shipped to Winnipeg by boat. After two years it was realized that this was not the best method, as the paper was getting wet during shipping. After the completion of the road to Lac Du Bonnet, trucks carried the paper from the mill to Winnipeg and beyond (Pitre, 2013).

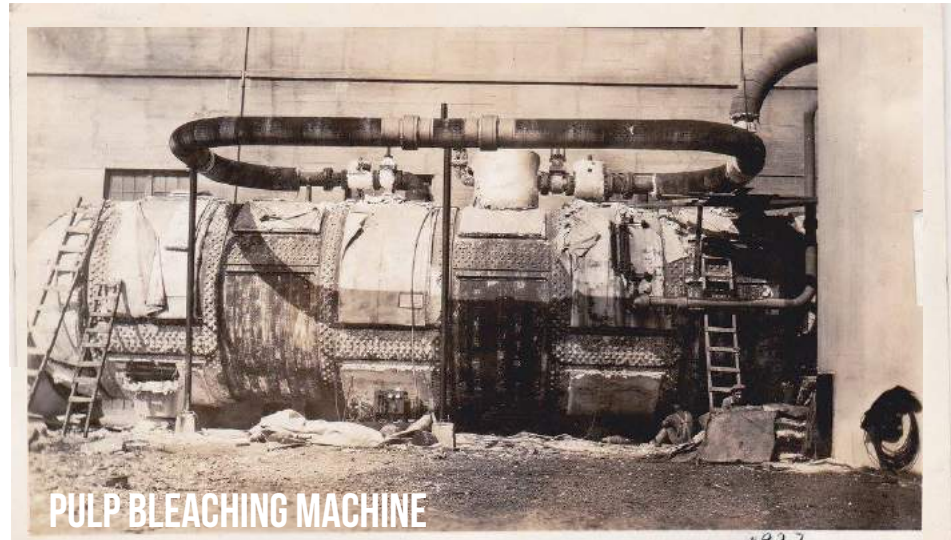
Paper Making Waste and Pollution

Paper making is one of the most polluting industries due to its high demand of fresh water and large release of waste water. Contaminants include lignin, cellulosic compounds, phenols, mercaptans, sulfides and chlorinated compounds. The pulping and bleaching processes are the highest water polluting stages. Raw disposal of waste water into water-bodies severely impacts living organisms and is in violation of Pulp and Paper Effluent Regulations standards (Garg, n.d.). PPER oversees the release of effluent from mills into adjacent water ways, limiting the discharge of harmful substances that affect aquatic life by enforcing waste water treatment (Environment and Climate Change Canada, 2016).



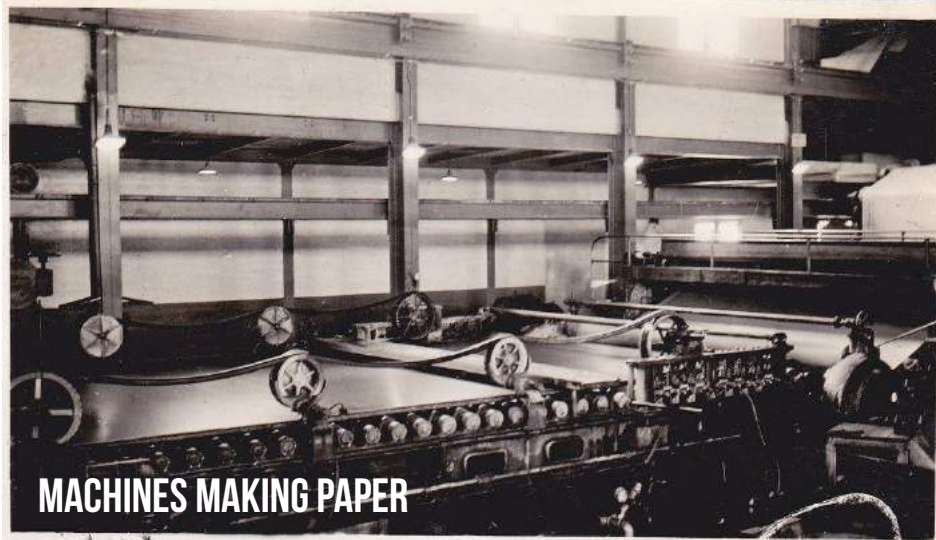
WOOD PILER

1922



PULP BLEACHING MACHINE

1927



MACHINES MAKING PAPER



PAPER ROLLERS

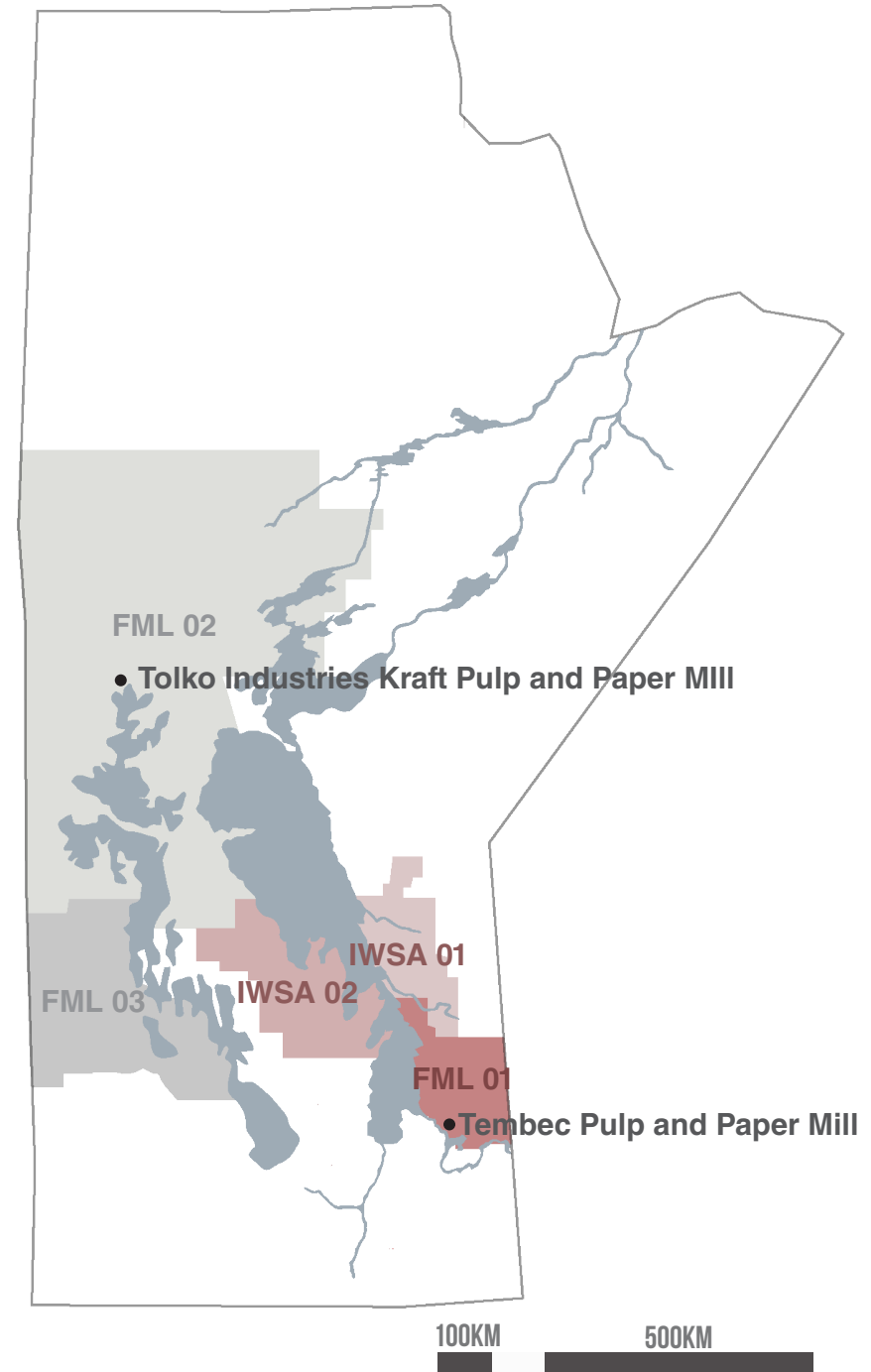
The wood used in the Pine Falls paper mill came from all over the surrounding region including areas as far south east as Lac Du Bonnet on Winnipeg River, both sides of Lake Winnipeg, and up to Lake Winnipegosis (Maclead, 1993). In the map on the right the areas from where the Pine Falls paper mill took lumber are in red; areas where other forest industries took wood are in gray.

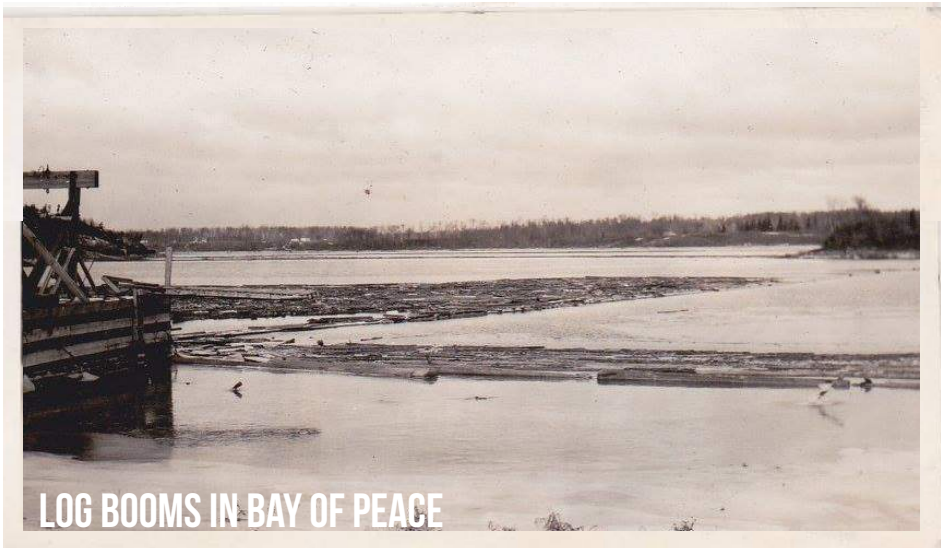
50% of the paper mills wood supply came from the Abitibi-Price Ltd. forest management license area (FML) (Maclead & Graydon, 1993). The other 50% arrived by barge, rail or truck from operations in integrated wood supply areas (IWSA) 1 and 2 where the mill owned harvesting rights (Manitoba Wildlands, 2014). Additional lumber was sourced from privately owned lands throughout Manitoba and neighboring provinces as far west as Hudson's Bay Junction in Saskatchewan. The FML area consisted of 866,000 hectares of boreal forest in the Precambrian Shield. The land is made up of rolling hills, spruce bogs, upland coniferous and mixed-wood forests. Mill workers in the woods department harvested lumber from this region (Maclead, 1993).

From 1926 to 1965 workers participated in a process called the Bear River Drive. During the winter season timber was collected and stored on the frozen river. The spring melted the frozen river, forcing the wood to travel downstream approximately 31 miles for ten days, where it arrived at the shores of the mill site (Historic Resources Branch, 2000). The wood was then stored in containment booms (see image on opposite page). After 1965 harvested areas in the FML area was away from the river's edge making it more cost effective to transport lumber to the mill site using tractor trains and trucks (Pitre 2013).

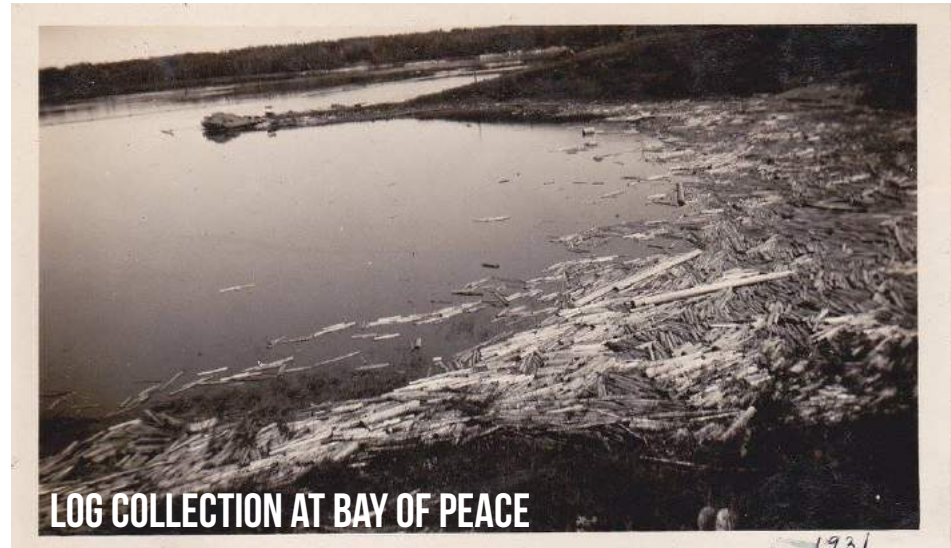
Wood harvested from areas on both sides of Lake Winnipeg to the North and further up on Lake Winnipegosis, was ferried by boat to containment booms in Pine Falls. Wood was also transported by truck and train (Maclead, 1993).

WOOD SOURCES FOR PAPER MILL





LOG BOOMS IN BAY OF PEACE



LOG COLLECTION AT BAY OF PEACE

1931



BARGE REMOVING LOGS FROM RIVER

1930



LOG STORAGE PILE AT MILL SITE

BEAR RIVER LOG DRIVE



FOREST HARVESTING WITH MANUAL LABOR



FOREST HARVESTING WITH MACHINE

Wood harvesting in the forest industry historically employed hundreds of men. Animals and manual labor carried out the necessary tasks. Manual felling and de-limbing with power-saws, followed by cable skidding and mechanical slashing were the normal operating methods established by Abitibi-Price (Manitoba Model Forest, 1997). In the mill's early years at Abitibi-Price, hundreds of permanent and seasonal men were employed in bush camps north of Powerview and Pine Falls in the FML licensing area.

In later years "full tree" harvesting systems introduced machinery into the operation. Trees were manually felled, and then mechanically transported to the road side in preparation for transport to the paper mill. Rail de-limbers at roadsides removed branches and tops of felled trees. All removed "debris" was chipped, burned or strategically placed along paths, to minimize fire hazards. The full tree system increased productivity in the Manitoba forest industry and created safer working conditions for operators in the field (Manitoba Model Forest, 1997). Eventually manual felling was no longer necessary in the process, and men were replaced with large machinery. Changes to harvesting processes eliminated work for many local men.

WOOD HARVESTING: MANUAL LABOUR TO MACHINE

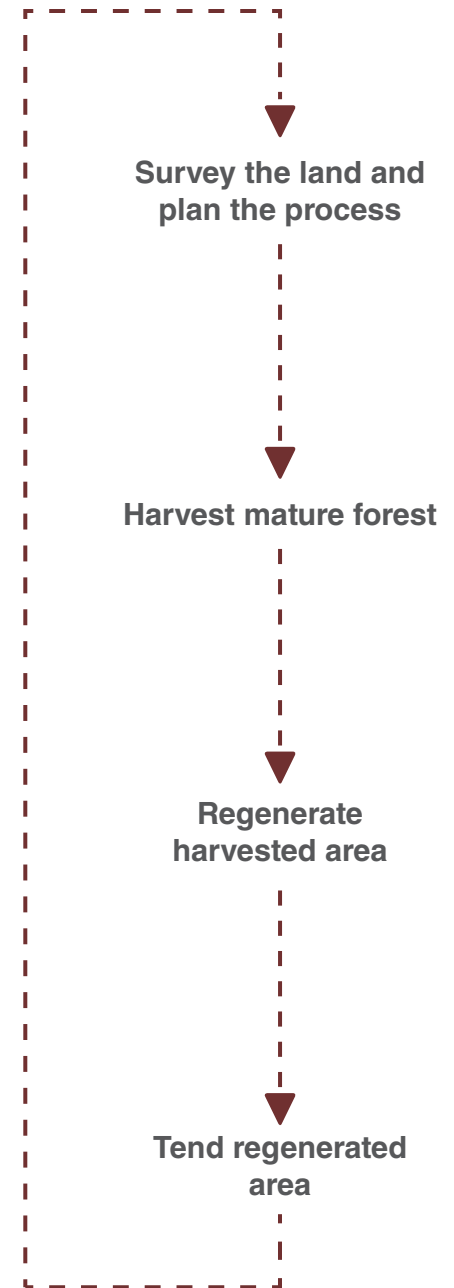
In forestry practices, industries cut the oldest, most mature wood first to get maximum profit per yield (Wellburn, 2010). After forest industries harvest lumber, forest management plan regulations require them to regenerate the harvested area using a combination of natural regeneration and assisted regeneration. Natural regeneration is the process of relying on harvested areas to rejuvenated themselves from the roots, stumps or seeds dispersed through natural processes such as animal movement and excretion, and wind. (Manitoba Model Forest, n.d., p.14). Some trees require seedling planting to regenerate in a process called assisted regeneration. After planting, companies are to assume responsibility of tending and monitoring until forested areas reach a “free to grow” standard. This standard means “young, healthy forests have successfully established and are relatively free of competing species (Manitoba Model Forest, n.d., p.14)”. Tending involves pruning, tilling, fertilizing, watering and monitoring regenerated areas. A survey is conducted by a provincial representative fourteen years after the area has been disturbed to assess the quality of regeneration and determine if it meets “free to grow” standards (Manitoba Model Forest, n.d.).

The goal for Pine Falls mill was to regenerate areas equivalent to the amount harvested in their forest management license area each year (Cataldo, 1998). Areas outside of the FML, like IWSA 01 and 02 were the responsibility of Manitoba’s forestry branch. In reforestation the paper mill’s woods department prepared the soil, stimulated natural growth through scarification, and planted the tree (Cowan and Rounds, 1995). In 1993, the Pine Falls Paper Company planted “1,168,000 seedlings on 821 hectares of land and prepared 470 hectares of land” (Cowan and Rounds, 1995, p.5) for 1994’s seeding process. Each worker planted approximately 1200 trees per day. It took 24 days with 40 workers for the company to complete the process (Cowan and Rounds, 1995).

There are two types of assisted regeneration processes: direct seeding and planting. Direct seeding is less expensive and involves applying seed directly on the harvested area and allowing the seed to germinate. This can be done manually, or by machines on the ground or in the air. Direct seeding creates random placement of tree species and today is employed on poor, hard to access sites, but it is affected by the habits of seed predators. Planting involves transplanting seedlings directly into the harvested area. This process is more costly, and requires more workers but gives trees a higher chance of survival. Planted areas often have a more uniform planting pattern (Duryea, 2000).

The current forest industry process is cyclical with four reoccurring steps: plan and survey areas to be harvested, harvest mature forest area through patchwork clear cutting, regenerate harvested area and tend to regenerated area until it meets “free to grow” standard.

REGENERATION OF HARVESTED AREAS





Black Spruce (*Picea marian*)

The pulp and paper produced at the mill in Powerview-Pine Falls was made mainly from the above tree species. The wood harvested by the company was 90% softwoods, and 10% hard woods, such as aspen (Cowan and Rounds, 1995). Softwood



White Spruce (*Picea glauca*)



Balsam Fir (*Abies balsamea*)

harvesting was 83% black and white spruce and balsam fir and 17% jack pine trees (Historic Resources Branch, 2000). Obviously spruce and balsam fir species were essential.



Jack Pine (*Pinus banksiana*)

SPECIES OF HARVESTED WOOD

Powerview-Pine Falls cannot be discussed without mentioning the paper mill that controlled its economy from 1926 to 2010. The region around the community was dramatically affected by the success and failure of the mill. Since the mill closed, and logging practices halted, clear-cut forests have slowly regenerated through natural and artificial means. This section outlined some of the policies that helped shape the forest industry, the procedures in forest practice, and reforestation techniques.

Forestry practices are a significant part of the historical relationship between Powerview-Pine Falls and the surrounding landscape. Understanding how harvested areas are now regenerating and the tree species involved has been particularly significant in the development of this practicum's design.

FOREST MANAGEMENT AND PAPER MAKING: CONCLUSION

SITE ANALYSIS

SITE ANALYSIS: INTRODUCTION

Information in this section focuses on the community of Powerview-Pine Falls and its context, existing amenities, opportunities and constraints. Understanding existing landscape vegetation, circulation and tourism allows me to achieve the objectives of landscape regeneration, pedestrian circulation and tourism.

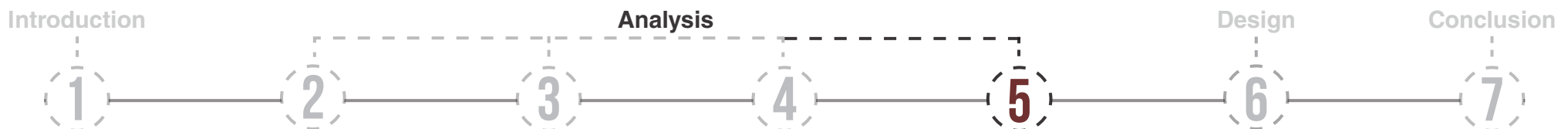
To achieve the design goal, I explore the existing elements to determine, what needs to be changed and how can these changes be more than cosmetic? How can the design meet the gut needs of society?

I consider:

1. Regional context
2. Land use/type in Powerview-Pine Falls
3. Existing infrastructure
4. Community geography

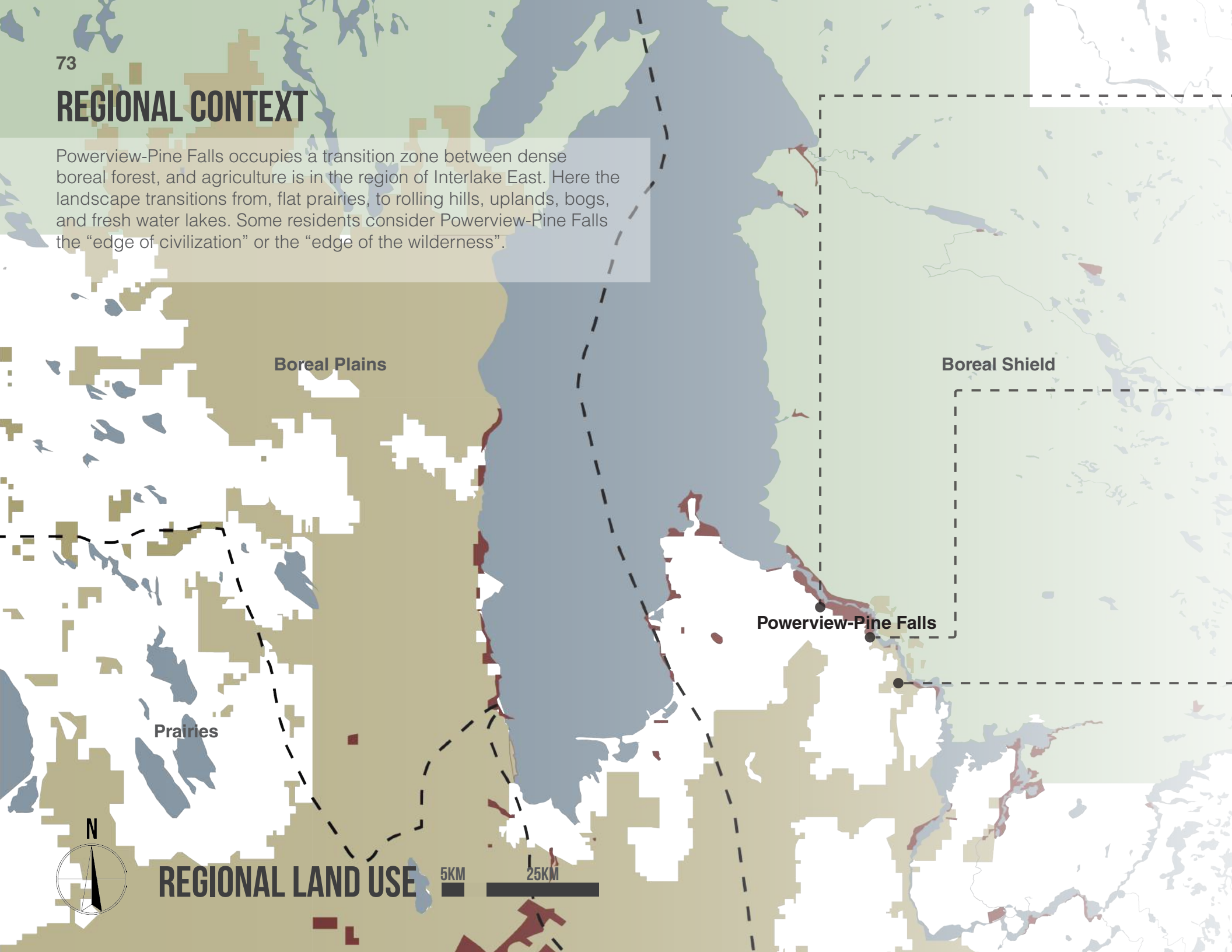
The quote below inspired this section, as it spoke truth about a failure in the design world that I hope to avoid by furthering my understanding of the needs of the community through site analysis. Information provided in interviews provided me with baseline data about these needs and in-depth site analysis explores them.

The crisis is one of human worth. Planting hedges around junkyards, banning billboards from roadsides and going underground with telephone lines will have cosmetic effects, but the nation is not just disheveled, it is sick, and it needs medicine as well as cosmetics... Unless the attempts to beautify our physical environment are coordinated with even more serious efforts to meet the gut needs of society, they will prove more detrimental than helpful. They will prevent diagnosis and treatment (Jackson, 1967, p.365).



REGIONAL CONTEXT

Powerview-Pine Falls occupies a transition zone between dense boreal forest, and agriculture in the region of Interlake East. Here the landscape transitions from, flat prairies, to rolling hills, uplands, bogs, and fresh water lakes. Some residents consider Powerview-Pine Falls the “edge of civilization” or the “edge of the wilderness”.



Boreal Plains

Boreal Shield

Powerview-Pine Falls

Prairies

REGIONAL LAND USE

5KM

25KM

Forest

Many parts of the boreal forest area are not settled or farmed. The upland hills, bedrock outcrops, swamps, bogs and dense forest make the land hard to cultivate and have important ecological diversity. The boreal forest is a source of wealth. The forest industry historically mined the forest north of the town but these activities have halted since the mill closed.



BOREAL FOREST IN POWerview-PINE FALLS

Settlement

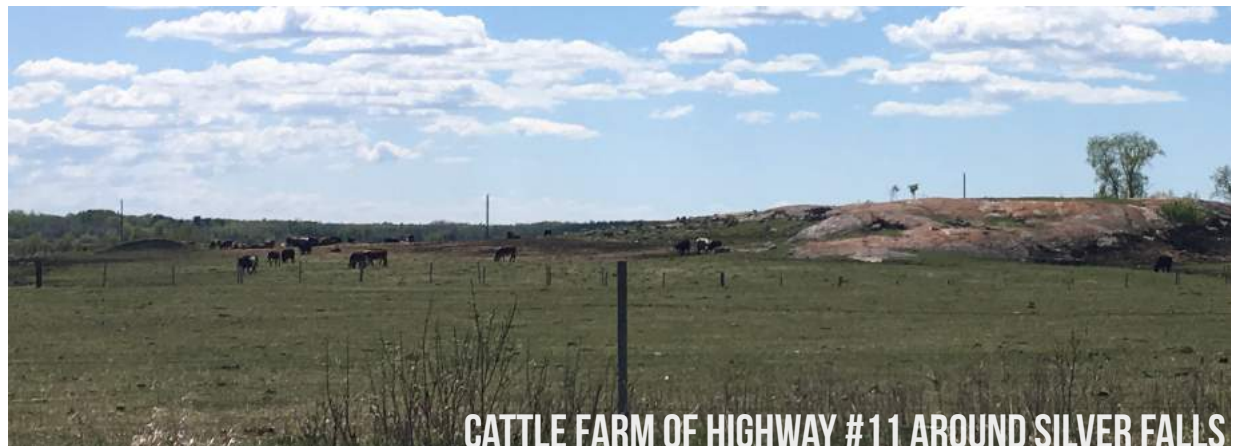
Settlements in southeastern Manitoba are along rivers and water bodies because rivers traditionally provided opportunities for trading and travel. These settlements are surrounded by abundant natural resources that are often exploited for development and industry such as forestry, mining, and hydroelectric power. Powerview-Pine Falls is located along Winnipeg River.



ST GEORGE, MB

Agriculture

Most of the agriculture in southeastern Manitoba is located in the boreal plains and prairies ecosystem. Minimal agriculture activities occur in the boreal forests where Powerview-Pine Falls is situated because the climate and landforms are not conducive.



CATTLE FARM OF HIGHWAY # 11 AROUND SILVER FALLS

75

Grand Beach Provincial Park

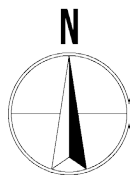
Powerview-Pine Falls

Nopiming Provincial Park

Birds Hill Provincial Park

Winnipeg

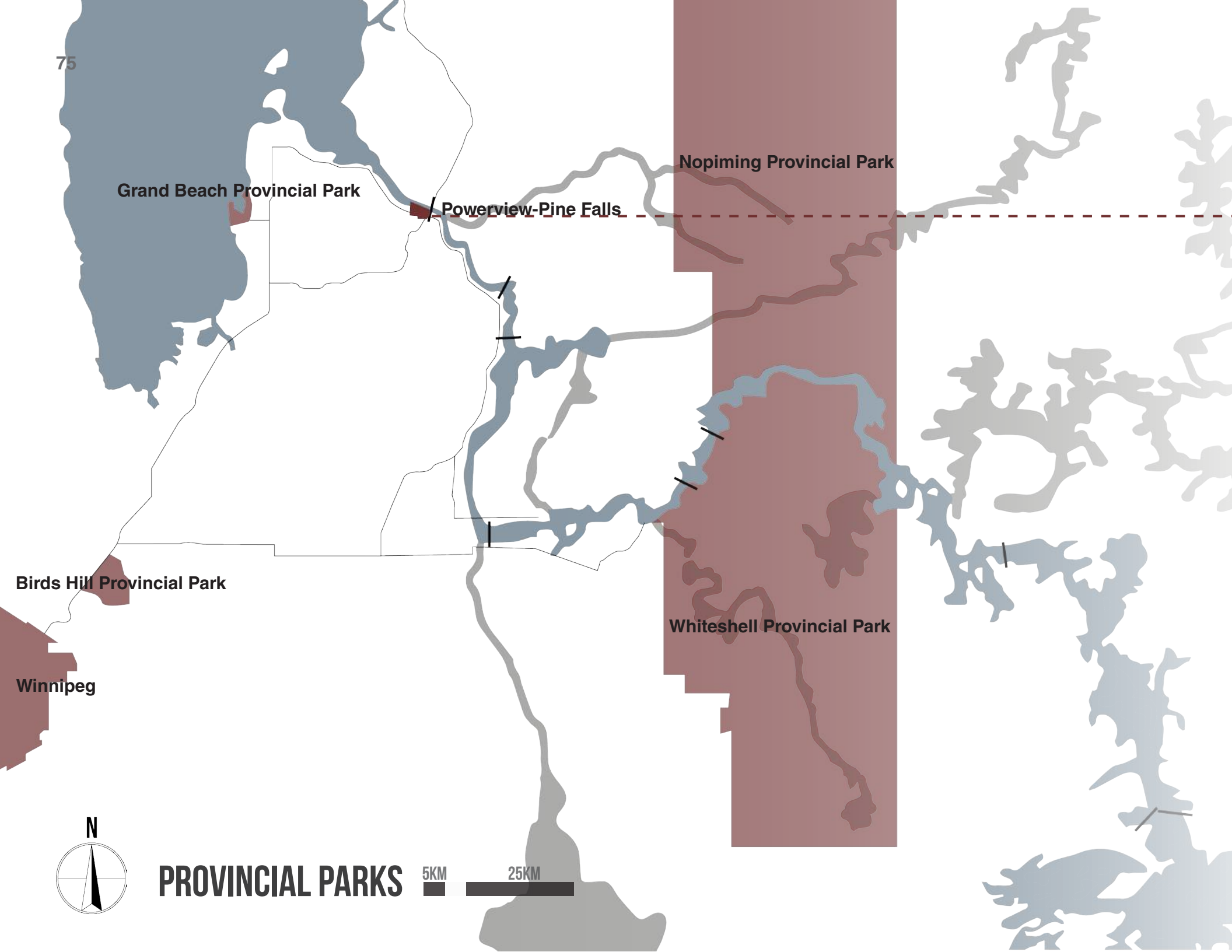
Whiteshell Provincial Park

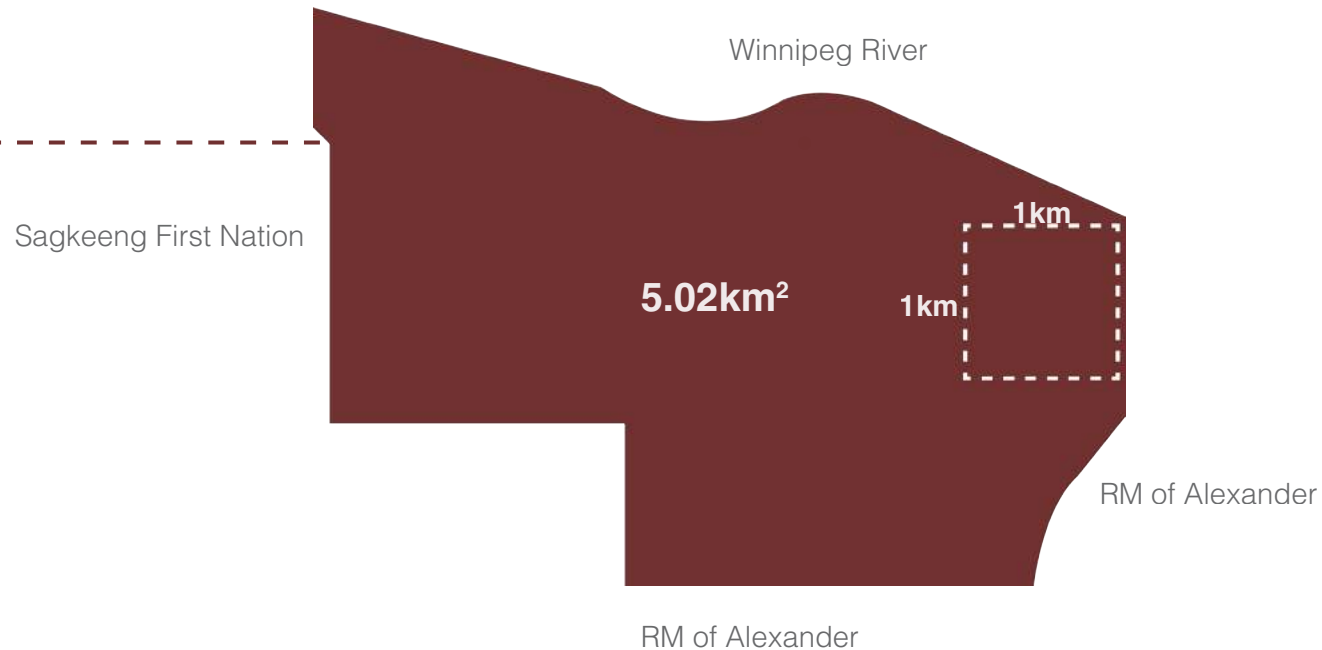


PROVINCIAL PARKS

5KM

25KM





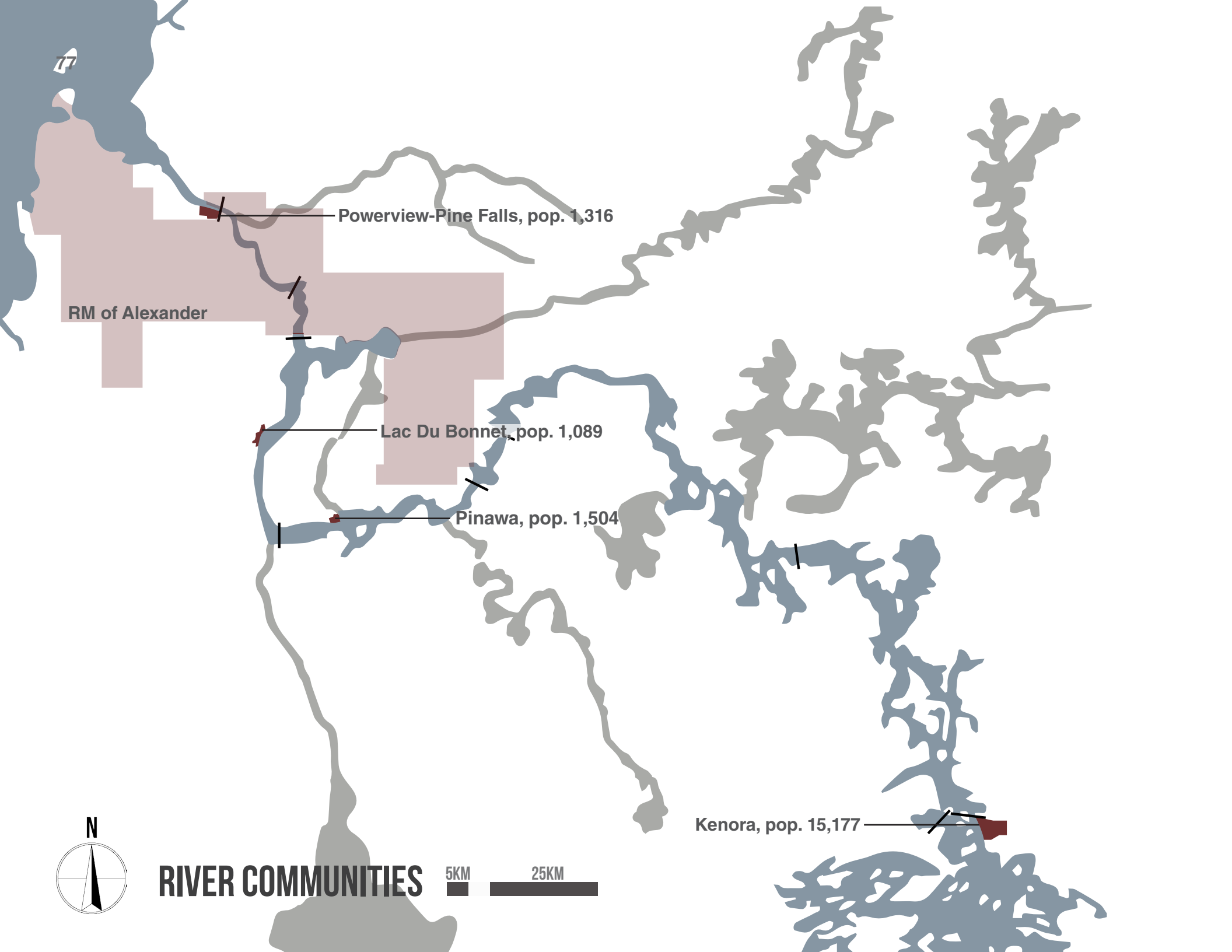
Population: 1316 (2016)
1314 (2011)

Above numbers demonstrate an insignificant change in the population of Powerview-Pine Falls, compared to population increase of 11.7% in the adjacent rural municipality of Alexander, jumping from 2,983 residents in 2011 to 3,333 residents in 2016. The RM of Alexander contains small villages such as St George, Great Falls and Silver Falls and these areas are discussed on the following page. (Statistics Canada, 2017 & Statistics Canada, Alexander).

Powerview-Pine Falls is 135 kilometers northeast of Winnipeg. It takes approximately an hour to arrive there by car from the outskirts of North Winnipeg. Many town residents travel to Winnipeg for work. The community consists of permanent residents, many of whom appreciate their proximity to Winnipeg River and the boreal forest. As discussed in Section 3: Interviews with Residents, other residents stay for reasons such as their love for the small town

community feeling, their proximity to fishing, skiing, and boating and proximity to family.

In southeastern Manitoba, Grand Beach Provincial Park, Whiteshell Provincial Park and Nopiming Provincial Park have similar landscape features to Powerview-Pine Falls, providing opportunity for visitors to engage with the landscape through trail systems, boat launches and fishing locations. Incorporating a trail system that engages different landscape features would improve pedestrian movement around town. Improved circulation systems, campgrounds and cabin rental areas, similar to those in surrounding provincial parks, could benefit the community's economy by attracting tourists. As visible in the adjacent diagram, the tourism industry is prevalent in southeastern Manitoba, as Powerview-Pine Falls lies between four major provincial parks.



77

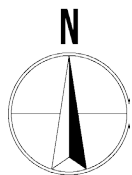
Powerview-Pine Falls, pop. 1,316

RM of Alexander

Lac Du Bonnet, pop. 1,089

Pinawa, pop. 1,504

Kenora, pop. 15,177



RIVER COMMUNITIES

5KM

25KM



Powerview-Pine Falls currently contains ski trails, recreational facilities, fishing opportunities and snowmobile trails that draw permanent residents and attract tourists. Directly outside the town is a RV campground that is fully booked during the summer months. Neighboring towns along Winnipeg River contain similar amenities. In contrast to these towns, Powerview-Pine Falls lacks well established circulation systems that promote leisurely nature walks and provisions for tent camping and cabin rentals. Powerview-Pine Falls needs to upgrade its facilities while respecting the wants and needs of residents (described in Section 2: Regional History) and those of surrounding villages. These communities and their amenities are described below:

Lac Du Bonnet is 2.16km² and is the home to 1,089 permanent residents (Statistics Canada, Lac Du Bonnet town). The town is located in the RM of Lac Du Bonnet which is 1,100.98km² and has a population of 3,121 permanent residents (Statistics Canada, Lac Du Bonnet). The RM of Lac Du Bonnet experiences a large influx of seasonal residents, especially campers and cabin owners, which supports the town's economy. The community encourages visitors through its campgrounds, cabin areas and rentals,

trail systems, golf courses, curling and hockey facilities, and park and recreational spaces.

Pinawa is a local government district that is 1.55km² and a population of 1,331 residents (Statistics Canada, Pinawa). The town is a popular tourist destination with many seasonal residents. It provides opportunities to sail, canoe, fish, hike, swim, snowmobile, and cross country ski. The town encourages visitors through campgrounds, cabin rentals and cabin areas, bikes paths, a popular suspension bridge, an interpretative trail, a historical dam site and various parks spaces with framed views of the landscape.

Although Kenora, Ontario is much larger than Powerview-Pine Falls with an area of 211.59km², it has a similar history (Statistics Canada, Kenora). Kenora historically contained a pulp and paper mill that ran from 1923 to 2005 (Struthurs, 2014). The large size of the city made it more resilient to the closure as it contains other forms of industry, and tourism infrastructure. Kenora encourages visitors through campgrounds, cabin rentals and areas, cultural centers, boardwalks, beaches, historical spaces, interpretative trails and sporting facilities.

79

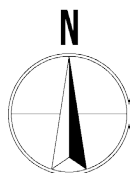
Sagkeeng First Nation

Powerview-Pine Falls

St George
Silver Falls

Great Falls

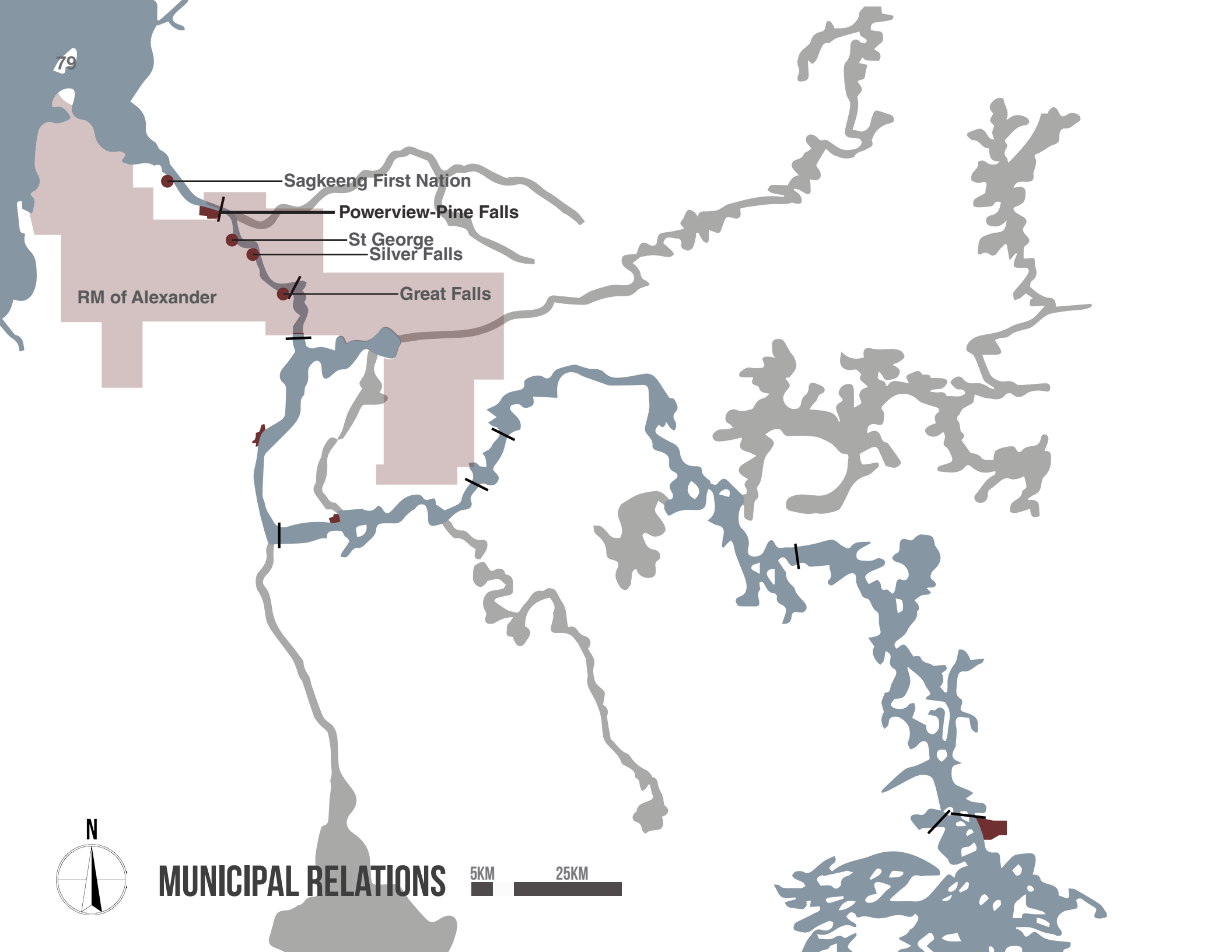
RM of Alexander



MUNICIPAL RELATIONS

5KM

25KM





SAGKEENG SUPERSTORE & TIM HORTON'S



ALLARD LIBRARY, ST GEORGE



ST GEORGE BEACH



GREAT FALLS COMMUNITY CENTER

The RM of Fort Alexander borders Powerview-Pine Falls along the town's north, east and south edges. Fort Alexander has an area of 1,569.62km² and a population of 3,333 people (Statistics Canada, Alexander), with many residents in the villages of St George, Silver Falls and Great Falls. Sagkeeng First Nation borders Powerview-Pine Falls on its western edge and is home to 3,532 residents. It has a high Anishinabe population that has occupied the area since long before European Settlement (Sagkeeng Anicinabe, n.d.)

These towns are all situated at least an hour away from Winnipeg and rely on each other for survival. Each community contains different opportunities to participate in activities, purchase goods and obtain employment such as: the curling club in Powerview-Pine Falls, Sagkeeng grocery store, Pine Falls boat launch, St George boat launch, Silver Falls' airport, Great Falls community hall, Pine Falls Health Complex and Allard Library.

Students within the area have the opportunity to attend Powerview School which offers French-immersion and English programs, Ecole

communautaire Saint-Georges which offers French options and Sagkeeng First Nation junior high and high school which incorporates First Nations teachings. Employment for residents is scattered throughout the region, but has lacked since the mill's closure as Powerview-Pine Falls was historically the main source of employment. People now work in local stores, town facilities or out of the region.

Powerview-Pine Falls, the RM of Fort Alexander and Sagkeeng First Nation offer various opportunities to engage with the landscape and participate in community organizations. Powerview-Pine Falls differs from bordering towns due to its large amount of vacant, non-forested, non-utilized land that has potential for future development, particularly on the old mill and wastewater treatment plant sites.

Members of Powerview-Pine Falls understand the importance of their relationship to surrounding towns and see borders as invisible boundaries that do not represent the extent of their community. This design needs to be inclusive of the towns and villages discussed in preceding pages.

COMMUNITY CONTEXT

Powerview-Pine Falls is surrounded by boreal forest but construction and disturbance of the forest vegetation has affected this landscape. Large patches of disturbed successional vegetation, commercial and residential landscapes, and recreational landscapes separate boreal forest patches from the river corridor, creating a patchwork mosaic. The patchwork needs to be reconsidered in order to improve community character and movement of animal species.

Legend:

- Forested Landscapes with Minimal Disturbance
- Landscapes with Overgrown Successional Vegetation
- Recreational Landscapes
- Maintained Commercial and Residential Landscapes
- Festival Sites



Pictured below are special places in Powerview-Pine Falls that create opportunities to engage with the landscape. Seasonal events provide additional opportunities. Two festivals occur annually: Winter Fest and Four P Festival. Both events engage residents and tourists in outdoor and indoor activities. Fishing derbies, ski trails, golf tournaments and hockey tournaments create additional opportunities for locals to engage with tourists at other times of the year. Design should create more opportunities for locals and tourists to interact, at the same time bettering the lives of permanent residents by enhancing the outdoor spaces so they engage more with the landscape.



Pine Falls Boat Launch



Hockey Arena/Curling Club



Duck Loop Ski Trails



Pine Falls Golf Course



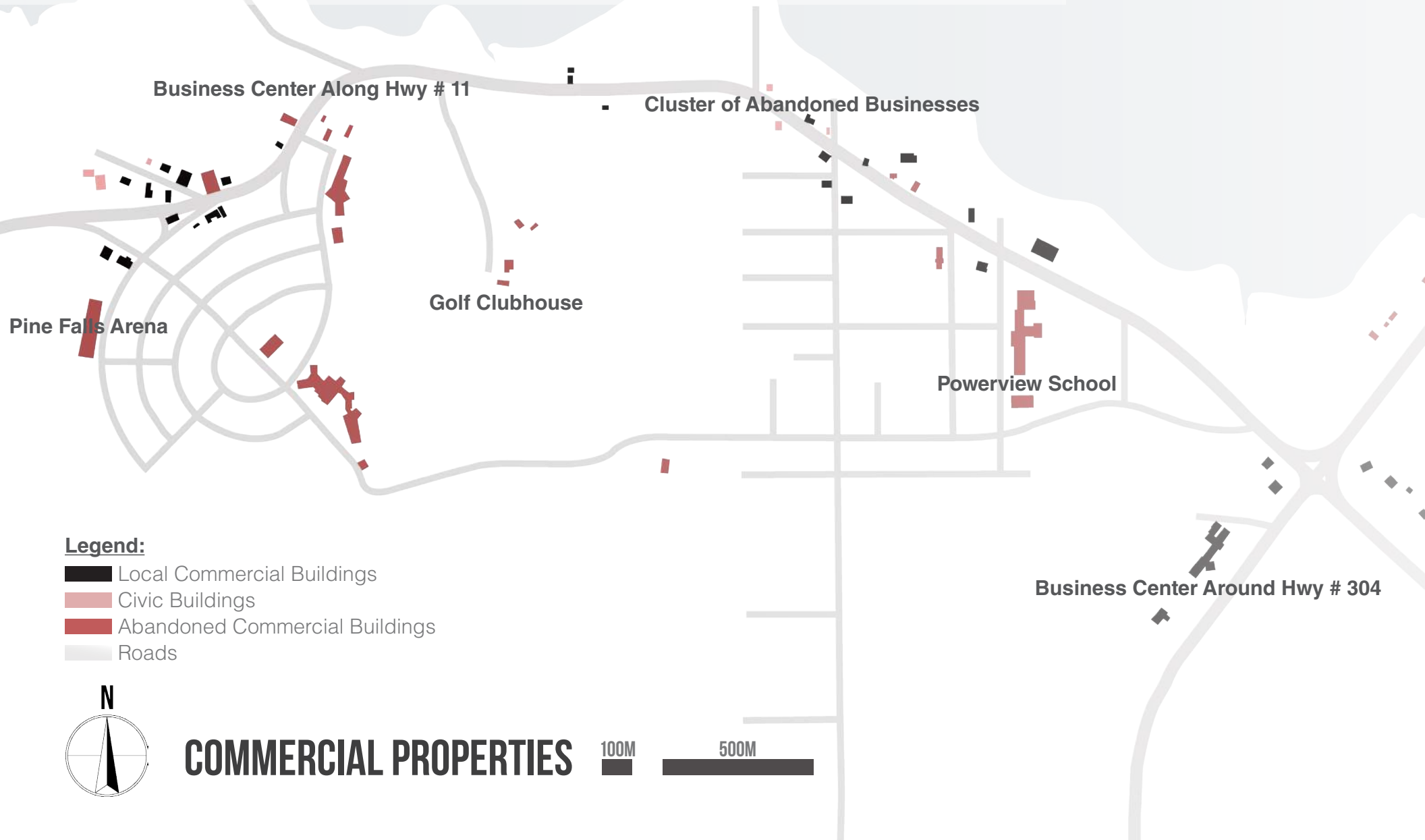
Bluewater RV Park



Muck Hill

PLACES AND EVENTS

Commercial, industrial and civic buildings in Powerview-Pine Falls provide amenities for residents in and around the town. These amenities are mentioned on the adjacent page under Local Businesses. Many are located along Highways #11 and 304. More diverse businesses in the town would provide residents with additional required amenities such as clothing, and furniture. Historically the town contained a sears catalogue store that allowed them to order products to town. This closed in the early 2000s (The shapes below are the footprint of the different businesses.)





19

Local Businesses

There are nineteen commercial businesses in Powerview-Pine Falls. Four of the buildings are subdivided into multiple businesses. These businesses include: two gas stations, one hotel, five restaurants, two grocery stores, one home hardware, one hair salon, an automotive repair shop, one lumber supply, and one massage therapist/acupuncturist. Most of the businesses are located along Provincial Trunk Highway #11. The community would benefit from additional accommodations, clothing and furniture stores, recreational businesses, and tourist businesses offering canoe, toboggan and ski rentals.



6

Abandoned Commercial Buildings

There are six abandoned commercial buildings. Five are located along Provincial Trunk Highway #11. Two are buildings previously owned by the mill that have yet to be demolished.

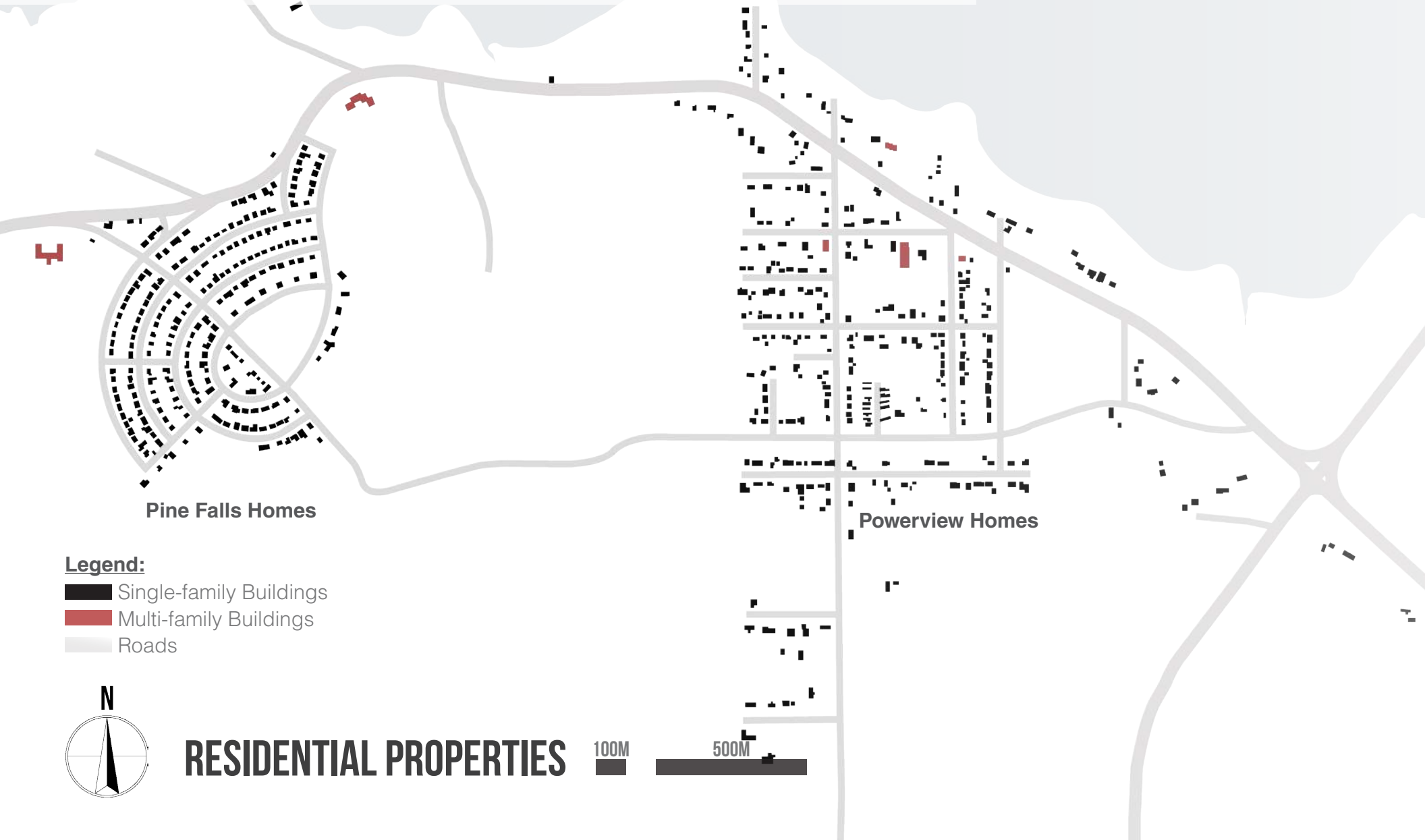


16

Civic Buildings

There are sixteen buildings/facilities owned by non-profit, government or industrial organizations. Five are recreational complexes including a hockey arena, golf course, outdoor skating rink, and tennis courts. Seven buildings house local government services including a post office, police station, Powerview School, municipal offices, police station, municipal garage and Manitoba Forestry. Other buildings house MTS, Manitoba Hydro, worship and non-profit organizations. Three structures in Powerview-Pine Falls offer opportunities to worship in Roman-Catholic, Lutheran or Anglican services. One township buildings is abandoned.

Residential buildings have been laid out in two separate distinct styles. Pine Falls is laid out in a cylindrical pattern around Village Green Park. Pedestrian movement in Pine Falls is easy, and homes are within walking distance to local businesses. Powerview homes are laid out along dead end streets. Residents in Powerview homes are more than a 15-20 minute walk away from most local businesses and movement around the area is more difficult. The golf course between the two areas segregates Powerview and Pine Falls' residents.





549

Single Family Dwellings - Pine Falls

There are 549 occupied houses and thirty-one vacant houses in Powerview-Pine Falls. Most houses in Pine Falls were originally owned and maintained by the company. Homes are similar in form, in simple rectangular shapes with peaked roofs as visible above. Many are deteriorating from age, or lack of maintenance. Some Pine Falls houses date back to the late 1920s. Many are small, containing one to two bathrooms, two to three bedrooms and are around 1000 to 1200 square feet. A few larger houses exist around Village Green Park where mill owners and managers resided during the mill era.



Single Family Dwellings - Powerview

Houses in Powerview vary in size, style and layout. Some date back to the late 1940s. Home owners had opportunity to design their own property, use a developer, or purchase a ready made home, thus, permitting variation.



7

Multi-Family Dwellings

There are four senior housing complexes in Powerview-Pine Falls; Sunshine Manor, Manitou Lodge, Pine Falls Lodge and the Powerview Lodge. As the age demographic over sixty is increasing the construction of an assisted living center would benefit the community.

There are also three multi-family complexes; two apartments and one condo which each contain approximately 10-20 units. An increase in multi-family dwellings would diversify the region's housing stock and provide options for different incomes.

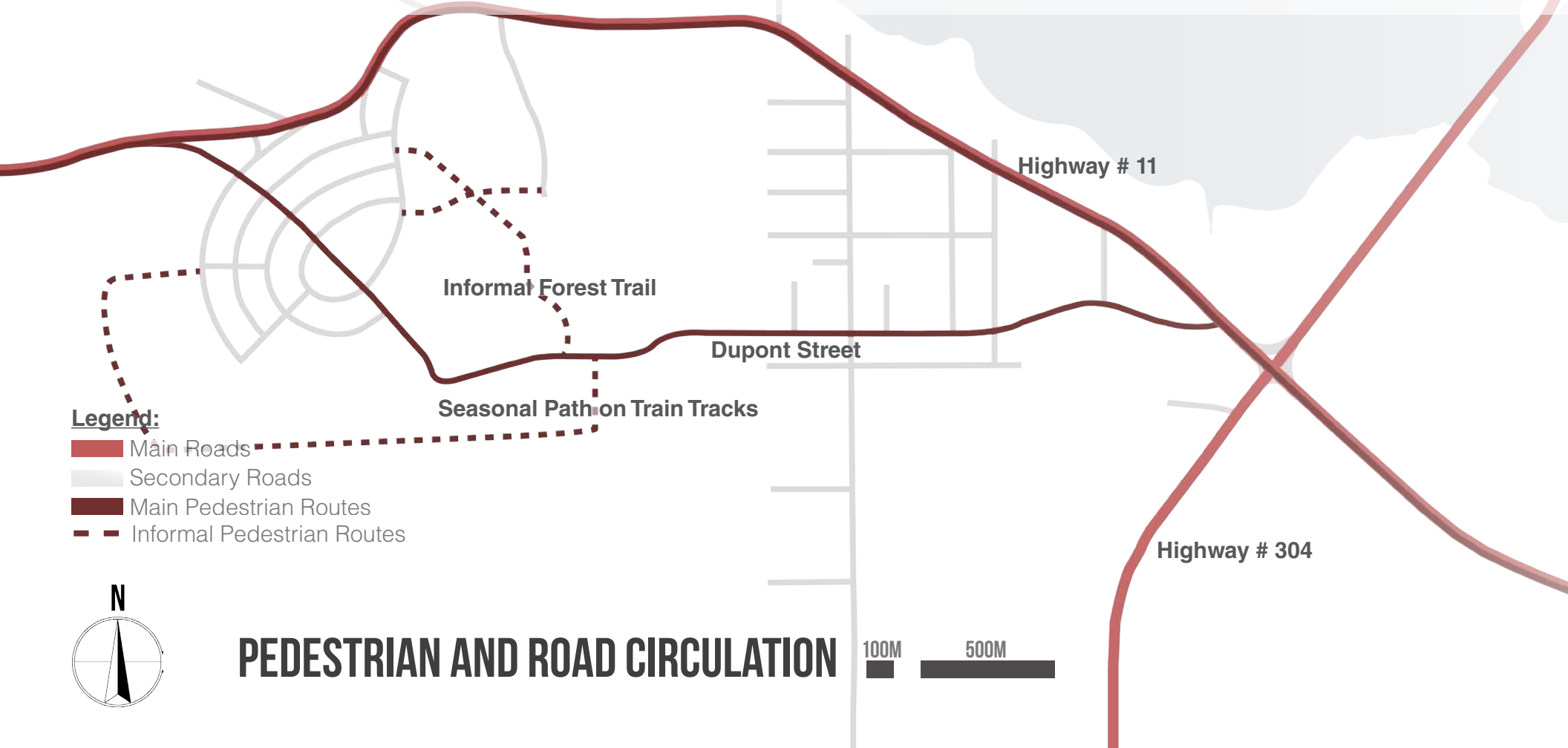
Vehicular Circulation

Provincial Trunk Highway #11 runs east-west along Winnipeg River, connecting Powerview-Pine Falls to neighboring towns. Highway #304 runs along the town's eastern edge, connecting Powerview-Pine Falls to Winnipeg. To the North, Highway #304 leads to a winter road system connecting northeastern Manitoba towns to those in the South. Powerview-Pine Falls and the RM of Fort Alexander could work together to develop businesses along Highway #304 that capitalize on the traffic from the north. Vehicular circulation is well established in Powerview-Pine Falls and the surrounding communities.

Pedestrian Circulation

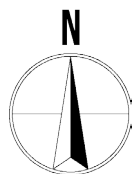
Pedestrian circulation in the town is poorly established. Roads lack sidewalks and paved shoulders. People walk along the unpaved shoulder on Provincial Trunk Highway #11 between Sagkeeng, Powerview-Pine Falls and St George. Areas of the highway have posted speeds of 50km/hr and 70 km/hr, making this walking route dangerous. People walk along Dupont Street between Powerview and Pine Falls. It is a gravel road with unfavorable walking conditions. Sidewalks should be developed along both roads to create separation between the vehicles and walkers. People walk on a small trail system between the hospital and the golf course, specifically created to connect residents to the golf course.

Pedestrian circulation trails need to be improved, to allow hikers, bikers, and walkers to engage with the landscape. The golf course prohibits easy movement through the town and a solution needs to be established to better connect Powerview and Pine Falls.



Legend:

- Main Roads
- Secondary Roads
- Main Pedestrian Routes
- Informal Pedestrian Routes



PEDESTRIAN AND ROAD CIRCULATION





HIGHWAY # 11 INTO POWerview-PINE FALLS FROM SAGKEENG



DUPONT ROAD BETWEEN POWerview AND PINE FALLS

Snowmobile Trails

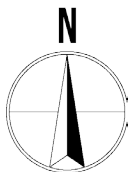
Snowmobiling is popular in the Interlake region and provincial snowmobile trails border Powerview-Pine Falls along its south, east and west edges. The town has the potential to become a destination for snowmobile drivers traveling around the region if businesses accommodate their needs were established such as places to rest/sleep and repair snowmobiles and rent snowmobiles.

Duck Loop Ski Trails

Duck Loop Ski Trails loops through the boreal forest southwest of Powerview-Pine Falls. This popular nine kilometer ski trail attracts ski enthusiasts from all over Manitoba during the winter. In the summer most of the trail is too swampy for travel and is occupied by bears. If any trail system were to utilize this space those two constraints would need to be considered.

Legend:

- Duck Loop Ski Trails
- Snowmobile Trails
- Roads



SNOWMOBILE AND SKI TRAIL CIRCULATION

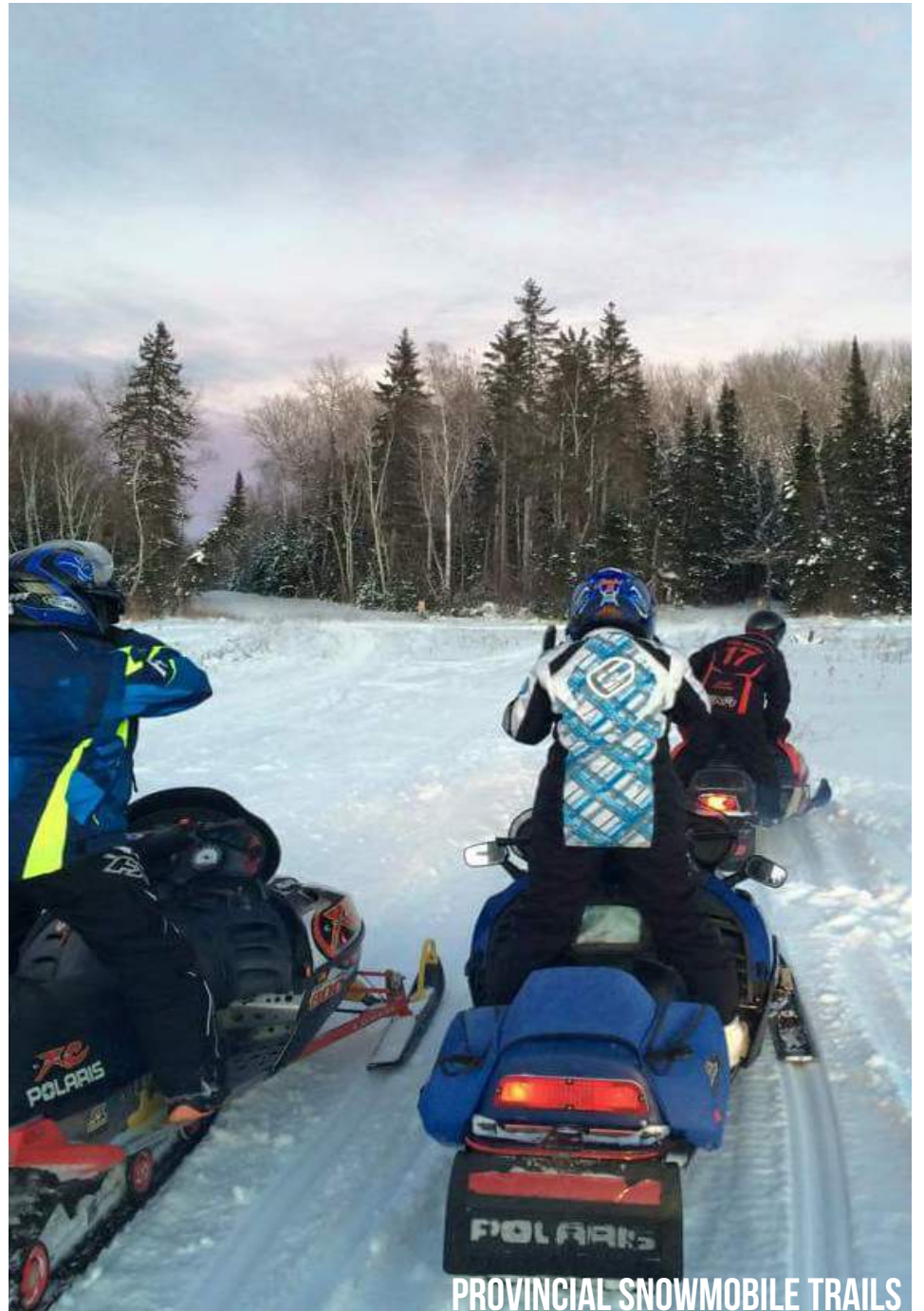
100M

500M





DUCK LOOP SKI TRAILS



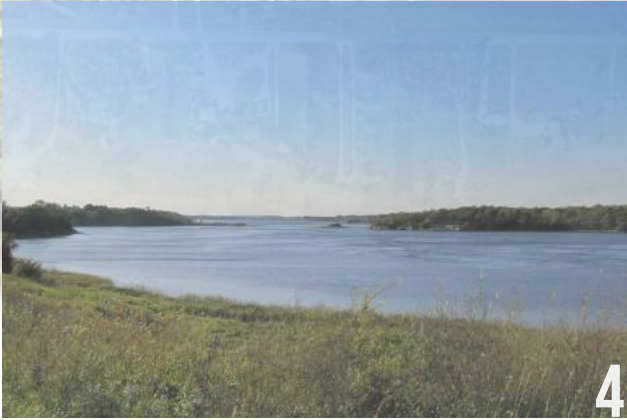
PROVINCIAL SNOWMOBILE TRAILS



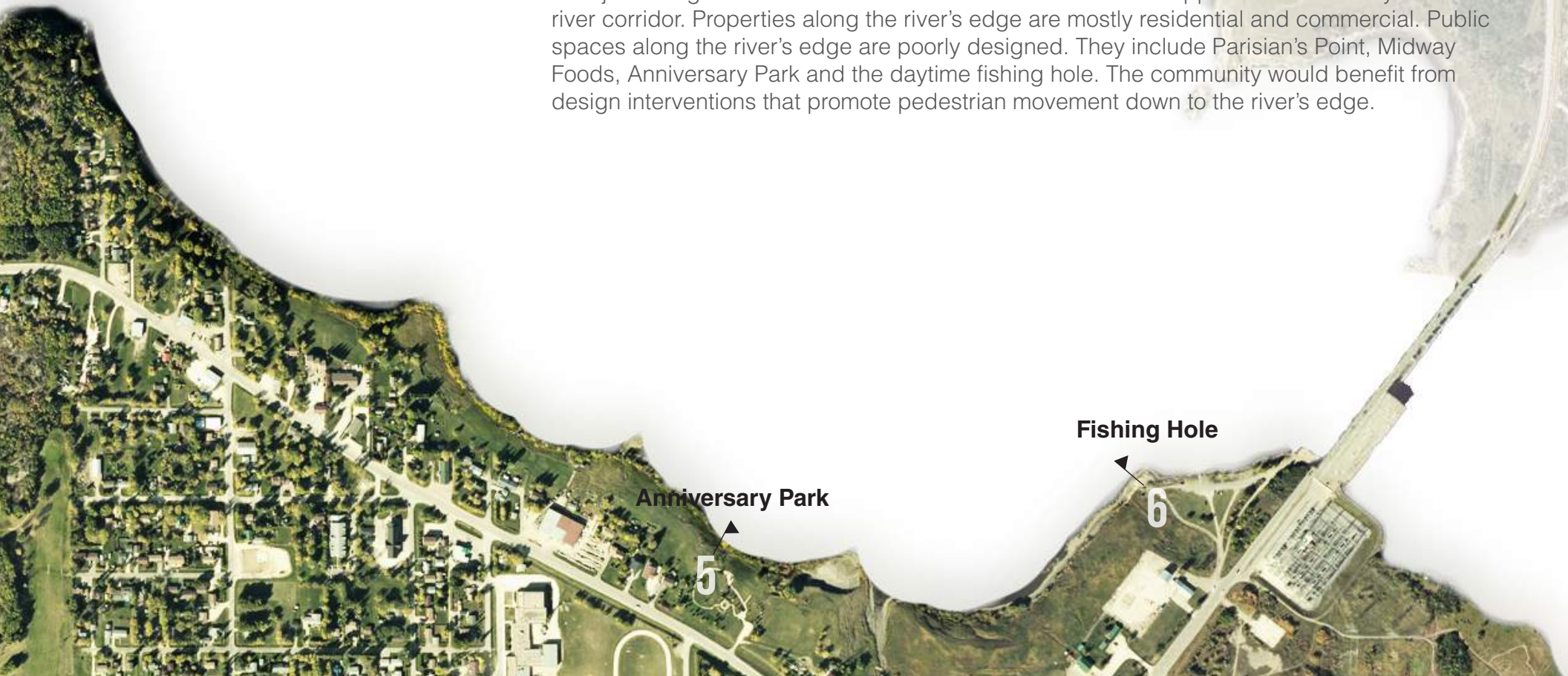
WINNIPEG RIVER EDGE

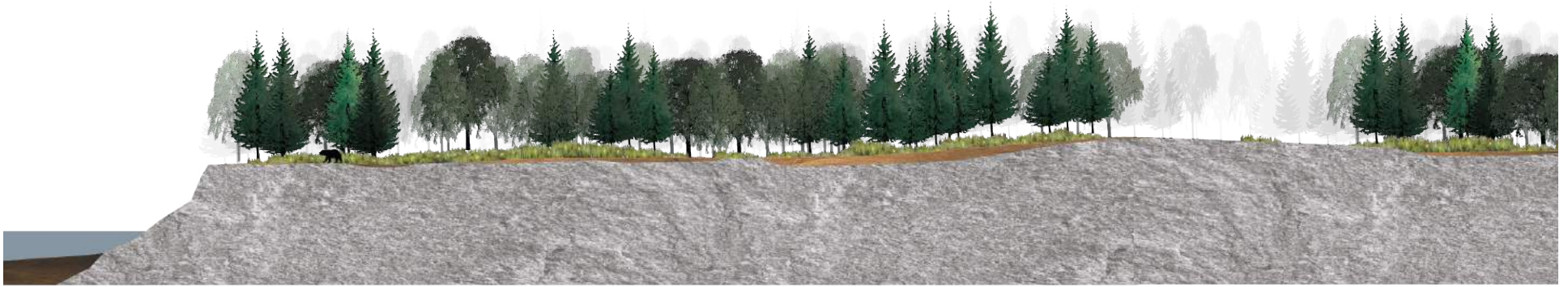
Parisian's Point

Midway Foods

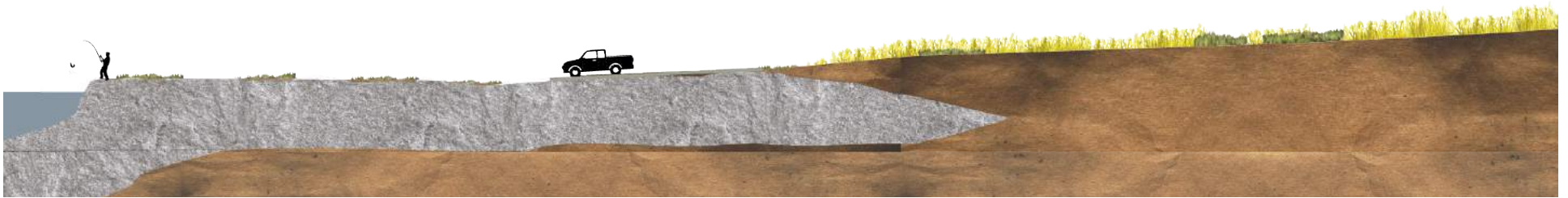


Winnipeg River borders Powerview-Pine Falls along its' northern edge. It historically was used as a trading route, fishing and wild rice harvesting area. Currently the river serves as a major fishing area and offers scenic views. Town members appreciate the beauty of the river corridor. Properties along the river's edge are mostly residential and commercial. Public spaces along the river's edge are poorly designed. They include Parisian's Point, Midway Foods, Anniversary Park and the daytime fishing hole. The community would benefit from design interventions that promote pedestrian movement down to the river's edge.





Section 1: "The Rock"



Section 2: Sharpes Point



Section 4: Parisian's Point

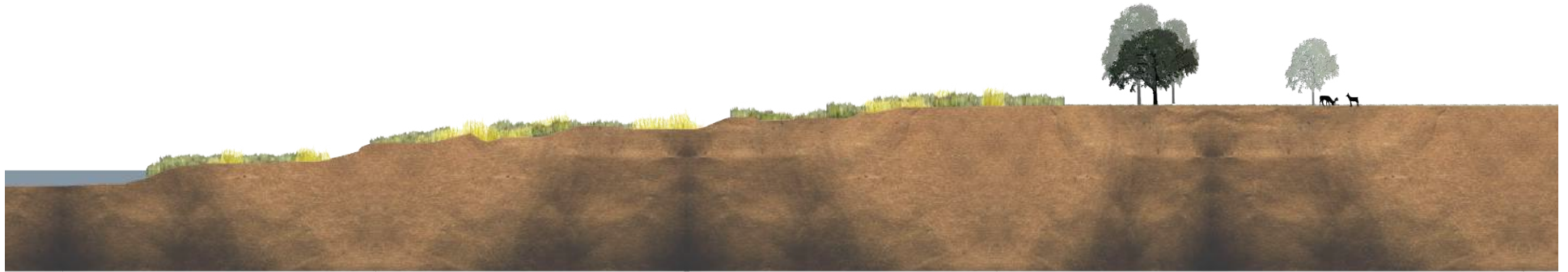
RIVER EDGE SECTIONS

10M

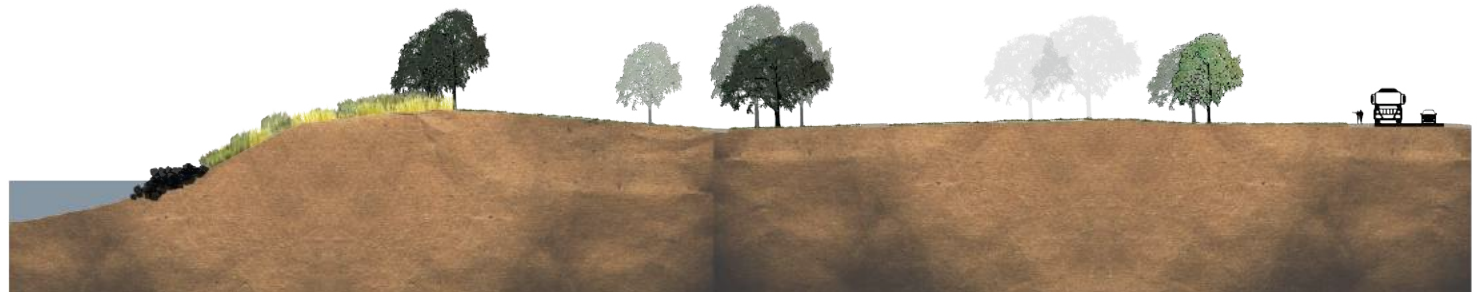
50M

The section cuts on the previous map correspond to locations of each section on this spread. On average the elevation changes 13 meters from water level to uplands. These sections represent the different river edge conditions. The river edge varies. There are areas of steep or gradual incline, bedrock or soft landscape, and/or

forest or grass conditions. Residents and visitors enjoy shore fishing from different points along the bank. A trail system should connect the different fishing holes and the different views of the landscape.



Section 4: Midway Foods



Section 5: Anniversary Park

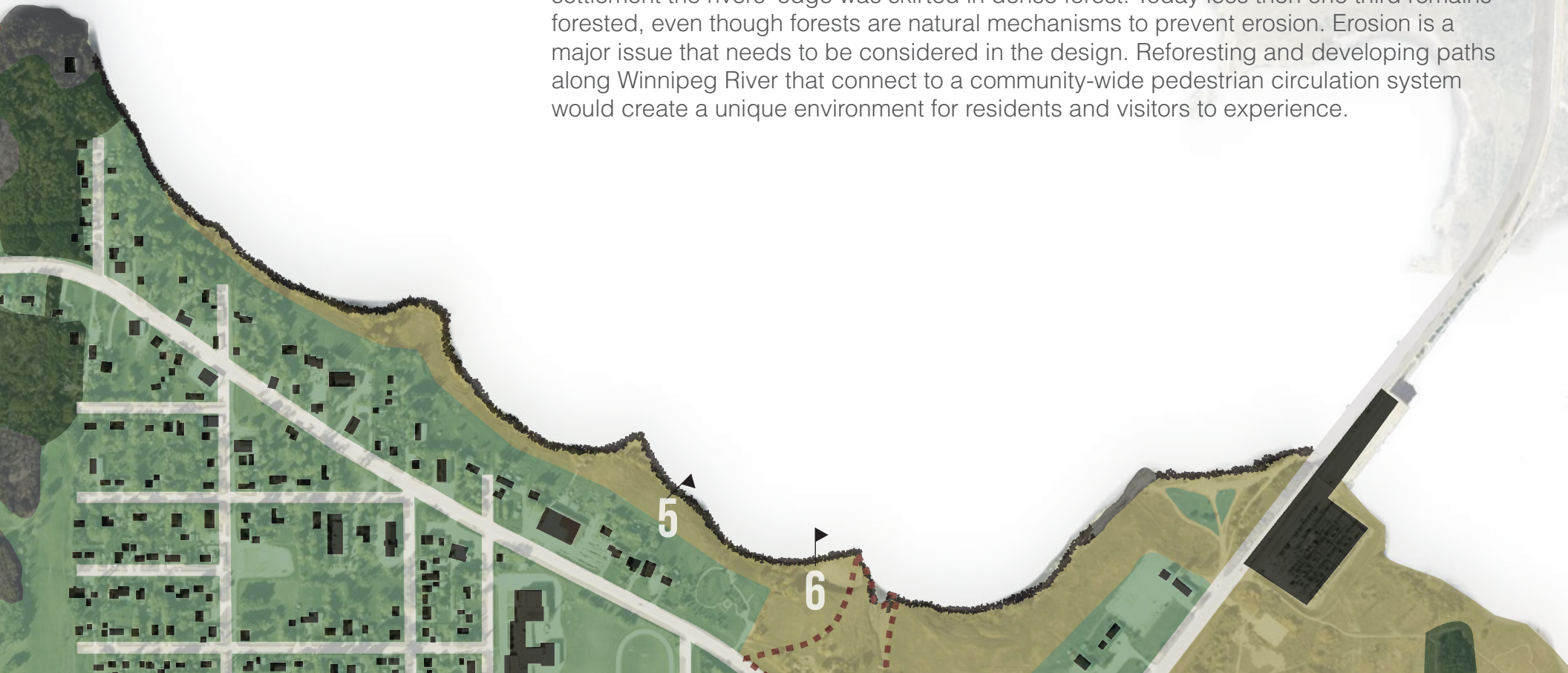


Section 6: Fishing Hole





The photos above show different edge conditions along the river as shown in the images above and map below. A majority of the river edge is vegetated with weeds. Prior to settlement the rivers' edge was skirted in dense forest. Today less than one third remains forested, even though forests are natural mechanisms to prevent erosion. Erosion is a major issue that needs to be considered in the design. Reforesting and developing paths along Winnipeg River that connect to a community-wide pedestrian circulation system would create a unique environment for residents and visitors to experience.



SITE ANALYSIS: CONCLUSIONS

The town has the potential to move forward to become a better place for people to live. Objectives could be met by taking advantage of existing infrastructure, while developing new infrastructure that capitalizes on opportunities and acknowledges constraints.

The key problems identified include:

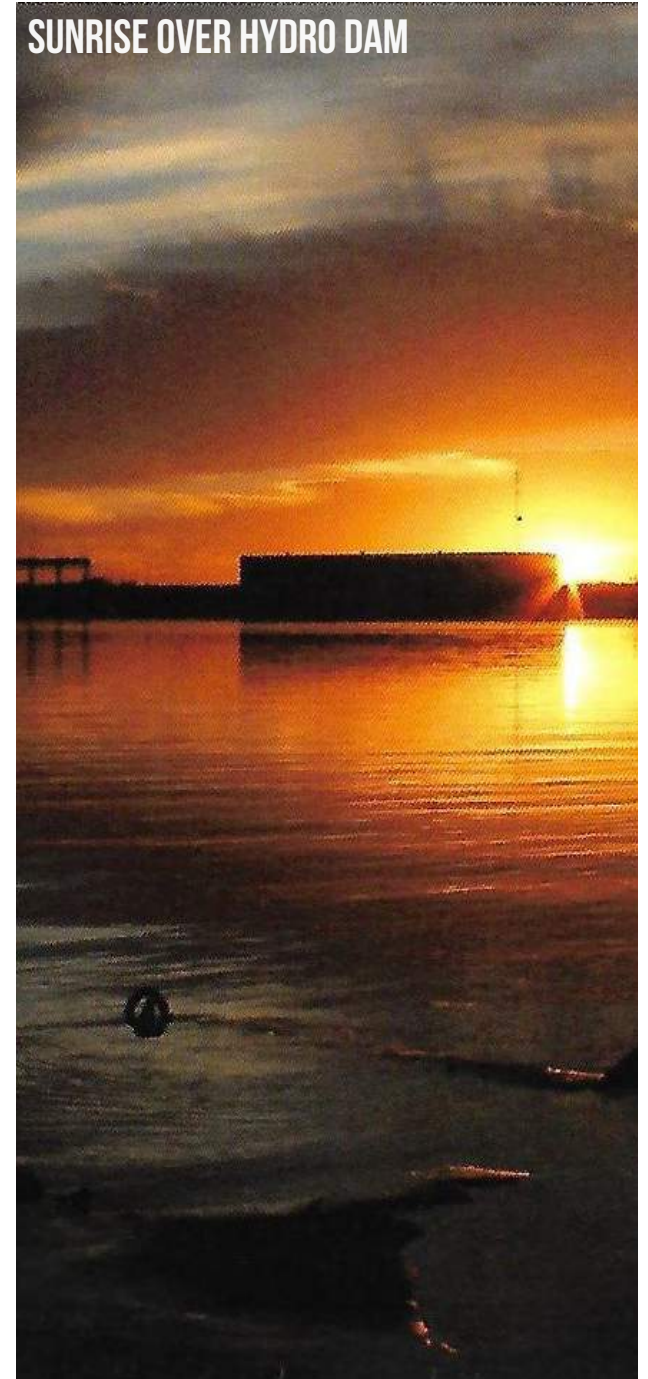
1. Patchwork mosaic of vegetation that limits the movement of species throughout town,
2. Poor pedestrian circulation,

The key assets on which to build include:

1. Beautiful landscape of the boreal forest and Winnipeg River,
2. Existing amenities, including boat launch, grocery stores, shops, golf course, and arena that support residents and attract visitors,
3. Dedicated community members as emphasized in interview summaries in Section 3: Interviews with Residents
4. Open spaces with opportunity for development

Any design for Powerview-Pine Falls needs to put residents first. Tourism is a good investment, but will only attract people during peak seasons. Residents are the core group whose lives will be improved when their outdoor environment is enhanced.

SUNRISE OVER HYDRO DAM



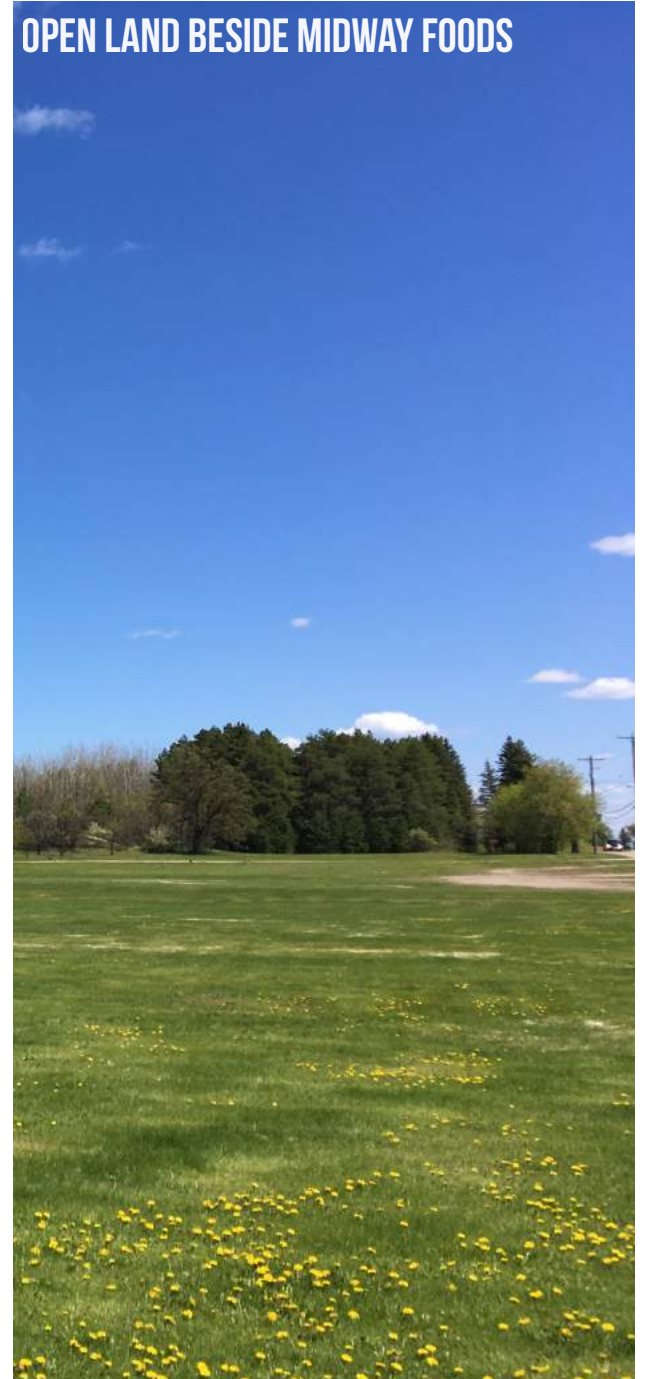
ABORIGINAL HEALING CENTER



COMMUNITY MEMBERS AT TOWN APPRECIATION BBQ



OPEN LAND BESIDE MIDWAY FOODS



DESIGN INTERVENTION

DESIGN INTERVENTION: INTRODUCTION

The design goal is to better the lives of residents in Powerview-Pine Falls by enhancing their outdoor environment. Achieving objectives will not be an all-end-all solution to the town's issues but rather act as a catalyst for change.

The design objectives focus on three areas:

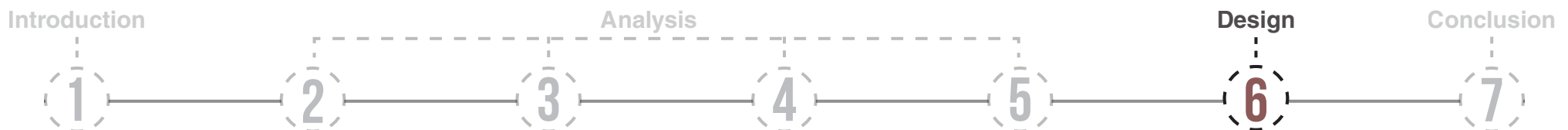
1. Landscape Regeneration
2. Pedestrian Circulation
3. Tourism Infrastructure (campground development)

I intend to establish a new relationship between Powerview-Pine Falls and the surrounding landscape. The new relationship will enhance the lives of permanent residents. It will take advantage of opportunities in the boreal forest without jeopardizing the integrity of the surrounding natural resources and the community's social fabric.

The design strengthens the connectivity of the town by creating landscape and pedestrian corridors that acknowledge the town's history and celebrate the beauty and diversity of the boreal forest.

A town context plan was developed so that landscape enhancements within the town connect to the surrounding areas. Enhanced landscape corridors promote species movement from the southern forest to Winnipeg River and enhance the town character by connecting Powerview-Pine Falls to the surrounding boreal forest. Pedestrian corridors connect to significant historical spaces, significant landscape features, and significant social spaces. Specific areas along the system, including the river trail, campground and mill site, are further detailed.

The design focuses on improving the outdoor environment for permanent residents while inviting the opportunity for tourism through campgrounds and hiking trails. Powerview-Pine Falls is surrounded by natural beauty, but it stands in sharp contrast to that. Regenerated landscapes will improve the quality of the community and the quality of the environment ensuring survival for humans and landscapes for years to come.



TOWN DESIGN CONTEXT

The town intervention focuses on:

1. LANDSCAPE REGENERATION
2. PEDESTRIAN CIRCULATION
3. TOURISM INFRASTRUCTURE

This community design context plan regenerates landscapes to develop a mosaic in forest which flows through the town to connect boreal patches. It improves pedestrian circulation by connecting Pine Falls to Powerview and to Sagkeeng First Nation and St George. Significant sites and landscape features (rivers and forests) are connected to the circulation system to engage pedestrians with their landscape and their historical spaces. The plan integrates a tent campground along the eastern side of the mill site. The campground is connected to the circulation system, promoting tourist movement along the pedestrian corridors.

The adjacent figure portrays the vegetation coverage (including present and proposed areas), the circulation system (incorporating past and present trails), and the campground. Each objective is broken down, and explained more deeply in following pages.

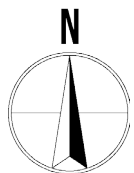
Sagkeeng First Nation



Campground

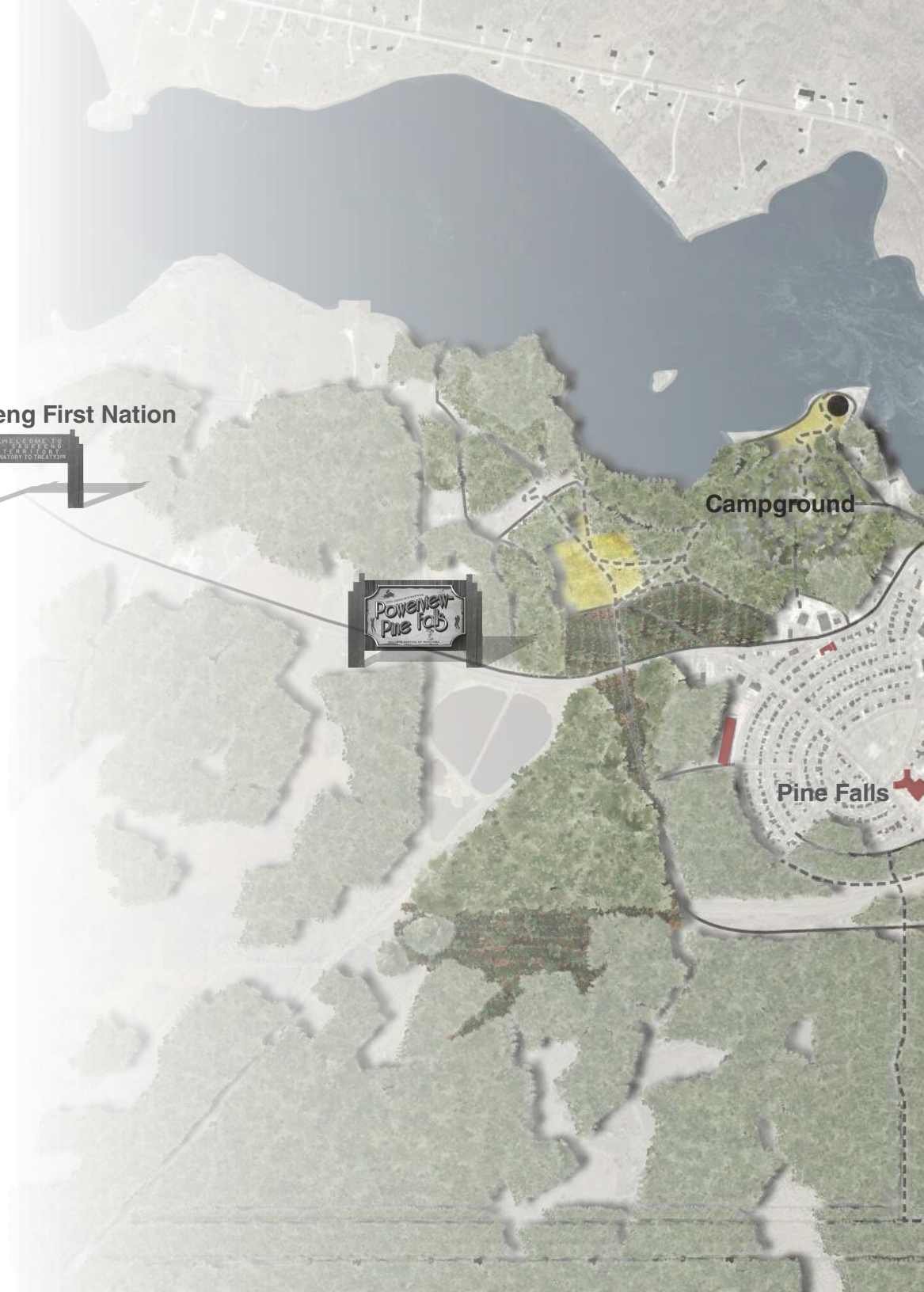


Pine Falls











100M

500M



Legend:

-  Existing Significant Community Sites
-  Proposed Replanted Meadow Areas
-  Proposed Replanted Shrub Areas
-  Proposed Regenerated Areas
-  Existing Boreal Forest Areas
-  Proposed Primary Trails
-  Proposed Secondary Trails
-  Proposed Tertiary Trails



Powerview



St George



LANDSCAPE REGENERATION

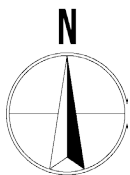
As a pulp and paper company town, Powerview-Pine Falls has devastated ecosystems inside and outside of its' boundaries. Pre-mill, the town was covered with rich boreal forest. Post-mill the town is a large swath of mowed Kentucky bluegrass, with occasional plantings of nursery stock trees. Several areas in the town have been disturbed and left to grow successional grasses. These areas have the potential to become healthier forest environments.

Areas outlined in the adjacent diagram are to be regenerated using forest management practices similar to those of the forest industry outlined in Section 4: Forest Management and Paper Making. Specifically, direct seedling transplanting of black and white spruce, jack pine and balsam fir, as well as companion shrub species will be performed. Transplanting seedlings rather than ground or aerial seeding will ensure a higher survival rate. During the mill era landscape regeneration involved a combination of natural and artificial techniques. The proposed regeneration will only involve artificial regeneration to permit more control of the process.

Landscape regeneration will:

1. Provide habitat and corridors for boreal animal species,
2. Utilize tree species harvested during the mill era,
3. Connect the community to its' surrounding ecosystems,
4. Develop a unique forest community identity

The processes of landscape regeneration will involve community engagement, providing jobs or volunteer opportunities for community residents. This is described in following pages.



100M

500M



Legend and Area of Regeneration:

-  Meadow: 3,050m³
 -  Shrub Area: 6,050m²
[not including understory shrubs]
 -  Forest: 22,550m²
 -  Riparian Edge: 3,400m²
 - Existing Forest Areas
 -  Swamp/Bog Existing Forest Areas
 -  Upland and Dry Existing Forest Areas
- Total Landscape Area Regenerated: 35,050m²



Riparian Edge

Tree Species:

Paper Birch
Trembling Aspen
Black Spruce

Shrub and Grass Species:

Bracted Honeysuckle
Prickly Wild Rose
Pussy Willow
Pin Cherry
Bulrushes

Forest

Tree Species:

Black Spruce
White Spruce
Jack Pine
Balsam Fir
Black Ash
Trembling Aspen

Understory Species:

Green Alder
American Yew
Wild Black Current
Bush Honeysuckle
Canada Fly Honeysuckle
Alder-leaved Buckthorn
Common Snowberry

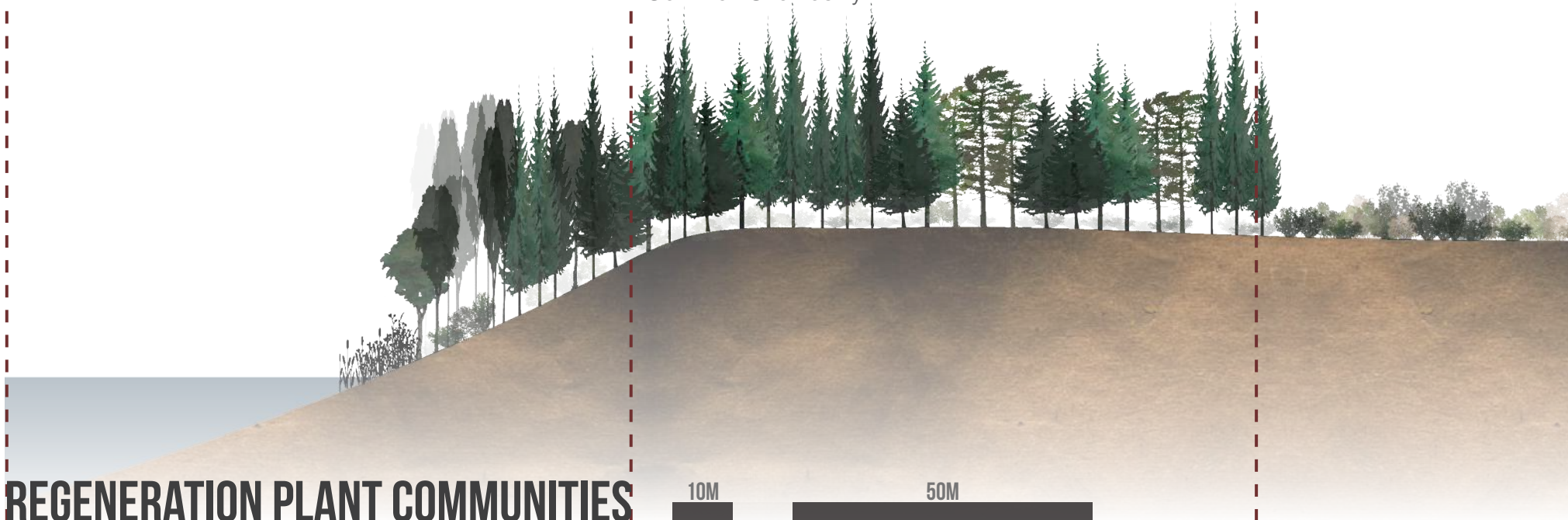
Shrub/Edge

Edible Berry Species:

Wild Red Raspberry
Velvet Leaf Blueberry
Saskatoon
Pin Cherry
Wild Red Currant
Wild Plum

Understory Species:

Mountain Juneberry
Beaked Hazel
Red Osier Dogwood
Alder-leaf Buckthorn
Prickly Wild Rose
Common Juniper



REGENERATION PLANT COMMUNITIES

10M

50M

Wet Meadow

Tree Species:

Black Spruce
Trembling Aspen
Paper Birch

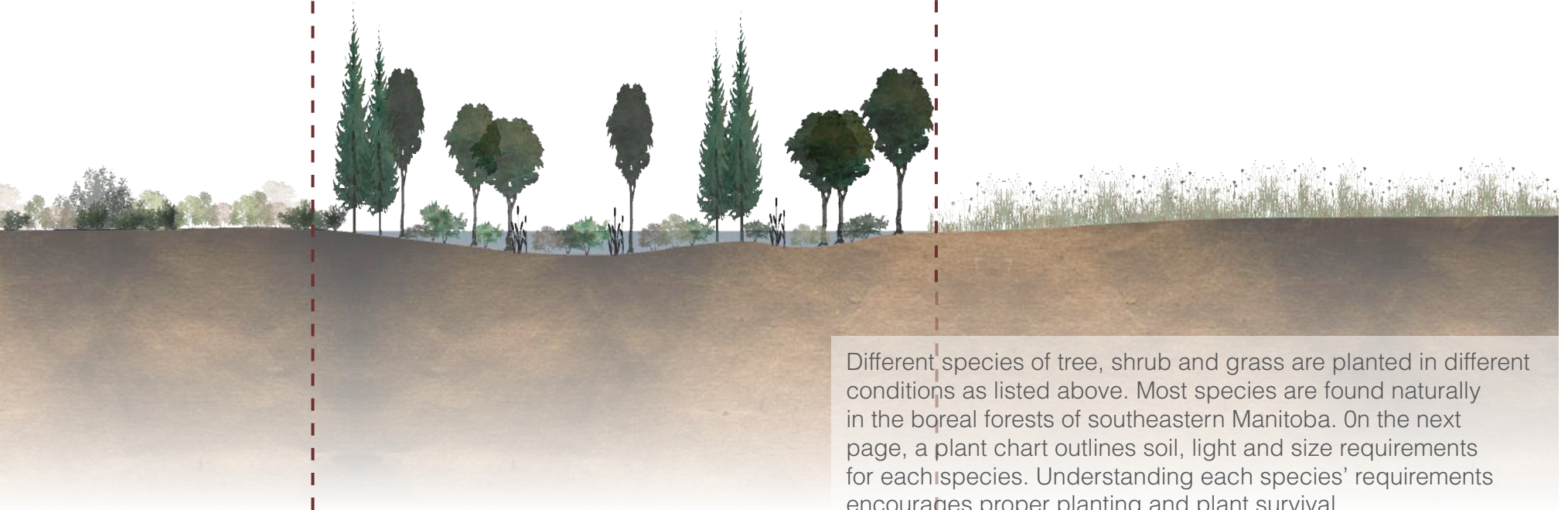
Shrub Species:

Speckled Alder
Red Osier Dogwood
Labrador Tea
Leatherleaf
Bog Laurel
Small Cranberry
Pussy Willow
Wild Red Currant
Bog Rosemary

Meadow

Grass Species:

Sweetgrass
Prairie Sage
Indian Grass
Switchgrass
Prairie Dropseed
Coneflower
Prairie Rose
Blue Eyed Grass
Showy Goldenrod
Smooth Aster
Wild Columbine
Big Bluestem
Little Bluestem



Different species of tree, shrub and grass are planted in different conditions as listed above. Most species are found naturally in the boreal forests of southeastern Manitoba. On the next page, a plant chart outlines soil, light and size requirements for each species. Understanding each species' requirements encourages proper planting and plant survival.

Plant Name**Tree Species:**Balsam Fir - *Abies balsamea*Paper Birch - *Betula papyrifera*Black Ash - *Fraxinus nigra*Rosybloom Crabapple - *Malus baccata*White Spruce - *Picea glauca*Black Spruce - *Picea mariana*Jack Pine - *Pinus banksiana*Trembling Aspen - *Populus tremuloides***Shrub Species:**Speckled Alder - *Alnus incana rugosa*Green Alder - *Alnus viridis*Saskatoon - *Amelanchier alnifolia*Mountain Juneberry - *Amelanchier bartramiana*Bog Rosemary - *Andromeda polifolia*Leatherleaf - *Chamaedaphne calyculata*Red Osier Dogwood - *Cornus sericea*Beaked Hazel - *Corylus cornuta*Bush Honeysuckle - *Diervilla lonicera*Common Juniper - *Juniperus communis*Bog Laurel - *Kalmia polifolia*Labrador Tea - *Ledum glandulosum*Canada Fly Honeysuckle - *Lonicera canadensis W.Bartram ex Marshall*Bracted Honeysuckle - *Lonicera involucrata***Sun Requirements****Tree Species:**

Sun, Part Shade, Shade

Sun, Part Shade

Sun, Part Shade

Sun, Part Shade

Sun, Part Shade, Shade

Sun, Part Shade

Sun

Sun, Part Shade

Sun, Part Shade

Part Shade

Sun, Part Shade

Sun, Part Shade

Sun, Part Shade

Sun

Sun, Part Shade

Sun, Part Shade

Sun, Part Shade, Shade

Sun

Sun, Part Shade

Shade

Sun, Part Shade

Sun, Part Shade

Size**Tree Species:**

Height: 15-25m; Width: 6-7.5m

Height: 12-15m; Width: 6-10m

Height: 18-21m; Width: 10m

Height: 5-8m; Width: 4m

Height: 20-28m; Width: 1-3m

Height: 24-28m; Width: 2-3m

Height: 10-15m; Width: 3-5.5m

Height: 12-25m; Width: 6-10m

Height: 2-4m; Width: 1.5-6m

Height: 0.3-4m; Width: 2-3m

Height: 1-5m; Width: 3m

Height: 2m; Width 2m

Height: 0.05-0.8m; Width: 0.6m

Height: 0.3-1.2m; Width: 0.6-0.9m

Height: 1.5-4m; Width: 1.5-4m

Height: 1-4m; Width: 1-3m

Height: 0.3-1m; Width: 0.3-1m

Height: 1-3m; Width: 0.5m

Height: 0.9m; Width: 1-2m

Height: 0.5-2m; Width: 0.6-0.9m

Height: 0.9-2m; Width: 2m

Height: 1-1.5m; Width: 1-1.5m

Soil Moisture**Tree Species:**

Moist

Moist, Wet

Moist, Wet

Tolerates different moisture levels

Tolerates different moisture levels

Tolerates different moisture levels

Well-drained soils

Tolerates different moisture levels

Moist

Wet

Dry, Normal, Moist

Dry, Normal, Moist

Moist, Wet

Moist, Wet

Normal, Moist, Wet

Normal, Moist

Dry

Dry

Wet

Wet

Moist, Wet

Moist, Wet

Pin Cherry - <i>Prunus pensylvanica</i> var. <i>saximontana</i>	Sun	Height: 1.5-5m; Width: 1-5m	Dry, Normal, Moist
Wild Plum - <i>Prunus americana</i> Marsh	Sun, Part Shade	Height: 4.5-7.5m; Width: 4.5-7.5m	Dry, Normal, Moist
Alder-leaved Buckthorn - <i>Rhamnus alnifolia</i>	Sun, Part Shade, Shade	Height: 1m; Width: 1m	Wet
Wild Black Currant - <i>Ribes hudsonianum</i>	Sun, Part Shade, Shade	Height: 0.5-2m; Width: 1m	Normal, Moist, Wet
Wild Red Currant - <i>Ribes triste</i>	Sun, Part Shade	Height: 0.2-1m; Width: 0.8m	Normal, Moist
Prickly Wild Rose - <i>Rosa acicularis</i>	Sun, Part Shade	Height: 0.3-1.5m; Width: 0.3-1.5m	Tolerate different moisture levels
Wild Red Raspberry - <i>Rubus idaeus</i>	Sun, Part Shade	Height: 2m; Width: 1-1.5m	Dry, Normal, Moist
Pussy Willow - <i>Salix discolor</i>	Sun	Height: 2-8m; Width: 3-3.5m	Moist, Wet
Common Snowberry - <i>Symphoricarposalbus</i>	Sun, Part Shade, Shade	Height: 0.5-1.5m; Width: 1-2m	Dry, Normal, Moist
American Yew - <i>Taxus canadensis</i>	Sun, Part Shade, Shade	Height: 0.3-5m; Width: 2.5m	Dry, Normal, Moist
Velvet Leaf Blueberry - <i>Vaccinium myrtilloides</i>	Sun, Part Shade	Height: 0.3-0.6m; Width: 0.3-0.6m	Moist
Small Cranberry - <i>Vaccinium oxycoccus</i>	Sun, Part Shade	Height: 0.2m; Width: 0.1-0.8m	Moist, Wet
Grass Species:			
Big Bluestem - <i>Andropogon gerardii</i>	Sun, Part Shade	Height: 1-1.8m; Width: 0.5-0.7m	Dry, Normal, Moist
Prairie Sage - <i>Artemisia ludoviciana</i>	Sun	Height: 0.3-0.5m	Dry, Normal
Wild Columbine - <i>Aquilegia canadensis</i>	Sun	Height: 0.4-0.9m; Width: 0.3m	Dry, Normal, Moist
Bulrushes - <i>Blysmus rufus</i>	Sun, Part Shade, Shade	Height: 0.05-0.45m	Moist, Wet
Coneflower - <i>Echinacea angustifolia</i>	Sun	Height: 0.3-0.9m; Width: 0.6m	Dry, Normal
Sweetgrass - <i>Hierochloe odorata</i>	Sun	Height: 0.3-0.6m; Width: 0.6m	Dry, Normal, Moist
Switchgrass - <i>Panicum virgatum</i>	Sun	Height: 0.3-0.8m; Width: 0.6m	Dry, Normal, Moist
Praire Rose - <i>Rosa arkansana</i>	Sun	Height: 0.2-0.4m; Width: 0.3m	Dry, Normal
Little Bluestem - <i>Schizachyricum scoparium</i>	Sun	Height: 0.3-0.7m; Width: 0.5m	Dry, Normal, Moist
Blue Eyed Grass - <i>Sisyrinchium</i>	Sun, Part Shade	Height: 0.1-0.3m; Width: 0.15m	Dry, Normal, Moist
Indian Grass - <i>Sorghastrum natans</i>	Sun, Part Shade	Height: 0.8-1.2m; Width: 0.3-0.6m	Dry, Normal, Moist
Showy Goldenrod - <i>Solidago speciosa</i>	Sun	Height: 0.3-0.5m; Width: 0.3m	Dry, Normal
Prairie Dropseed - <i>Sporobolous heterolepsis</i>	Sun	Height: 0.3-0.7m; Width: 0.5m	Dry, Normal, Moist
Smooth Aster - <i>Symphyotrichum laeva</i>	Sun, Part Shade	Height: 0.6-1.2m; Width: 0.3m	Dry, Normal, Moist



Pre-Regeneration Site

I propose a community engagement program in which participants regenerate landscapes in Powerview-Pine Falls. This regeneration connects Powerview-Pine Falls to the surrounding boreal forest through landscape corridors that promote movement of animal species from the southern forest to the river's edge, and from the western forest to the eastern forests. Job opportunities are lacking for residents of the region, particularly those under age 20. Incorporating youth into the landscape regeneration will provide opportunities for students during their summer vacation, but can it do it more?

Can reforestation practices and procedures do more than improve the town's environment? Can they provide important life skills that help community youth in future endeavors?

Studies involving community youth development have shown that youth benefit from participation in the improvement of their community because such programs "shift power dynamics and encourage youth to take an active role in community building and social contribution" (Fulford and Thompson, 2013). In this study the benefits to youth included skill development, improved self-esteem, increased environmental awareness, fostered social networks, improved academic performance and increased employability (Fulford and Thompson, 2013),

Participation by youth in community engagement projects increases their passion and respect for their surrounding environment.



Pre-Regeneration, Preparing the Site

Changes in the attitude of youth regarding their surrounds benefits the community by, reducing occurrence of vandalism (ex: reduced attraction to gang activity), lowering unemployment rates, improving social solidarity and improving collective health and well-being (ex: promotion of outdoor activity reduces obesity) (Fulford and Thompson, 2013). The hope of this community engagement project is that Powerview-Pine Falls youth experience these benefits. Interview participants noted increased gang activity and decreased youth involvement as a community issue.

Participation of students from Powerview-Pine Falls and the neighboring region could be part of a school program in which they gain credits through volunteering, or through a work program in which students are paid to participate. The participation of older generations will be necessary for supervision, planning and labor. For example, previous mill workers who used to work in the mill's woods department have knowledge of the necessary processes in landscape regeneration practices and could participate by actively leading activities, or by sharing their knowledge with other community members.

COMMUNITY ENGAGEMENT



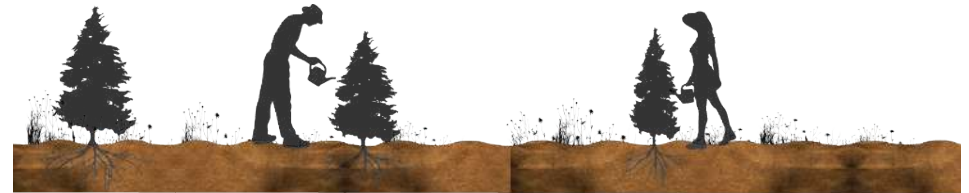
Regeneration Site, Planting Process

Students will need training in the processes of regeneration to understand how to participate. The program will involve:

1. Training and education about landscape regeneration in boreal forest ecosystems and the benefits of the process,
2. The regeneration planting and planning process, and
3. Maintaining and tending to regeneration areas to enhance growth.

Previous mill workers who worked in the woods department, as well as Manitoba Forestry and Manitoba Model Forest employees will teach participants in the processes involved in landscape regeneration, the importance of safe work, the need for continued maintenance and the role of participants.

The regeneration process includes planning and planting the areas. Approximately 3000 to 3800 tree seedlings, 750-1000 shrubs seedlings and 8kg of grass seed will be planted. Species used are outlined in the plant chart on the previous two spreads. With the assistants of Manitoba Forestry, Manitoba Model Forest, and previous mill workers, I will plan what species go where based on specific site characteristics and species requirements. The exact number depends on the objective for each planting area. Less trees per acre will allow more room for tree growth and more nutrients for each tree but will create larger branches and a less dense forest (Forest Landowners Association, n.d.). Regeneration of areas generally requires seedlings 2.5 to 4 meters apart, with a minimum of 190 and a maximum of 680 healthy trees distributed per acre (Washington State Department of Natural Resources, n.d.). I, the designer will monitor the planting process to ensure youth are realizing the planting objectives.



Regeneration Site, Tending Process

The best months to plant are April to June and September to November, when temperatures are moderate and soil moisture is up (Forest Landowners Association, n.d.). To prepare the ground it is necessary to eliminate existing plants that compete with the seedlings for light, water, nutrients and space. In areas with established grass vegetation, plowing, tilling or herbicide applications are necessary to eliminate competition with the introduced vegetation. Tools required in planting and tending include shovels and hoes.

During July and August, planted areas will be tilled, weeded and watered to ensure the survival of seedlings. Protection around trees with fencing, individual seedling protectors or treating seedlings with discouraging scents are necessary to prevent seedling loss through animal grazing (Forest Landowners, Association, n.d.). Tending, by tilling soils to remove competitive species, weeding, watering, pruning, and fertilizing, will extend fourteen years after planting to ensure planted areas meet “free to grow” standards (Manitoba Model Forest, n.d.). The hope is that the success of this program inspires surrounding communities to also regenerate their landscape through community engagement.

On the adjacent page a time-line outlines the stages of the community engagement process.

To conduct the public engagement process the following time-line outlines the stages and steps of work:

1

Year one:

April to June:

1. Train participants
2. Plan layout of regeneration areas - select species, select seedlings, find source of seedlings, reserve seedlings determine density of forest and amount of seedlings

July to August:

1. Prepare site for planting, removing existing vegetation.

September to November

1. Plant site
2. Water seedlings
3. Apply protective barriers
4. Monitor progress and remove invading species

2-13

Year Two-Thirteen

1. Monitor progress
2. Remove invading species
3. Replant any areas where seedlings did not survive

14

Year Fourteen

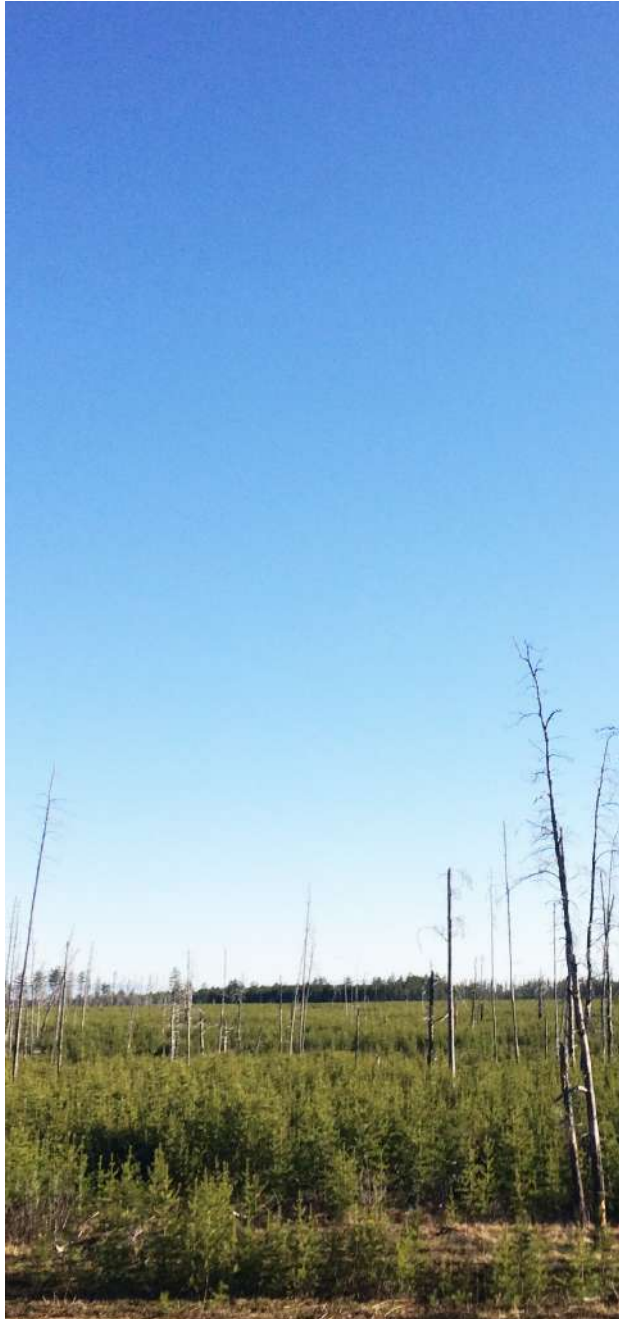
1. Survey progress, if planting meets “free to grow” standards then stop monitoring regeneration.
2. If not approved at “free to grow” standards, continue tending to tree stands until approved.

COMMUNITY ENGAGEMENT: TIME-LINE

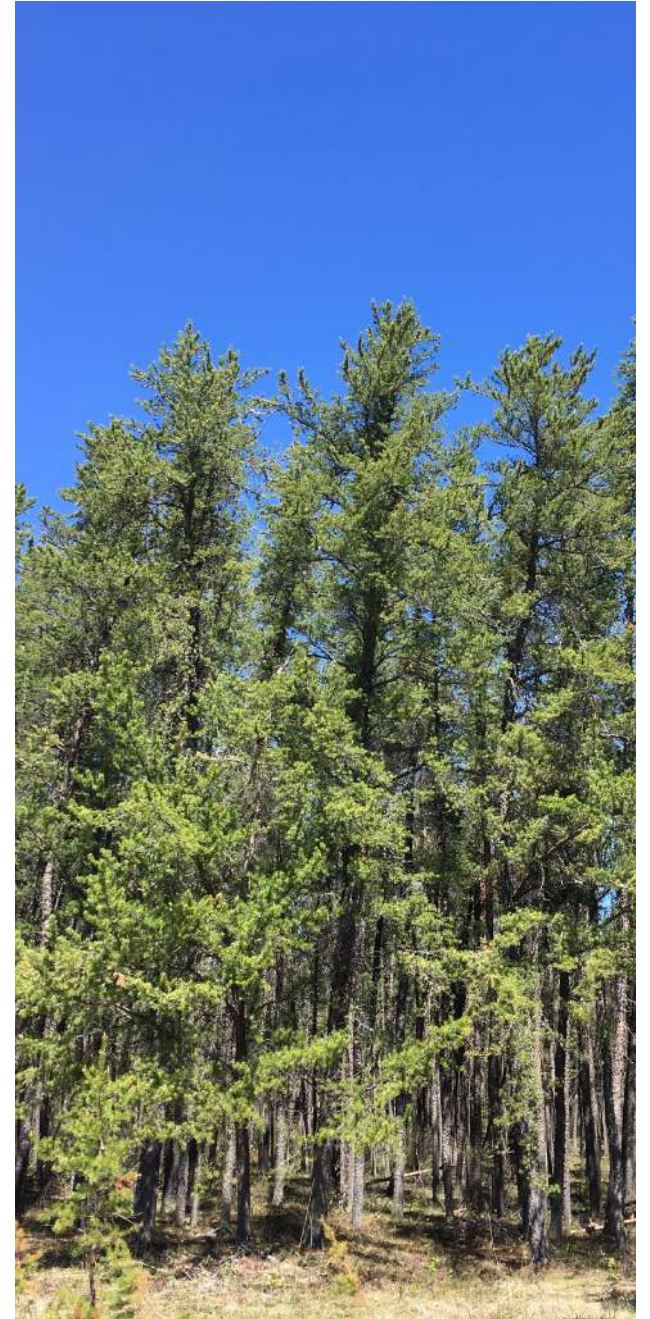
Before Regeneration



Tending Phase



After Regeneration



PEDESTRIAN CIRCULATION SYSTEM

The proposed circulation system is intended to improve pedestrian movement, connecting people to school, grocery stores, businesses, and landscape features. Routes are developed along existing desire lines, or in open areas so as to minimize detrimental impacts on the existing boreal forest.

Three types of trails are planned::

1. Primary Circulation Trails

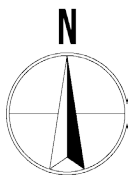
Trails that link destinations, specifically towns (Pine Falls, Powerview, Sagkeeng, St George), key infrastructure (Powerview School, Pine Falls Health Complex, Tent Campground) and key areas (River way, South Forest, Mill Site). Trails are intended for use by walkers, runners and bicyclists.

2. Secondary Circulation Trails

Trails that engage with the landscape and connect specific sites to primary paths. They move through forests, along the rivers edge, and through historical spaces. Trails are intended for use by walkers and runners. Bicyclists are also permitted on most secondary trails.

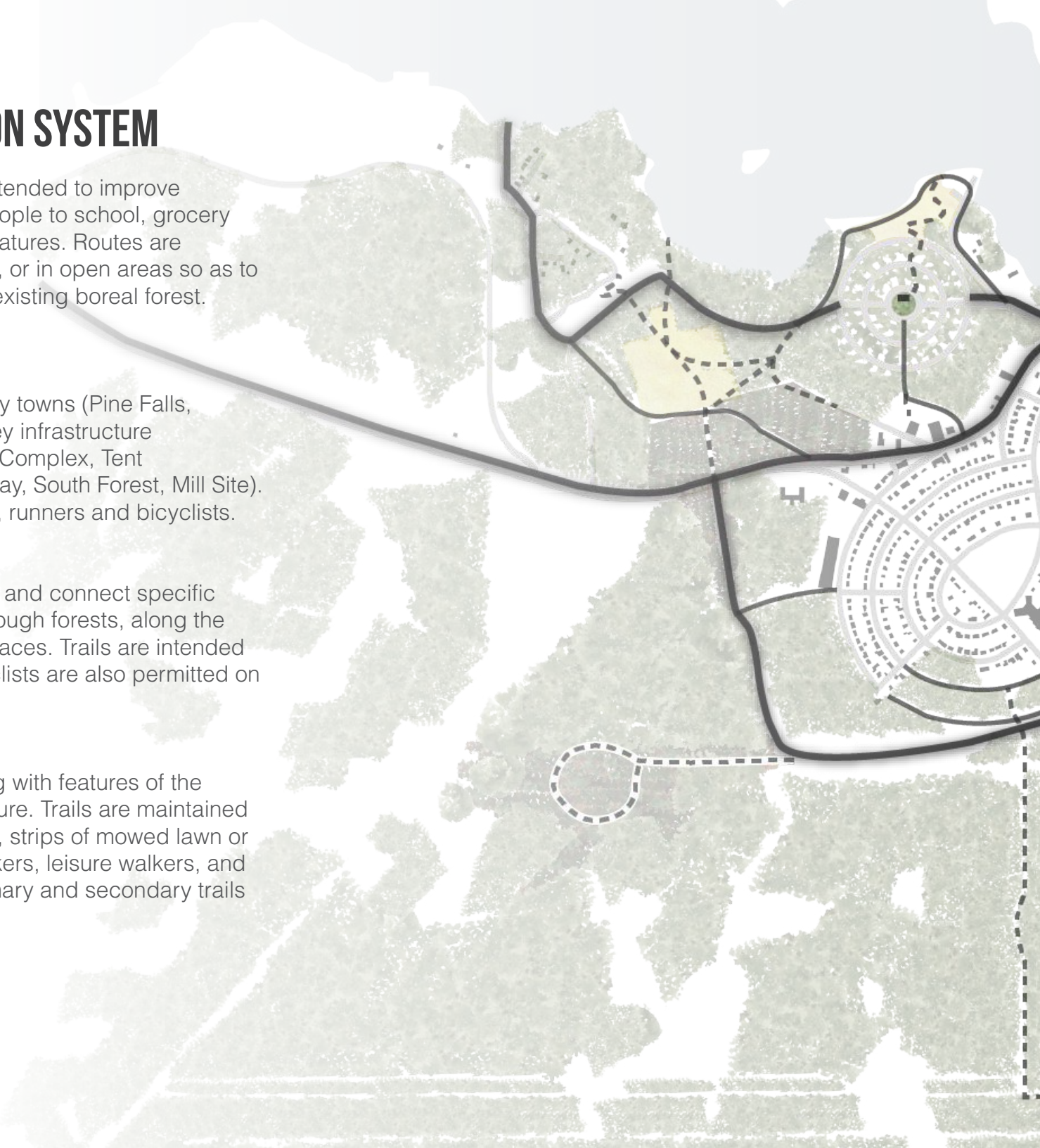
3. Tertiary Circulation Trails

Trails that are scenic routes, engaging with features of the landscape and/or are seasonal in nature. Trails are maintained by locals. Paths are made with mulch, strips of mowed lawn or plowed snow. Users include dog walkers, leisure walkers, and runners. Tertiary trails connect to primary and secondary trails and roads.



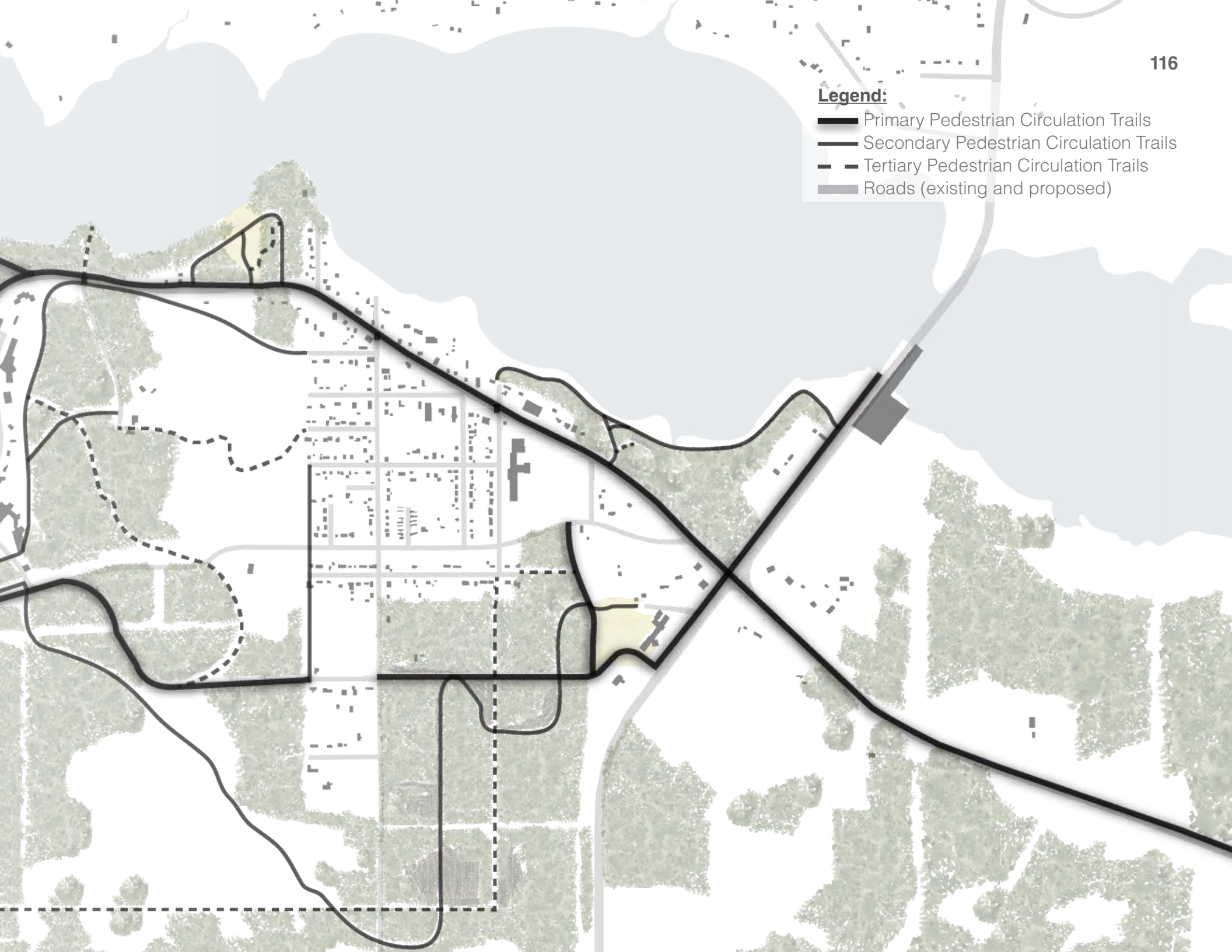
100M

500M



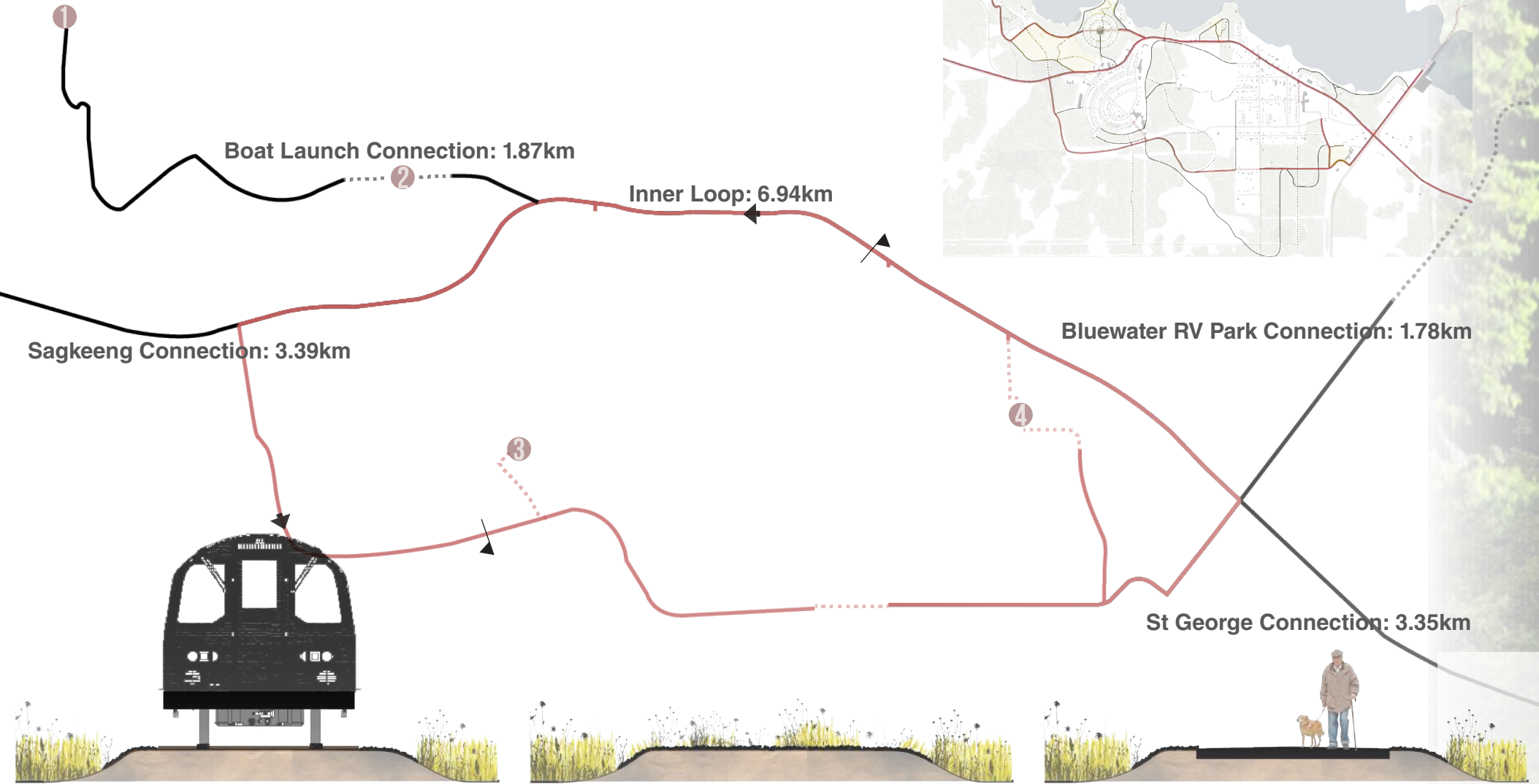
Legend:

- Primary Pedestrian Circulation Trails
- Secondary Pedestrian Circulation Trails
- Tertiary Pedestrian Circulation Trails
- Roads (existing and proposed)



Legend:

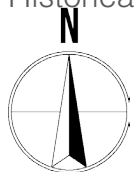
- Inner Loop of Primary Trails
- Outer Routes of Primary Trails



Historical Train Tracks

Train Tracks Removed 2010

Proposed Asphalt Pathway



PRIMARY CIRCULATION TRAILS



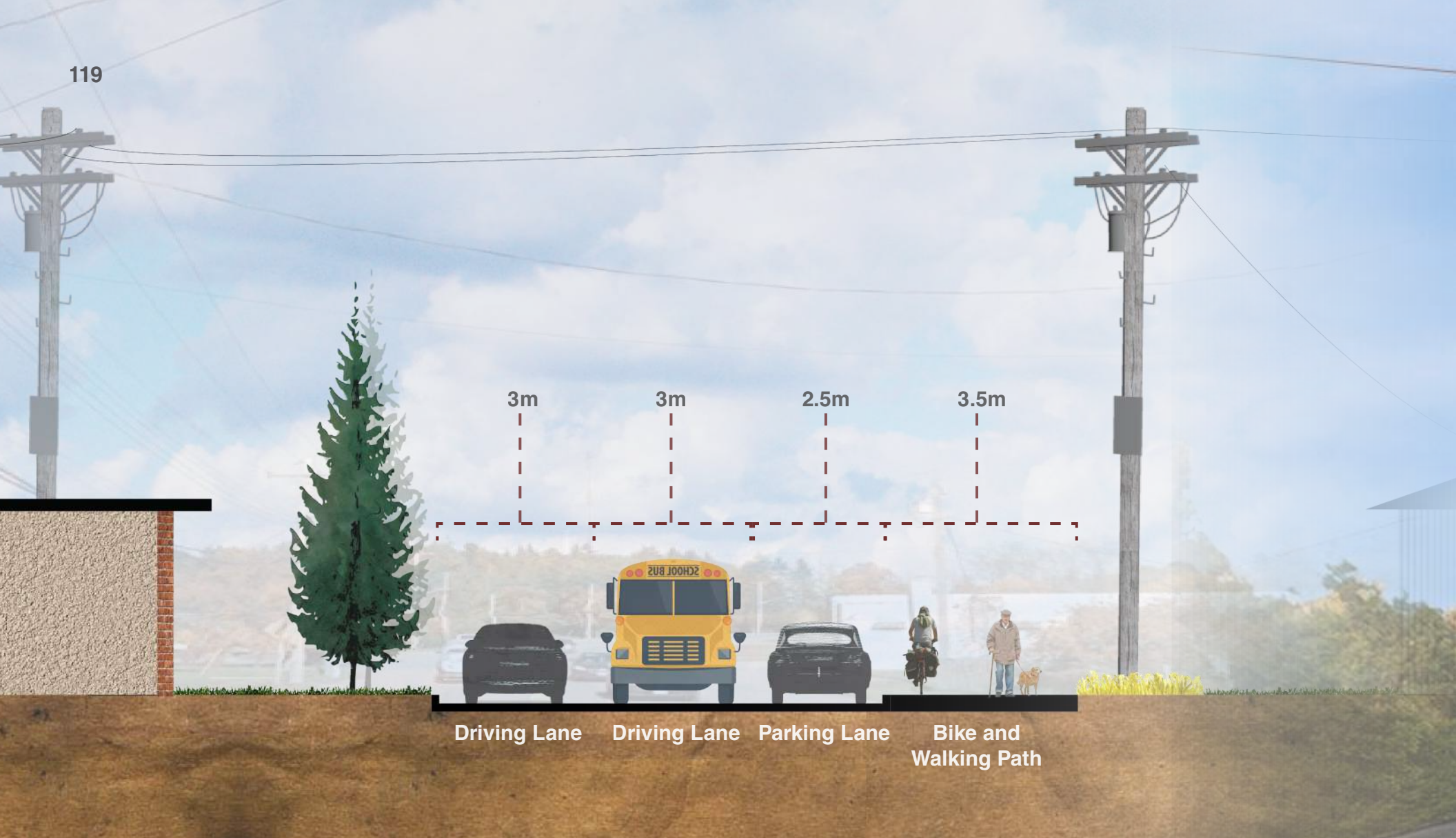
5

Primary circulation trails connect residents inside and outside of Powerview-Pine Falls to significant points in town. These points include (corresponding with numbers on adjacent page):

1. Boat Launch
2. Tent Campground
3. Health Complex
4. Powerview School
5. Blue Water RV Park

All trails are of asphalt so as to accommodate pedestrians and bicyclists, including walkers, runners and dog walkers. In general, the trails follow pre-existing roads and old utility lines, including: highway #11 and 304, the old mill service road, and the old train tracks. Using these spaces minimizes the cost of clearing right-of-ways through dense forest, and avoids further deforestation. Only the southeast portion of the path is on a currently non-existing route.

PRIMARY TRAILS: SOUTH TRAIL OF INNER LOOP THROUGH REGENERATED AREA

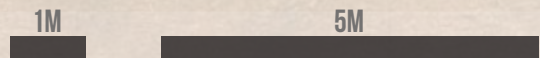


Driving Lane Driving Lane Parking Lane Bike and Walking Path

On Highway # 11 a paved pedestrian route extends from St George to Sagkeeng First Nation. In areas around business centers the roadway is expanded to include three vehicular lanes, two driving and one parking lane, and a raised pedestrian path. To provide distance between fast moving traffic and pedestrians, parked cars establish a barrier. Coniferous trees are planted on the south side

of the road, all tall grasses along the north side under the hydro lines minimize maintenance requirements and provide store front character for business along the street. Specific points will provide views of dense forest and Winnipeg River. New businesses will establish themselves along this route, capitalizing on the increased foot traffic. Areas away from the business centers have two lanes for vehicular traffic and a bike and walking path separated from moving vehicles with curb blocks.






PRIMARY TRAIL: HIGHWAY
Around Business Centers

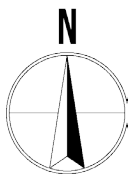
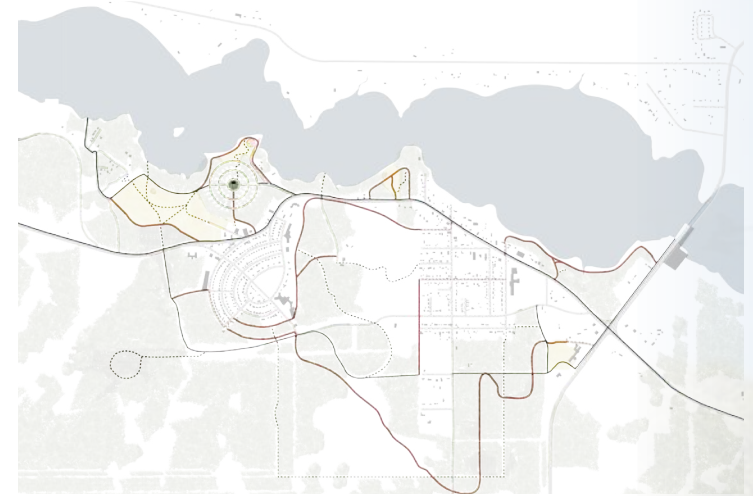
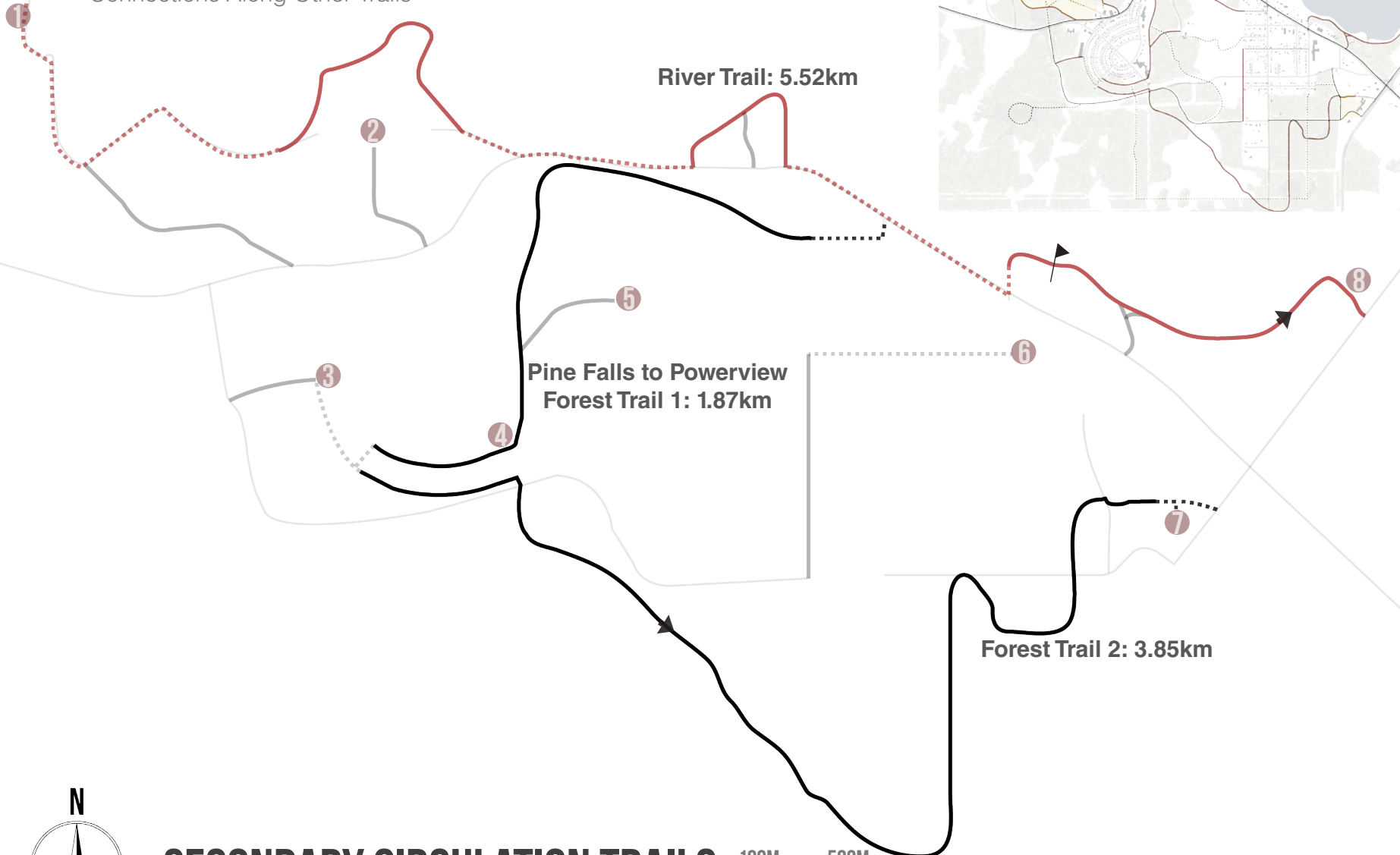




Away from Business Center

Legend:

-  River Trail
-  Forest Trails
-  Trails Connecting To Primary Trails
-  Primary Trails
-  Connections Along Other Trails



SECONDARY CIRCULATION TRAILS





Secondary circulation trails engage with landscape features and/or connect primary trails to community facilities and spaces.

The facilities include (corresponding to numbers on adjacent page):

- | | |
|-------------------------|---------------------|
| 1. Boat Launch | 5. Golf Club |
| 2. Tent Campground | 6. Powerview School |
| 3. Hockey/Curling Arena | 7. Papertown Hotel |
| 4. Health Complex | 8. Fishing Hole |

Other than the river trail which is asphalt, secondary circulation trails are gravel. Most do not follow existing trails as the primary trails do, but follow lines in the landscape formed by snowmobiles,

pedestrians and/or animals. For example, the path pictured above is on part of the winter snowmobile trail. This particular path minimizes its impact on the environment, particularly the drainage in the wet meadow, by being built as a raised boardwalk. Forest Trail 1 mimics the shape of the town of Pine Falls, extending the curved form into Powerview. Forest Trail 2 on the southeast side of the community follows the edge of the existing forest to minimize deforestation. The area on the south side of Forest Trail 2 is regenerated and will give pedestrians a feeling of being encompassed in the boreal forest.



SECONDARY TRAILS: POWERVIEW-PINE FALLS RIVER WALK

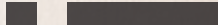


The river trail is the most significant secondary circulation route. It connects the fishing hole by the hydroelectric generating station to the fishing hole at the boat launch. Along the path pedestrians are exposed to scenic views and historical spaces, such as the hydroelectric generating station, Manitou Rapids, Sharpes Point and the mill site. The trail is built on hydro land, crown land and old mill property, avoiding privately owned properties. On land with established rip rap, the trail goes directly beside the riprap with a

regenerated riparian buffer creating a barrier between trail users and home owners. This intervention creates a sense of privacy, and security for residents concerned about pedestrian traffic behind their properties. In areas without riprap where erosion is an issue, the river trail goes south of the riparian buffer zone at a higher, more level point. This intervention promotes stabilization along the bank and controls pollutant and sediment runoff. The 3.5 meter wide trail is made of asphalt to permit cyclist and pedestrian traffic and ensure durability for years to come.

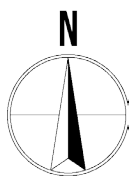
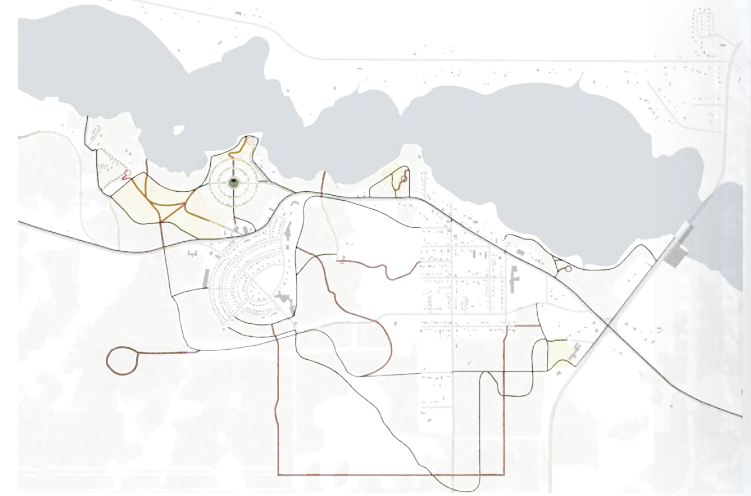
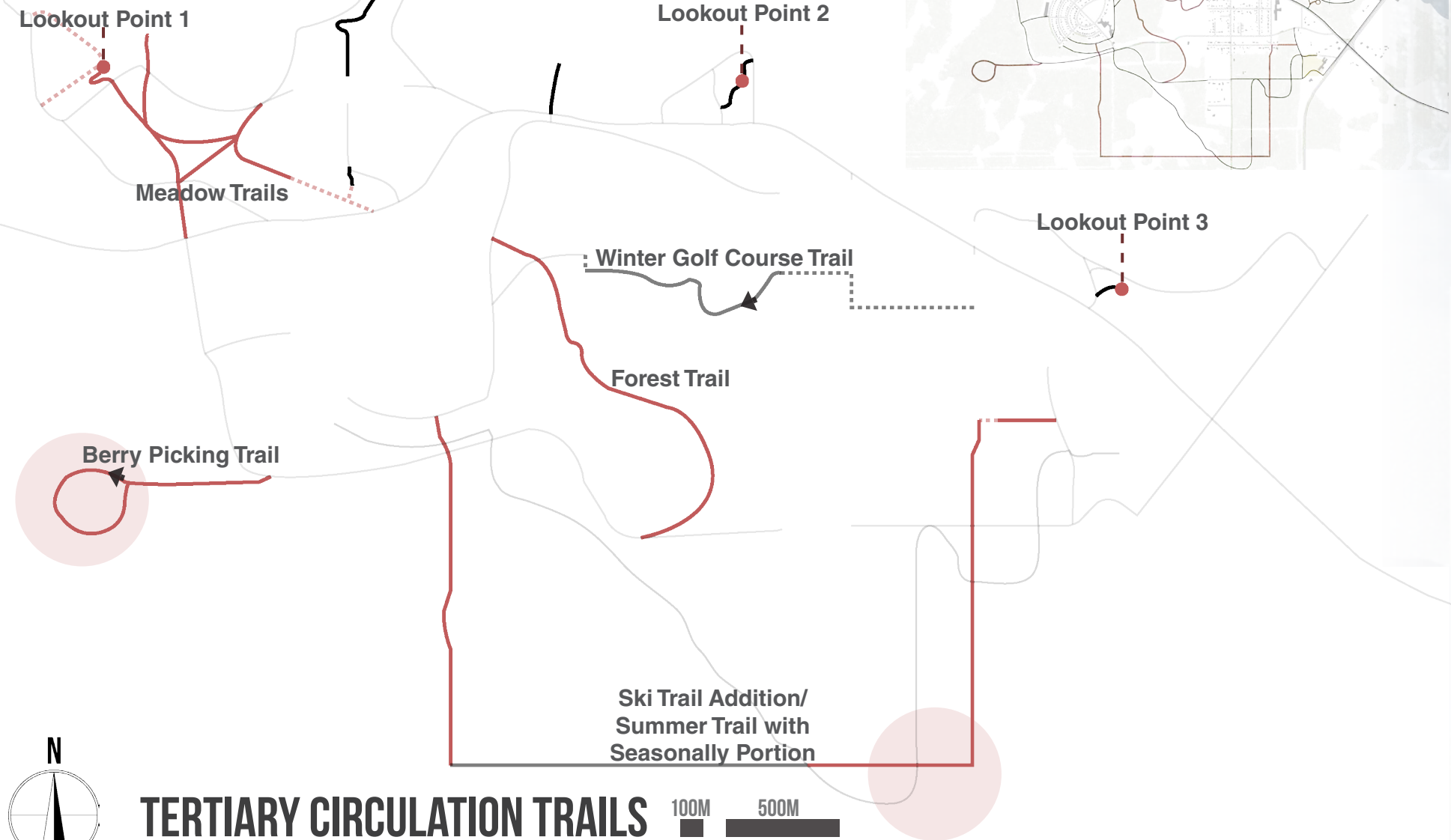
1M

5M



Legend:

- Scenic Trails
- Trails Connecting to Lookout Points and Rivers Edge
- Seasonal Trails
- Primary and Secondary Trails
- Berry Picking Area
- - - Connections Along Other Trails



TERTIARY CIRCULATION TRAILS



TERTIARY TRAILS: GOLF COURSE WINTER TRAIL

Tertiary trails are scenic routes for nature walking or hiking. Tertiary trails often branch off primary and secondary trails, acting as informal detours. Along the river's edge, tertiary trails connect to the river trail, exposing views of Pines Falls, the sunset on Winnipeg River and the sunrise over the hydroelectric generating station. Mulch and mowed lawn surfaces distinguish these trails from others. Minimal maintenance and construction are required to establish these areas, as most of them take advantage of previously established desire lines, such as ski trails and informal walking

routes. Two portions are seasonal. One capitalizes on the winter closure of the golf course. This trail avoids golf tee-boxes and greens and connects the western golf course entrance to an eastern fence gate with a 1.5 meter snow plowed path. The second seasonal trail adds to Duck Loop Ski Trail, establishing a second point of entrance from Powerview. During late spring, summer and fall, it will not be accessible unless the ground is dry, as parts travel through wet meadow.

LOOKOUT POINTS

1



2



3





Tertiary trails permit users to explore elements in the boreal forest on leisurely walks as pictured above. Sections of tertiary trails are surrounded by edible berry species and are intended for berry pickers. The perspective on the adjacent page demonstrates a berry picking path located close to Pine Falls Health Complex. First Nations in the new Aboriginal Healing Center can pick their sacred berries without traveling a far distances.

TERTIARY TRAILS: FOREST LEISURE TRAIL IN DUCK LOOP SKI TRAILS



TERTIARY TRAILS: BERRY PICKING TRAIL

REGENERATION OF MILL SITE



Demolish and remove remaining elements of mill structures. [Particularly concrete pad]



Grade ground plane, leveling surface in preparation future development



Regenerate area with two-thirds meadow species and one-third forest and shrub species (species outlined in the reforestation section). In former location of steam whistle of mill, plant a large cottonwood in remembrance.



Meadow

Forest

Forest

Shrubs

Since the mill closed in 2010, the structure has been demolished and the land has been left vacant to grow successional grass species. Scrap metal, a concrete pad, and a hydro electric transmission station remain. Land claim issues prevent development of the space, with no clear solution in sight. This design divides the mill site into three land uses:

-  Community owned (campsite and cemetery)
-  Privately owned (Future cabin development and housing)
-  Area slated for future development





While issues persist and future development is being planned, the space will be restored to a state that can accommodate various types of development, whether housing, commercial or industrial. The area will be planted with meadow and tree species, and pedestrians will be permitted on site. Mowed lawn and mulch paths will guide people through the space. The riparian edge is designated as community owned, to ensure the longevity of the developed riparian buffer zone and the primary circulation path connecting the tent site to the boat

launch. A rosybloom crabapple tree is planted in the same location as the former iconic mill chimney. Its pink flowers, deep purple leaves and wide spread contrast the green of the boreal forest. As visible in the adjacent diagram, meadow species occupy the footprint of the historic mill building. Trees and shrubs border the meadow. The sharp contrast between the dense boreal forest and the meadow species represents the historical relationships of the industrial mill building and its operations to the surrounding boreal landscape.

TOURISM INFRASTRUCTURE: CAMPGROUND

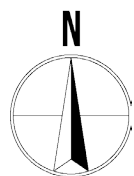
To increase tourism a campground is proposed for the mill site.

The town is an ideal location for a campground due to:

1. **LOCATION:** Powerview-Pine Falls is approximately an hour drive away from Winnipeg, making it an ideal location for Winnipeggers to escape to.
2. **RIVER:** Winnipeg River is used year round by fishers who travel to the Powerview-Pine Falls to fish. The existing boat launch is the only launching station that promotes the movement of boats from Winnipeg River into Lake Winnipeg. Pine Falls Generating Station prohibits boats launched from eastern launching location from accessing Lake Winnipeg.
3. **RESOURCES:** Grocery stores, restaurants, and shops.
4. **NATURAL ATTRACTION:** The surrounding boreal forest offers opportunities for campers to escape into the "wild".
5. **DISTANCE TO OTHER CAMPGROUNDS:** 1.8km's away from Powerview-Pine Falls, on the opposite of the river and hydro dam is Bluewater RV Park. It prohibits tent camping and is fully booked by seasonal RVers. Other campgrounds around Powerview-Pine Falls range from 38km away to 138km. Minimal opportunity for tent camping exists in the area, with the closest areas in Grand Beach to the west and Lac Du Bonnet to the east.

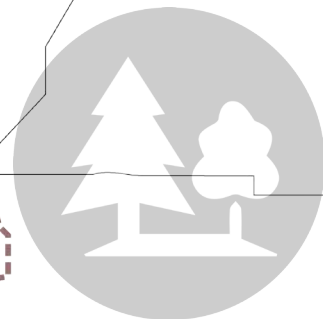
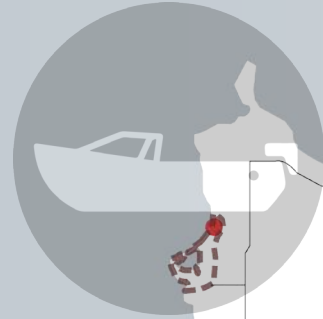
Legend:

- Campgrounds
- Roads
- - - Provincial Park Boundaries



10KM

50KM



Powerview-Pine Falls

In this practicum, one campground is developed in Powerview-Pine Falls and a second is proposed for future development.

1. RV and Tent Campground
2. Year-round Cabin Rentals



1 The location of this RV and tent campground adjacent to Winnipeg River capitalizes on spectacular views and fishing opportunities. Campers are a short walk or drive to the boat launch. As swimming is prohibited along this stretch of Winnipeg River, the target audience is boaters and fisherman. The campground is located on the eastern corner of the mill site, where lumber was once stored. The area is relatively flat, and contains successional grass species. Landscape regeneration and construction of the campground would occur simultaneously.

2 Cabin rental opportunities will promote tourism year round, allowing fisherman, sports teams, and campers to visit the community. Their location next to the boat launch allows fisherman to dock their boats with ease. Only a few houses currently exist on the rock and many are in decay. Land claim issues prohibit these residents from owning their property, making it difficult to justify upgrading their homes. I propose that many of the decayed structures be removed and replaced with log cabins for year round tourism.



CAMPGROUND LOCATION

100M

500M

133

Future Cabin Rentals

Campground

Future Development

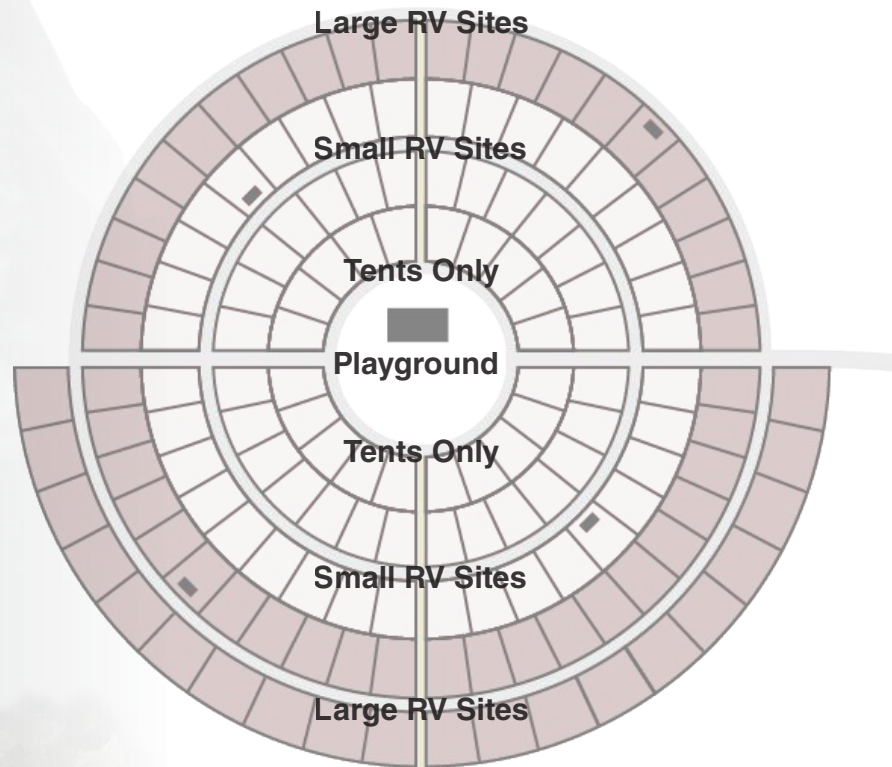


CAMPGROUND

100M

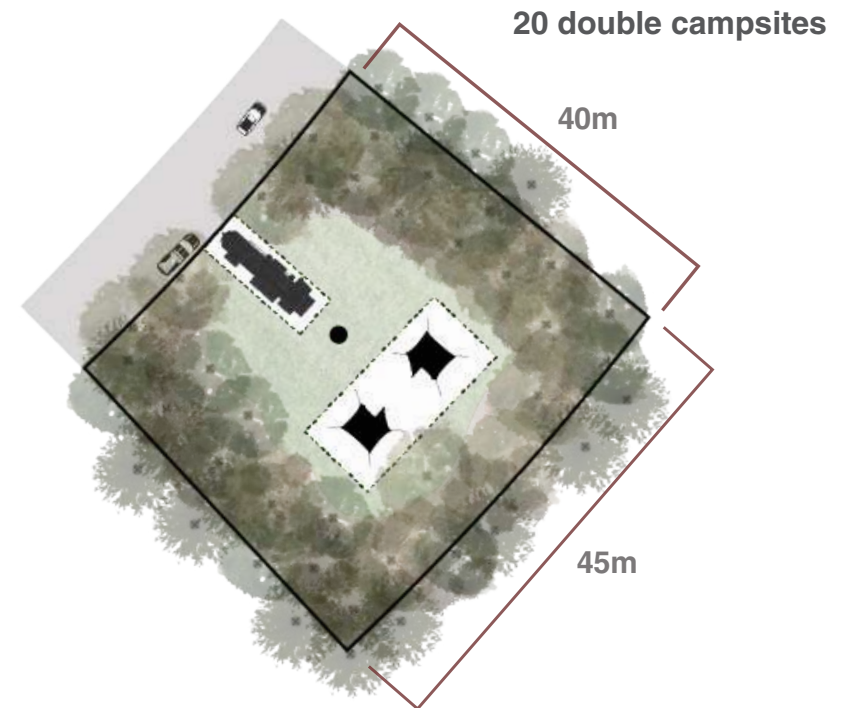
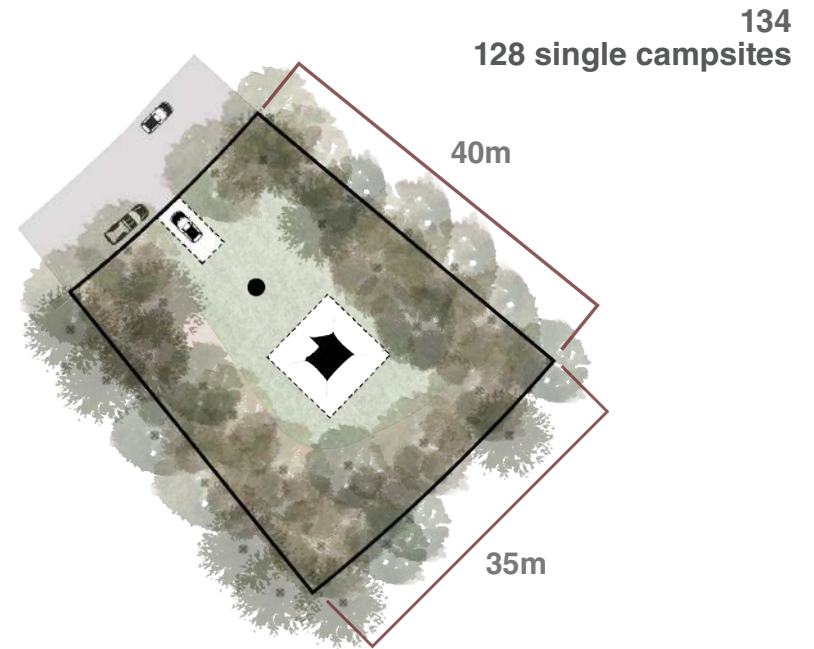
500M





The campground is laid out in a cylindrical pattern that refers to the layout of Pine Falls, with roads and single and double campsites encircling the modern bathroom facilities and playground. Double campsites are located on the outer northern edge of the campground. Campsites consist of a fire pit, a parking pad and an elevated 4.5 m x 4.5 m (4.5 m x 9 m in double campsites) tent pad made of timber filled with a sand and gravel mix at a minimum 4° slope. Along the outer road, campsites have large enough openings to fit large RV's, with tent pads at the far edge of the site. Smaller RVs and tent trailers can fit in campsites along the middle roadway. Campsites in the center circular road are for tents only. This layout, creates easier turning radii for RVs. Large RV sites contain electricity and water; the smaller RV and tent sites contain only electricity. Water is available at all bathroom facilities indicated above as grey rectangles.

Extra vehicle parking is available along both sides of the road as shown in adjacent diagrams. There are four non-modern bathroom facilities and one modern facility with showers. The modern facility is located in the central playground. The center road connects east-west to the community's circulation system. A gravel path connects campers to community facilities to the south and Sharpes Point fishing hole to the north (yellow paths above).



Playground

135

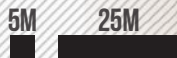
Single Campsites

Single Campsites

Double Campsites



CAMPGROUND PLANTING PLAN



Playground

Roadway

Single Campsites



Symbol

Plant Name



Deciduous trees [*Black Ash, Trembling Aspen*]



Coniferous Trees [*Black Spruce, White Spruce, Jack Pine, Balsam Fir*]



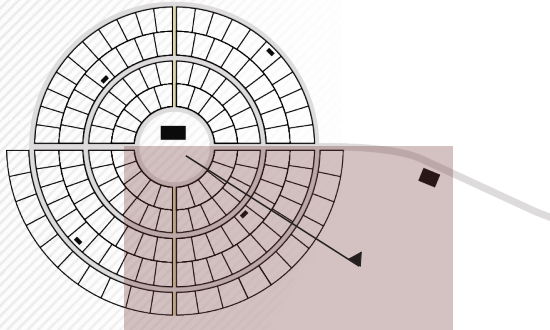
Understory Shrubs [*Bush Black Currant, American Yew, and Common Snowberry*]



Kentucky Bluegrass



Existing Trees



Trees and shrubs are planted between campsites to create visual barriers. In contrast to landscape regeneration in other areas in Powerview-Pine Falls, predominately deciduous trees are planted to provide a higher canopy for campers. Black ash and trembling aspen, species naturally found in the boreal forest, are the main trees planted. A few coniferous trees are also planted along the outskirts of the campground. Companion shrub species are planted in the understory to make the visual barrier more dense.

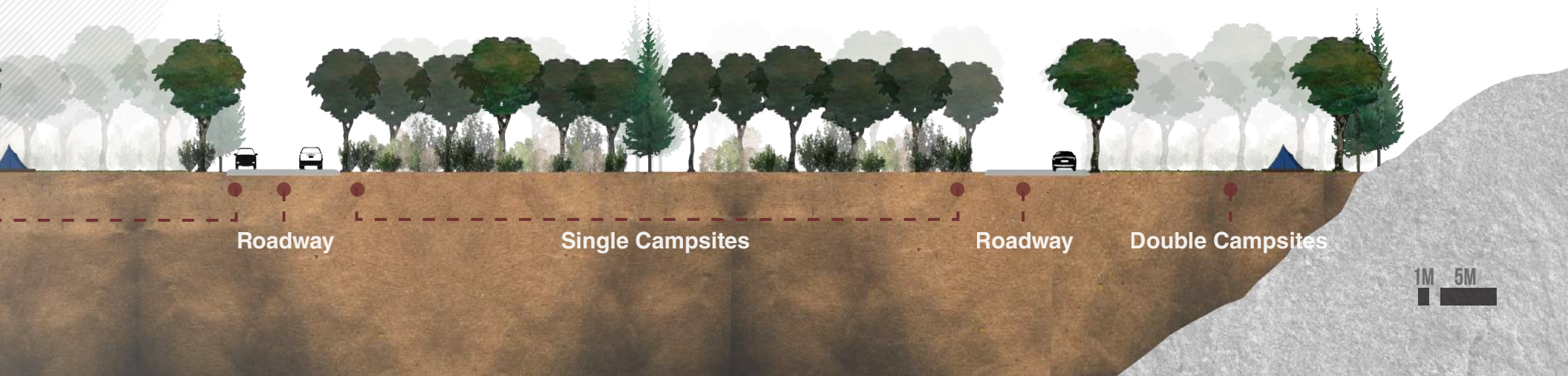
Plant list includes:

TREE SPECIES:

- Balsam fir
- Black ash
- Black spruce
- Jack pine
- Trembling aspen
- White spruce

UNDERSTORY SHRUBS:


- Alder-leaved buckthorn
- American yew
- Bush honeysuckle
- Common snowberry
- Wild black currant





EXISTING TOWN CONTEXT

Legend:

-  Replanted Meadow Areas
-  Replanted Shrub Areas
-  Regenerated Areas
-  Primary Trails
-  Tertiary Trails
-  Tourism Infrastructure



PROPOSED TOWN CONTEXT



100M 500M

CONCLUSION

CONCLUSION

In this practicum I aimed to better the lives of Powerview-Pine Falls residents by enhancing their outdoor environment. To achieve this goal, I developed three objectives that the design and site analysis addressed:

1. Landscape Regeneration
2. Pedestrian Circulation
3. Tourism Infrastructure (Campground)

Together these pieces create an environment that better the quality of life for residents, enhances the landscape in the community and encourages tourism. The incorporation of landscape regeneration into the design acknowledges the work that the mill's woods department performed, addresses the unemployment issues among community youth, enhances the movement of animal species found in the town, develops the town's visual character and regenerates the landscape. Somewhat ironically this is done in a town whose industry destroyed boreal forest.

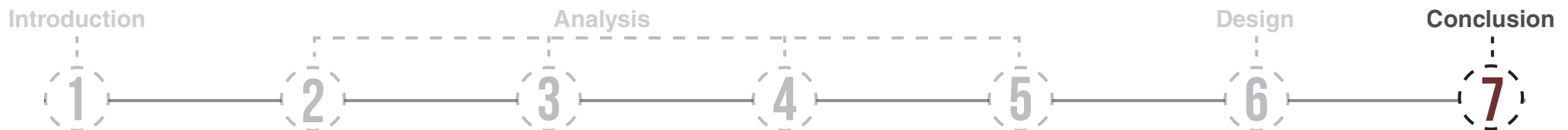
The three-levels of the pedestrian circulation system addresses the issue of poor circulation within the town and connections to surrounding towns. Primary, secondary and tertiary paths are made of different materials and intended for different uses. Each circulation level is important in creating an environment in which different modes of traffic can move around. Intertwining the circulation system with historical and significant spaces permits pedestrians to engage landscapes, and helps develop a relationship to nature less destructive than the community's historical one.

Incorporating tourism infrastructure in the form of a campground allows tourists to occupy the town and interact with permanent residents. The campground is connected to the circulation system's different levels of pathways so tourists can also connect to significant sites, including the boat launch, swimming pool and community stores. This infrastructure will predominately attract boaters and fisherman from spring to fall. Future tourism infrastructure is recommended to accommodate tourists during the winter months.

If needed each objective could be developed in stages. The circulation system and the tourist campground should be designated before landscape regeneration occurs to limit deforestation.

This project has the potential to move the town of Powerview-Pine Falls in a positive direction. The community has struggled for almost a decade now to make ends meet. If something does not happen soon residents will leave and the once vibrant town of Powerview-Pine Falls will no longer be a vibrant place to live. The features of this community that people love and were expressed in interviews, are things that cannot be manufactured: the beautiful boreal forest with bedrock outcrops, mature trees and animal species, the powerful Winnipeg River and picturesque views.

I have had the pleasure of spending a significant amount of time in this community, learning, participating and enjoying myself. I hope that this work inspires residents to move forward with improving their community.



BEDROCK ALONG PARISAN'S POINT



JACK PINE FOREST INSIDE COMMUNITY



ENGELMANN'S IVY ALONG MILL SITE FENCE



VIEW FROM BOAT LAUNCH IN WINTER



DUCK LOOP SKI TRAILS IN SPRING



SNOWMOBILE TRAIL IN SPRING



Introduction (pp. i-xi):

Bayly, G., 2002. *The first years: a Pine Falls history*. Pine Falls: Self published.

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Pg. 98 (middle image) Powerview-Pine Falls, 2016. *2016 Town appreciation bbq*. [image online] Available at: <<https://www.facebook.com/powerview.pinefalls/photos/a.955310554598337.1073741843.639534592842603/955311584598234/?type=3&theater>> [Accessed 31 May 2017].

Design Image Citations (98-138):

Pg. 126 (bottom middle image) Phillips Redstone, J., n.d. *IMG_6900 geese flying into sunset over Manitou rapids 2*. [photograph] (Personal Communication, 2 January 2017).

Pg. 126 (bottom right image) Phillips, Redstone, J., n.d. *Northern lights over hydro dam*. [photograph] (Personal Communication, 2 January 2017).