

The Second Regreening:
Mitigating Urban Sprawl in the South End of Sudbury Beginning with the Regeneration of the
Southridge Mall

by

Darius Ghorbani

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Architecture (M.Arch)

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Figure 1
Shh He's Sleeping

Frontispiece

Art as a protest of the Dalron development of new single-detached homes into the site. Two of my friends and I picked wildflowers from the site, brought them to the newly cleared land, and gently placed the flowers and our naked bodies inside the bucket. This piece speaks to the vulnerability of this cherished landscape and our vulnerability as human beings within a large machine pumping out new neighbourhoods prematurely.

Abstract

The thesis aims to reevaluate the sprawling development pattern that has plagued Sudbury, Ontario. Contrasting city-led regreening initiatives with poorly thought out and executed development, the project asks what would happen if development mutually supported both the environment and the community in the South End of Sudbury. Taking cues from New Urbanists, local environmentalists, and historians, the project will reinstate culturally significant architecture and introduce walkable urban infrastructure that prioritizes active modes of transportation. Building upon existing trail networks and considering the ecology of the commercial center of the South End, known as the "Four Corners," a new village center will regenerate the underutilized space.

Keywords:

Transit Oriented Development

Active Transportation

Culturally Significant

Preservation

Health and Wellness

Regeneration

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To my friends and family, thank you for offering some respite from the thesis. Maybe too much “respite”?

I dedicate this thesis to my best friend, Rocco. Rocco, your dedication and appreciation for the hydrology of Sudbury forever inspire. Our time spent wandering the trails of the Five Lakes Area has been such a blast, and it is for you and all the other best friends that I began this project to protect vulnerable and cherished landscapes.

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Preface

Like many, I had begun thinking about the topic for my thesis for many years before setting out to do the thing. Much of my time pondering what is worthy of a whole architectural thesis was spent in the trails behind my mother's house in the Moonglo neighbourhood in the South End of Sudbury. I would wander with my dog, my best friend Rocco, and thought of how architecture could adequately address this landscape I so enjoy.

However, it was not until returning from our class trip to Chicago in my fourth year and running back to the trails only to find them destroyed that I realized how important of an issue this was. I was devastated when I discovered my cherished path clear-cut. I used to find immediate satisfaction upon entering the bush and following along the birch trees. Now when I enter, I am reminded of how limited my time is with this landscape and how fortunate I am to have the opportunity through a self-directed master's thesis to provide an alternative to how we develop in Sudbury.



Figure 2
The Destruction of a Sanctuary

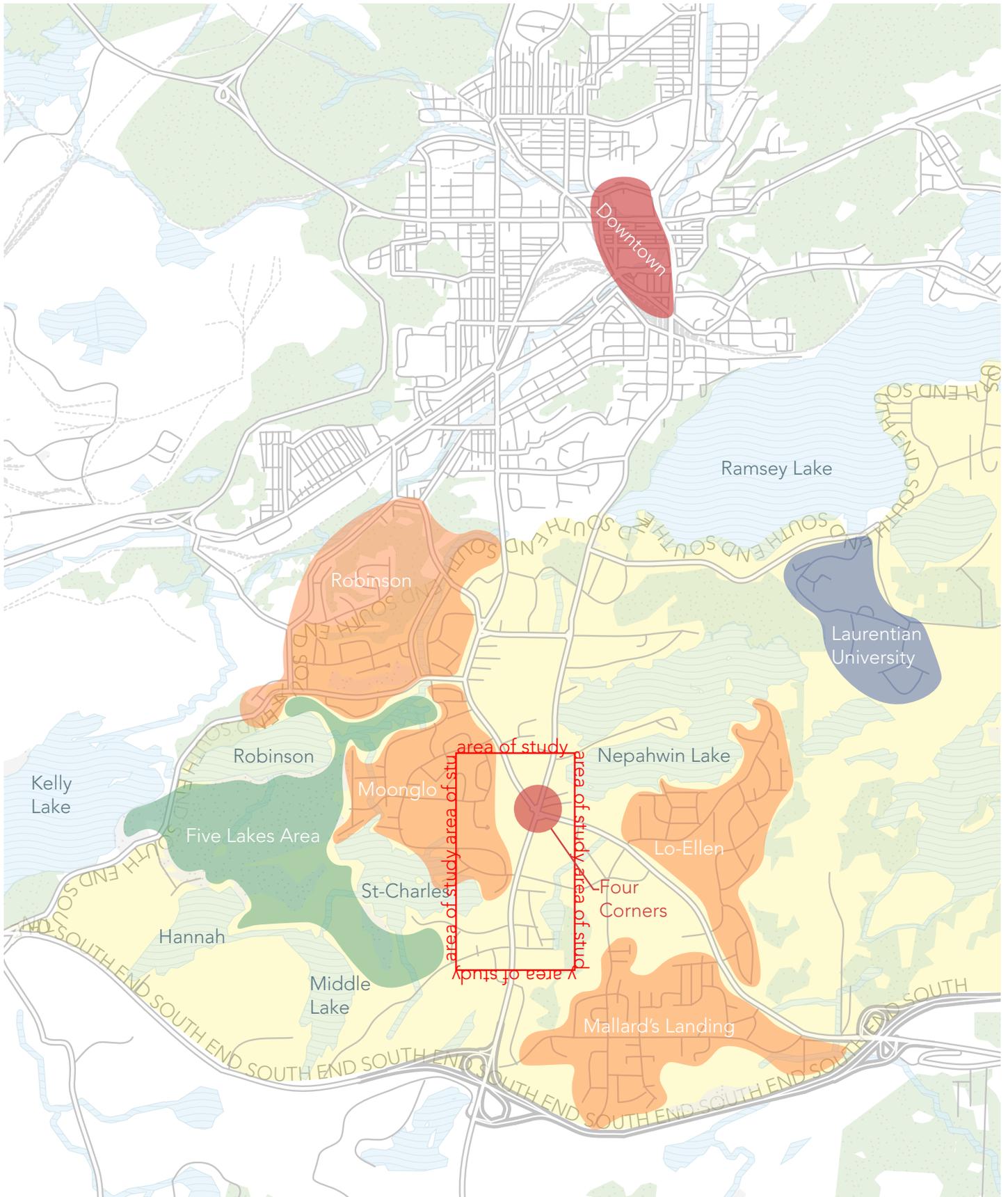
Introduction

Figure 3
Sudbury Context Map

The “Five Lakes Area” is a parcel of land, roughly 2 km², that exists in the periphery of the South End of Sudbury and contains many important wetlands. The area is a locus for neighboring residents and citizens at large to come partake in outdoor recreational activities that occur year-round. The ecological preservation of this land is of great importance when considering the City of Greater Sudbury’s Community Energy and Emissions Plan (CEEP) that promises a Net Zero Sudbury by the year 2050.¹ This important ambition and the recreational usage of the site is currently threatened by the expansion of the Moonglo neighborhood for the development of single-family detached homes. This is causing a premature subdivision that will stunt the potential to adaptively grow within our communities and instead encourage the unsustainable sprawling development paradigm.² To protect this cherished and vulnerable landscape, a holistic approach to understanding the past and current state of housing, services, and workplaces in the South End must be undertaken.³

Typically, regional plans in North America have been developed as nodular communities relying upon the car for connection.⁴ Sudbury has also had a nodular development history; it differs from typical regional nodular developments because instead of expanding under the decentralizing forces of modern business, much of the city was developed around mining sites selected for access to extract local natural resources. The South End, however, had very few natural resources and was developed after the mines were long established.⁵ New urbanist scholar, June Williamson, describes six successive historical shifts that have influenced how we dominate the landscape today: the pastoral paradigm of the nineteenth century, the transit-served rise of streetcar suburbs, the visionary schemes and experiments of the early twentieth century, the establishment of

1. Monet, Babin-Fenske, and Shivshankaran, “Greater Sudbury Community Energy and Emissions Plan.”
2. Williamson and Dunham-Jones, *Designing Suburban Futures*.
Lukez, *Suburban Transformations*.
3. Calthorpe, *The next American Metropolis*. P.118
4. Saarinen, *From Meteorite Impact to Constellation City*.
5. Williamson and Dunham-Jones, *Designing Suburban Futures*.



the mechanisms and protocols for building and selling the dream, the cul-de-sac paradigm of the post-World War II boom, and finally the environmental ravages of the late twentieth-century paradigm of sprawl.⁶ While all of Sudbury has experienced permutations of each of the six paradigms, the South End has had the greatest influence from three paradigms: pastoral, cul-de-sacs, and sprawl.

In 1905, the first major land acquisition occurred in the westerly portion of the South End when George Bouchard bought 259 hectares of land to make a dairy farm.⁷ Following WWI, three other major landowners surrounding Nepahwin (the Finnish word for trout) Lake decided to parcel off their land to create subdivisions.⁸ The local Finnish community, who had a strong presence in the Greater Sudbury area since 1880, decided to purchase the majority of the land and establish a pastoral community surrounding the lake. Following the pastoral paradigm, the Finnish people were in search of an exurban lifestyle that differed from that of the Donovan and Downtown areas of Sudbury, where they had previously established themselves. Along Nepahwin Lake, the Finns were able to peacefully practice their sacred Sauna traditions with likeminded families, eventually developing very successful cultural and recreational centers, a Finnish Newspaper, an elementary school, and local shops.⁹ Notably, the Finns here were locally renowned for having the capacity to bike or cross-country ski to Copper Cliff and back, meaning that there was active transportation infrastructure connecting the townships at that time.¹⁰

The cul-de-sac paradigm of the post-World-War II boom is when the majority of the small square mining houses were built out from around downtown Sudbury in a quick and easy manufacturing process that would be the defining characteristic of this time.¹¹ This era lasted from 1944 to 1965, during which time the South End was still primarily occupied by Finnish settlements, nonetheless, this building typology would later dominate the area. Once the Bouchard family (now Michel family) decided to parcel off their land to developers and aspiring homeowners in 1968, the South End became the expanded metropolitan landscape upon which the five components of urban sprawl, as defined by new urbanists Andrés Duany, Elizabeth Plater-Zyberk, and Jeff Speck in their book *Suburban Nation*, would come to arrange themselves haphazardly along car-based infrastructure. These five components can all be seen in the South End, and are

6. Ibid.

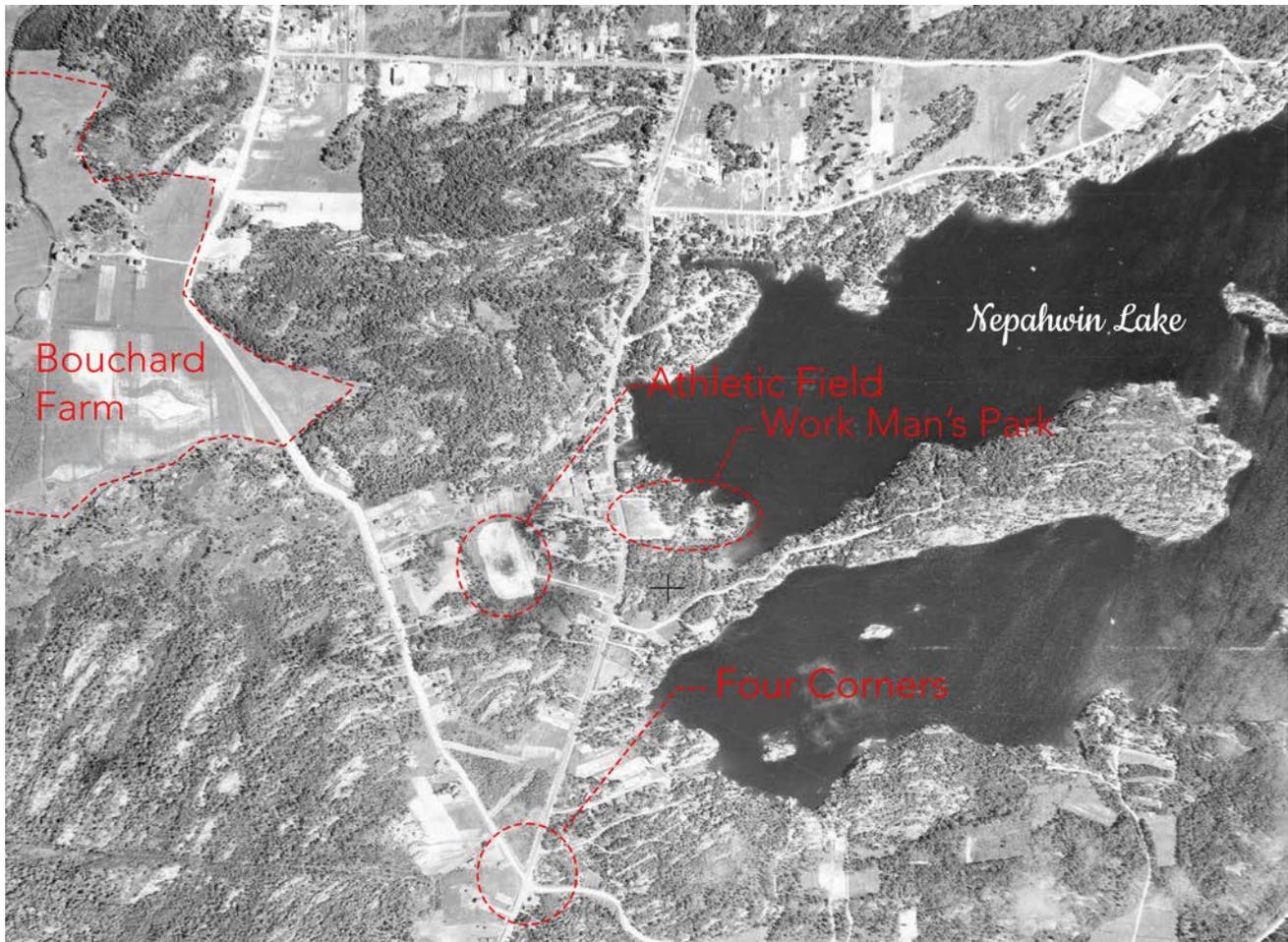
7. Saarinen, *From Meteorite Impact to Constellation City*.

8. Saarinen, *Between a Rock and a Hard Place*.

9. Williamson and Dunham-Jones, *Designing Suburban Futures*; Saarinen, *Between a Rock and a Hard Place*.

10. Saarinen, *Between a Rock and a Hard Place*.

11. Williamson and Dunham-Jones, *Designing Suburban Futures*; Saarinen, *Between a Rock and a Hard Place*.



housing subdivisions; malls, strip centers, and big box stores; office "parks"; civic institutions such as libraries, churches, and schools on isolated campuses; all supported by roadways.¹² The urban sprawl that ensued drove the tax rates and property values to a point where the working class Finnish people who had settled this area for over half a century were forced to sell their properties to local developers. Unfortunately resulting in the undoing of many of the locally significant cultural centers, athletic fields, public saunas, and methods for active transportation.¹³

Considering these developments, this thesis asks how we can develop a strategy to reinstate culturally significant architecture and introduce walkable urban infrastructure that prioritizes active modes of transportation. In his book *The Next American Metropolis*, Peter Calthorpe writes that "The guiding principles of retail are

Figure 4

1946 - South End of Sudbury
Satellite Image

12. Williamson and Dunham-Jones, *Designing Suburban Futures*.

13. Saarinen, *Between a Rock and a Hard Place*.

14. Calthorpe, *The next American Metropolis*. 23-24



Figure 5

Present Day - South End of Sudbury
Satellite Image with Project Context

14. Calthorpe, *The next American Metropolis*. 23-24

value and convenience. Value leads to ever larger and more remote distribution centers. Convenience has come to simply mean larger parking lots.”¹⁴ This cannot be more evident in the development pattern and the resulting infrastructure present in the South end of Sudbury today. While the “Four Corners” area in the South End presents itself as a central hub where two arterial roads bisect each other, the reality is an abundance of parking lots with two busy streets fragmenting any means of transportation other than the car. Currently, the most pedestrian friendly infrastructure in the South End are the green corridors that exist in the undeveloped spaces in the interstitial between neighborhoods, box stores, and office parks, such as the Five Lakes area. Underutilized as they may be, these formal and informal trails offer respite from the fragmented and exposed sidewalk system that often abandons pedestrians at parking lots or on the shoulder of roads. These drop off locations

may or may not be connected to a bus route that will most likely drop users off at a location where they will once again have to pass through parking to reach their destination.

To support efficient transit, we require a layered circulation framework where arterial roads allow for cars and public transportation to work simultaneously, with pockets of intensified stations that are pedestrian oriented and filled with mixed use development. Neighborhoods need walkable streets that don't lead to bustling arterial roads, but that lead directly to services and amenities.¹⁵ As Calthorpe argues, we need to reorganize our hierarchy of prioritized transportation and put pedestrians first. Transit Oriented Development (TOD) should develop without transit, meaning they should be pedestrian oriented and leaving nobody stranded.¹⁶ The CEEP, published in 2018, highlights the city's commitment to architectural and infrastructural strategies that will achieve ambitious carbon neutrality goals, however, projects that were planned over 30 years ago continue to be developed without question.¹⁷ Discontinuing these practices and recognizing the biases of the past paradigms that have influenced our current predicament is our best strategy to develop a community that is viable for everyone.

Restitching the South End is possible by identifying potential sites for TOD, such as the Southridge Mall, an underutilized dead mall that can become a centralized hub for the area, allowing for enhanced connectivity to the local landscape and the city at large. Through rigorous mapping, one can begin to recognize the potential in transforming all the dead spaces in the "Four Corners" to piece together the fragmented fabric of the area into an optimized, complete, and compact community. Learning from the successes and hurdles faced by mixed-use development projects such as the Downtown Kendal/Dadeland in Florida and the Belmar Project - Lakewood's New Downtown in Colorado, an informed proposal for redevelopment can begin.¹⁸

Transforming the site will begin by conserving and connecting the existing trail networks surrounding the Four Corners and converging them towards the mall.¹⁹ Respecting the natural processes that have left the Sudbury landscape rich in water and topography, the gabion baskets that isolate the mall from the Four Corners and support the northern parking lots will be removed to reveal the

15. Calthorpe, *The next American Metropolis*. 23-24

16. Ibid.

17. Monet, Babin-Fenske, and Shivshankaran, "Greater Sudbury Community Energy and Emissions Plan."; Long Range Planning Section and Department of Planning & Development, "Local Area Development Plan - The South End."

18. Dunham-Jones, *Retrofitting Suburbia*.

19. Beckett and Ghorbani, Communication with Petter Beckett.



Figure 6

Five Lakes Area Trail & Activity Map

20. Saarinen, *From Meteorite Impact to Constellation City*.

Southern Ridge that was buried.²⁰ Upon this resurrected landscape, lodging for students and seniors will be constructed to address the large aging population of the South End and the lack of student housing near Laurentian University. At the same time, mixed-use development organized around the present natural amenities will introduce restaurants and local shops that mutually support the active lifestyle enjoyed in the Five Lakes Area. Parking on the site will be consolidated and situated along the periphery of the site. All facilities will be connected to the new development through pedestrian paths, making the newly regenerated Southridge Mall a centralized destination for those participating in modes of active transportation. The resulting design will be sophisticated in its urban potential to transform the South End's currently misspent infrastructure and architecture while enhancing and protecting its greatest asset: the interconnectivity of the natural landscape.



Figure 7

Photos of the Five Lakes Area



Figure 8

The Son Before the Father

The Son Before the Father is a perennial flower among the first to bloom when the snow thaws in the spring. It gets its name due to the blooms that appear before any leaves sprout.

Laying low to the ground, I wanted to capture the flower as though it were larger than it is. The rocks the flowers nest in are actually just gravel. I tried to bring significance to a flower that could easily be mistaken for dandelions and celebrate its warty yellow uniqueness!

Geological Story of the Area

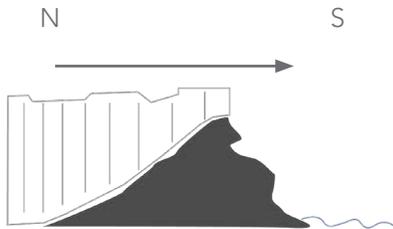


Figure 9

Diagram of Glacial Erosion

21. Saarinen, *From Meteorite Impact to Constellation City*.

22. *Ibid.*

When the Last Great Ice Age began 2 million years ago, so too commenced the most recognizable changes to Sudbury's physical appearance. Advancing and retreating ice sheets razed and smoothed the topography. When the last ice sheet melted about ten thousand years ago, it left behind rock deposits and formed lakes. Prior to these changes, a meteorite impact known as the Sudbury Event formed what is now known as the Sudbury Igneous Complex 1850 Ma ago. 15 000 square kilometers of land bear the scars of the fourth oldest and third largest meteorite impact on earth. The impact deposited nickel & copper ore deep into the earth. In an exceptionally rare occurrence, Sudbury was struck by a second smaller meteorite 37 Ma ago which formed Lake Wanapitei.²¹

The water systems in the South End of Sudbury are the result of Glacial Lake Algonquin that stretched from the north rim of the Sudbury Igneous Complex, all the way down south to Chicago. Lake Algonquin was the precursor to the Great Lakes. (See Figure 10) Due to the south bound advancement of the glacial ice sheet, Sudbury's rocks were eroded in that direction. (See Figure 9) Therefore, when the ice sheet melted, the rocks continued to flow water towards the south. All of Sudbury's watersheds are sub-watersheds of the Georgian Bay watershed and flow southward to meet Lake Huron. (See Figure 11) Geological events that began 2 million years ago have influenced how water moves through the South End of Sudbury to this day and should be respected. The water quality of the lakes and streams in the South End of Sudbury may seem of no consequence, however, these watersheds have a trickle-down effect on a much larger ecosystem.²²

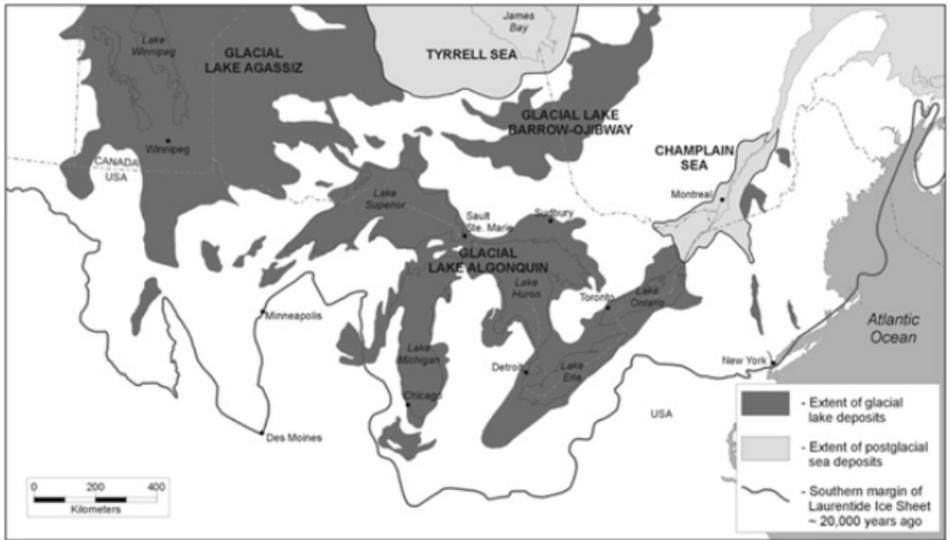


Figure 10
 Extent of the Laurentide Ice Sheet and Postglacial Lakes. From J.T. Teller



Figure 11
 Map of Sudbury Watershed Systems

Figure 12
1884 - McKim Patent Map

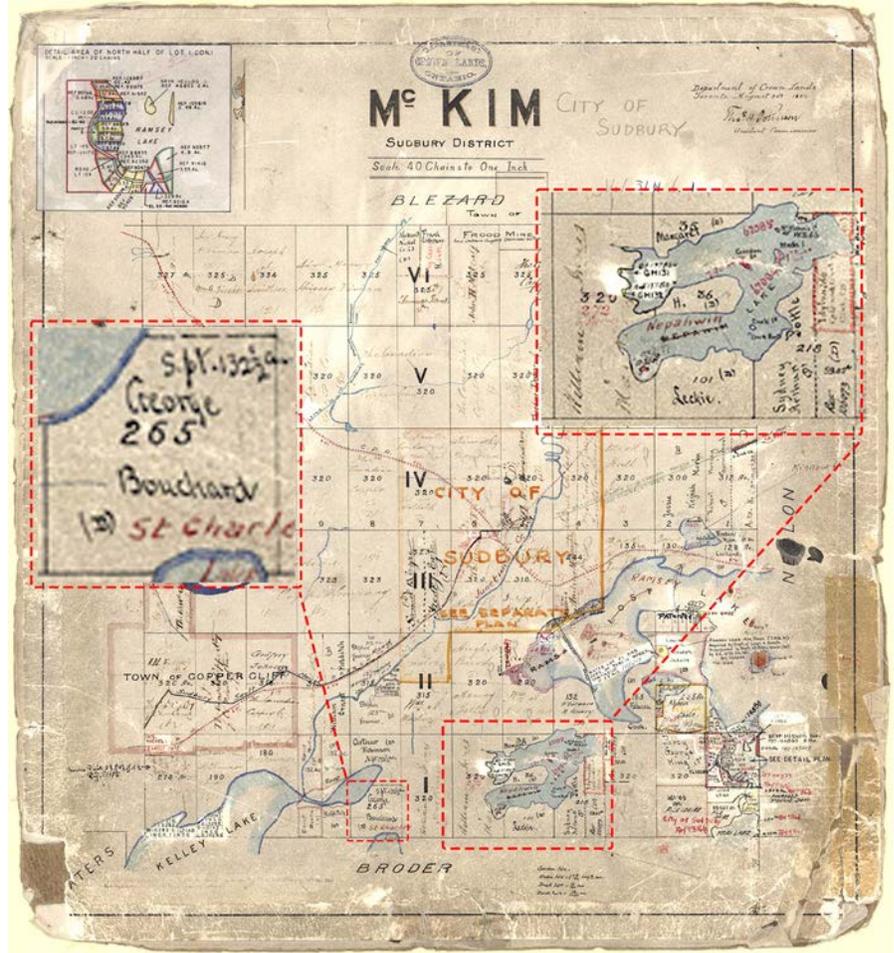
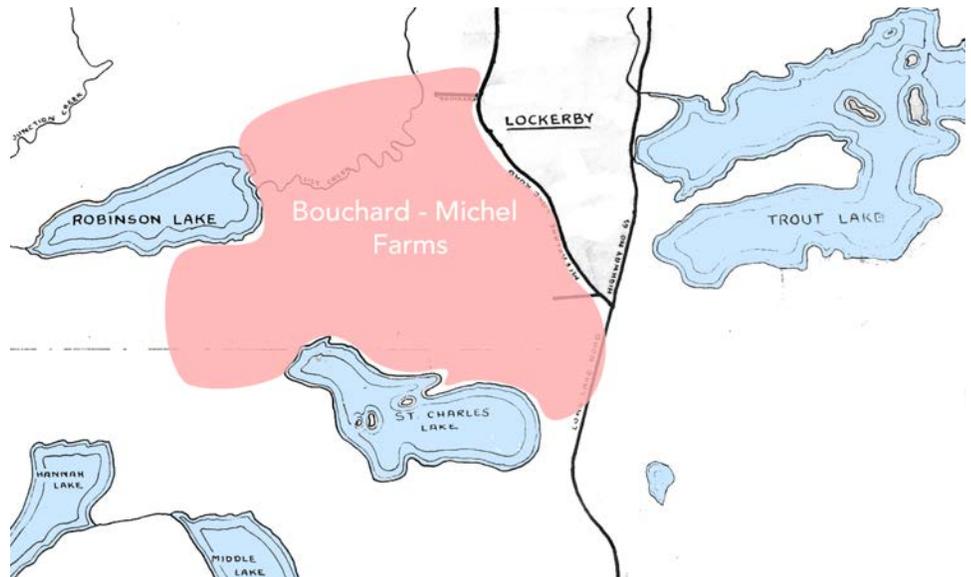


Figure 13
1905 - George Bouchard Farm Context Map



Initial Land Acquisitions

What is currently known as the City of Sudbury resides inside the McKim Township. In the 1800s, the government superimposed a tapestry of perfectly square land parcels onto the Ontario landscape. The intention was to simplify and rationalize the vast unknown landscape. The McKim township is one of those squares that happens to contain early downtown Sudbury as well as the South End.²³ The township was subdivided into rectangular plots of land that were sold mainly to aspiring farmers.²⁴ Notably the patent map in figure 12 shows the first land acquisitions that played a major role in the development of the South end.²⁵ George Bouchard bought land south of Robinson Lake and William Turcotte, the Leckie Family, and Florence MacLeod bought land surrounding Nepahwin lake.²⁶ Due to the rectangular grid that was superimposed on the landscape indiscriminately, natural features such as lakes and streams would reduce the acreage of land within that rectangle. Future developments would be based off this grid, influencing a development pattern that does not consider the landscape.

George Bouchard and his family bought over 300 hectares of land to start a farm in 1905.²⁷ (See Figure 13) Bouchard was struck by the tall and successful pine forest that was growing in the area and purchased the land knowing the soil would be a fertile host for farming. He promptly logged most of the tall pine trees to clear the land and sent the trees to the copper cliff roasting beds where they would burn off the sulfur on the extracted ore. Ironically the trees he sent over fueled the toxic smoke that would burn his crops, causing the Bouchard farm to invest in cattle to sell pasteurized milk.²⁸ Their development was among the first to begin changing this largely untouched landscape. As the population of Sudbury grew, more service roads were necessary for the Bouchard's to deliver their milk, thus laying the foundations of the existing infrastructure we see today.²⁹ (See Figure 15)

23. Haynes, Communication with Paul Haynes.

24. Saarinen, *From Meteorite Impact to Constellation City*; Haynes, Communication with Paul Haynes.

25. Haynes, Communication with Paul Haynes.

26. Saarinen, *From Meteorite Impact to Constellation City*.

27. Saarinen, *Between a Rock and a Hard Place*.

28. Michel and Ghorbani, *Interview with Arnel Michel*.

29. Saarinen, *From Meteorite Impact to Constellation City*; Saarinen, *Between a Rock and a Hard Place*.

Finnish Settlement



Figure 14

1925 - The Sudbury Star Article
"Game Sanctuary to Surround
Sudbury"

30. Haynes, Communication with Paul Haynes.

31. Saarinen, *Between a Rock and a Hard Place*.

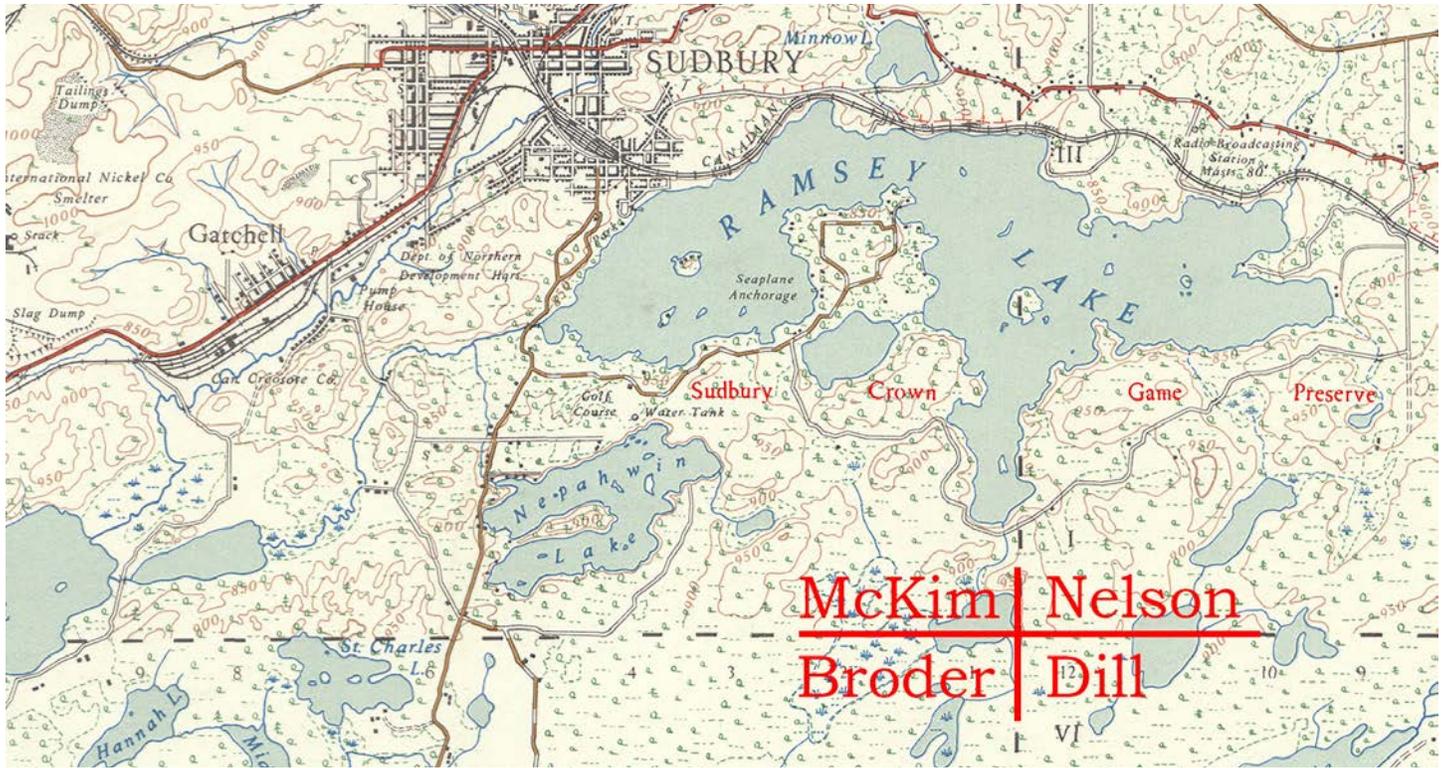
32. Williamson and Dunham-Jones, *Designing Suburban Futures*.

33. Saarinen, *Between a Rock and a Hard Place*.

34. Ibid.

While the Bouchard farm occupied the westerly portion of the South End, in 1925 a hunting game sanctuary was established as a coalition between four townships McKim, Border, Nelson and Dill as shown in figure 15. This suggests that there was very little human development in the area at the time, however, people still largely relied on hunting as a main food source so the protection of this land for game was pragmatic.³⁰ (See Figure 14) After WWI, the three major landowners surrounding Nepahwin Lake decided to sell off their land to create a subdivision.³¹ The local Finnish community, who had a strong presence in the Greater Sudbury area since 1880, decided to purchase the majority of the land and establish a pastoral community surrounding the lake. Following the pastoral paradigm, the Finnish people were in search of an exurban lifestyle that differed from that of the Donovan and Downtown areas of Sudbury, where they had previously established themselves.³² Along Nepahwin Lake, the Finns were able to peacefully practice their sacred Sauna traditions with like-minded families, eventually developing very successful cultural and recreational centers such as Work Man's Park and the adjoining athletic field that housed the Finns summer camps, diving boards, and communal sauna. Also present was a Finnish Newspaper, an elementary school, and local shops.³³ (See Figures 16-18)

Notably, the Finns here were locally renowned for having the capacity to bike or cross-country ski to Copper Cliff and back, meaning that there was active transportation infrastructure connecting the townships at that time.³⁴ Most likely, in the summer, they would bike along the roads; however, in the winter, they could have used the topography, lakes, and roads to mobilize themselves efficiently without the need for snow removal. Figure 15 is a national Defense map from 1938 that highlights the roadways that existed at



that time. These would have been created by the people who lived in the area and only where it was most feasible to travel through the landscape. All the roads in the south end at this time were unpaved, and most were made for carting food from the farms into the town of Sudbury to sell. Path Masters, as they were called at this time, were charged with maintaining the roads, and in the winter, snow removal was very difficult and expensive.³⁵ Seeing as the Finnish community around Nepahwin Lake was relatively poor, it was both necessary and remarkable that they could carve out cross-country ski paths using the landscape to their advantage in the wintertime.

Figure 15

1938 - Dept. of National Defense Map

35. Haynes, Communication with Paul Haynes.

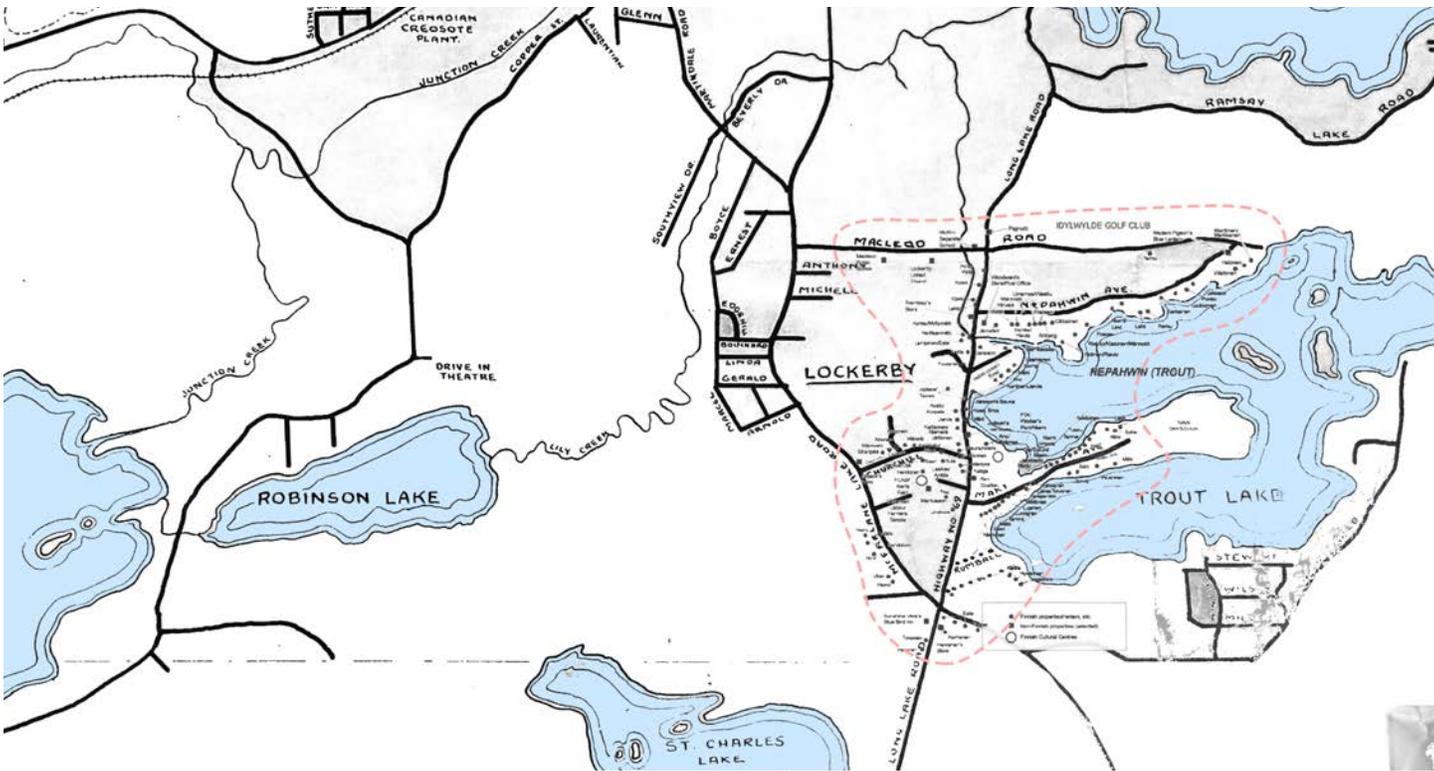


Figure 16

Finnish Settlement Map Around Nepahwin Lake



Figure 17

Photo of Work Man's Park from Nepahwin Lake

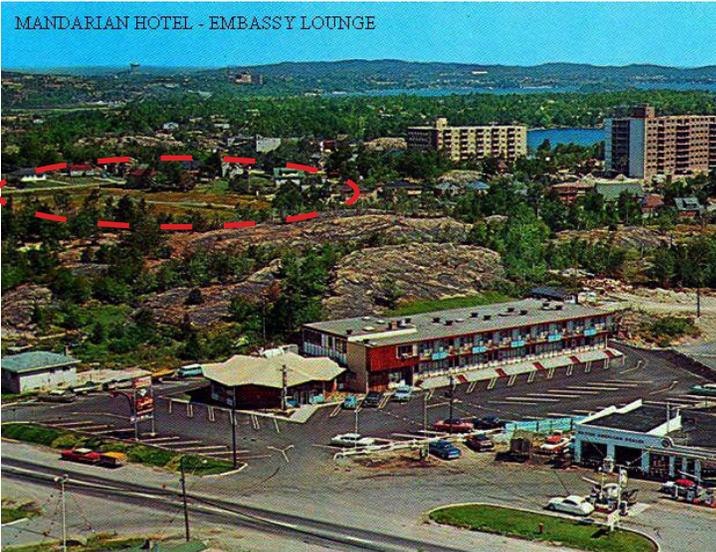


Figure 18

Photo of Mandarin Hotel 1968 showing Athletic Field in the back

Sudbury's South End Development

As the City of Sudbury and the mining industry grew, the South End's proximity to downtown made it more viable for development. In 1968, Arnel Michel and his eight siblings, who had inherited the Bouchard Farm, decided to parcel their farmland to make the Moonglo subdivision. The family blasted the existing rock and prepped the land and came up with the organization of the streets themselves. They then sold individual plots to aspiring homeowners and developers.³⁶ (See Figure 21) Other developers became interested in the area and sought to buy out the Finnish community from around Nepahwin Lake. The Zulich family bought up land around Work Man's Park. A portion of this park remains and has been renamed Nepahwin Park, but it is now shrouded by apartment complexes and strip malls built over the heritage site. Unfortunately, the Finns relocated because the area became too expensive, resulting in the erasure of their culturally significant architecture and active modes of transportation.³⁷

Simultaneously, a century of industrial exploitation of the land had left Sudbury lacking vegetation, causing a Moon-like landscape. In 1972, the local Moonscape drew the attention of U.S. Astronauts to Sudbury to practice Moon landings. (See Figure 19) At that time, the Five lakes Area was barren and was considered for their testing.³⁸ The Astronauts' visit is the reason for the name Moonglo and why all the streets in the subdivision are space-themed such as Nova, Telstar, Jupiter, etc.³⁹ In contrast, an alternative storyline for Sudbury from environmentalists such as Peter Beckett began to form. Regreening efforts introduced techniques to regenerate the barren landscape and opened the possibility for tourism around the many lakes in the area. While Arnel and company were devising a naming scheme that celebrated the astronauts' visit and the barren landscape, the local regreening and tourism groups were trying to rebrand Sudbury as a



Figure 19

Newspaper Clipping of NASA Astronauts Visiting Sudbury

36. Haynes; Michel and Ghorbani, Interview with Arnel Michel; Saarinen, *Between a Rock and a Hard Place*.

37. Saarinen, *Between a Rock and a Hard Place*.

38. Haynes, Communication with Paul Haynes.

39. Michel and Ghorbani, Interview with Arnel Michel.



Figure 20

2021 - Southridge Mall Entrance

40. Haynes, Communication with Paul Haynes; Beckett and Ghorbani, Communication with Petter Beckett.

41. "City of Greater Sudbury Aerial Photo App."

42. Long Range Planning Section and Department of Planning & Development, "Local Area Development Plan - The South End."

43. Ibid. 44

Figure 21

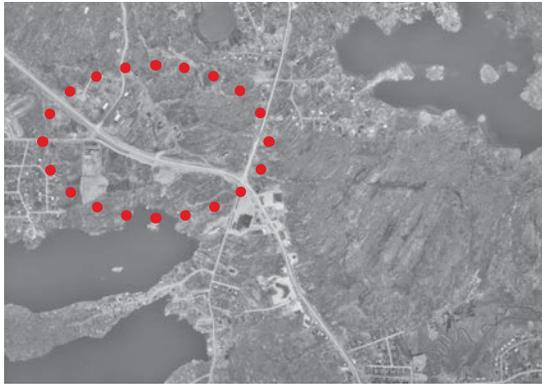
Evolution of Moonglo Expansion

place for regrowth.⁴⁰ This is an example of a common duality found in Sudbury that continues to play out today. Additionally, with the Moonglo neighborhood development underway, ground broke on the Southridge Mall in 1979, and box stores, strip malls, and roads proliferated the Four Corners.⁴¹

In 1995, the first official document pertaining to the planning and vitality of the South End of Sudbury, the "Local Area Development Plan - The South End" was released. This document evaluated all the resources, neighborhoods, schools, transportation methods, commercial potential, and population growth for the South End. Specifically, the Five lakes Area was highlighted as an area of interest, and plans were developed for walking paths to go through the site. In figure 22, Robinson Lake, shown in orange, was identified as being at high risk, and therefore, the preservation of this land was crucial. A land acquisition strategy was developed to turn the area into a conservation and green space with mixed-use and multifamily housing to be lightly integrated into the landscape.⁴² An excerpt from the text regarding the Five Lakes Area reads:

"the creation of a Community Improvement Plan for the area which can address such matters as the preservation of public lands for parks and open space purposes; measures to be taken within the watershed to protect lake water quality; the provision of trails for walking, mountain biking and x-country skiing; the development of privately owned lands in the area and the connection of such areas to public lands; the preservation of view corridors; and urban design and land use considerations."⁴³

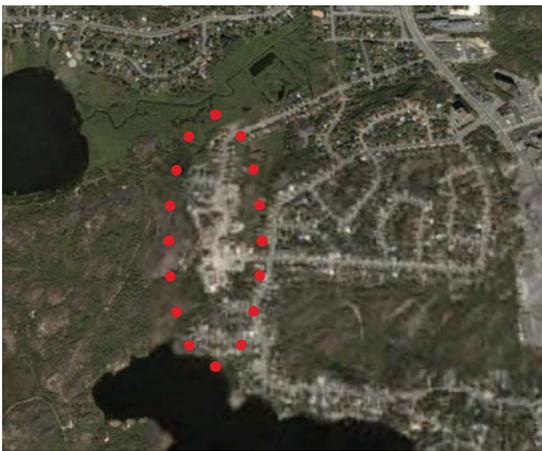
1969



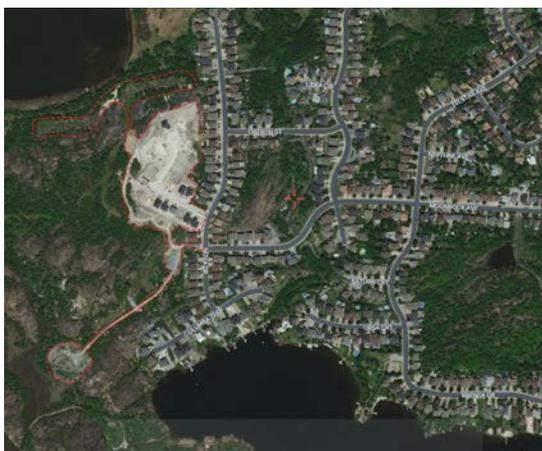
1975



2004



2021



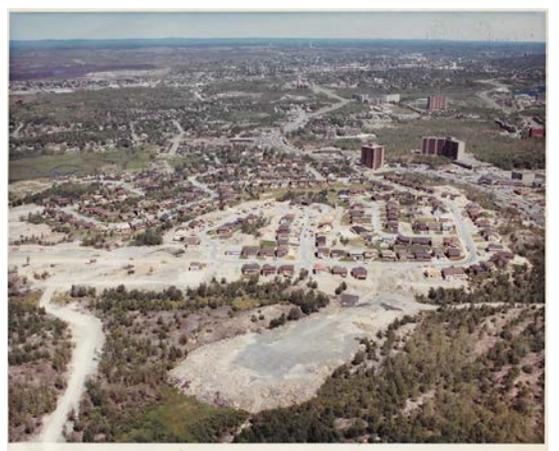
1994



1994



1988



1988



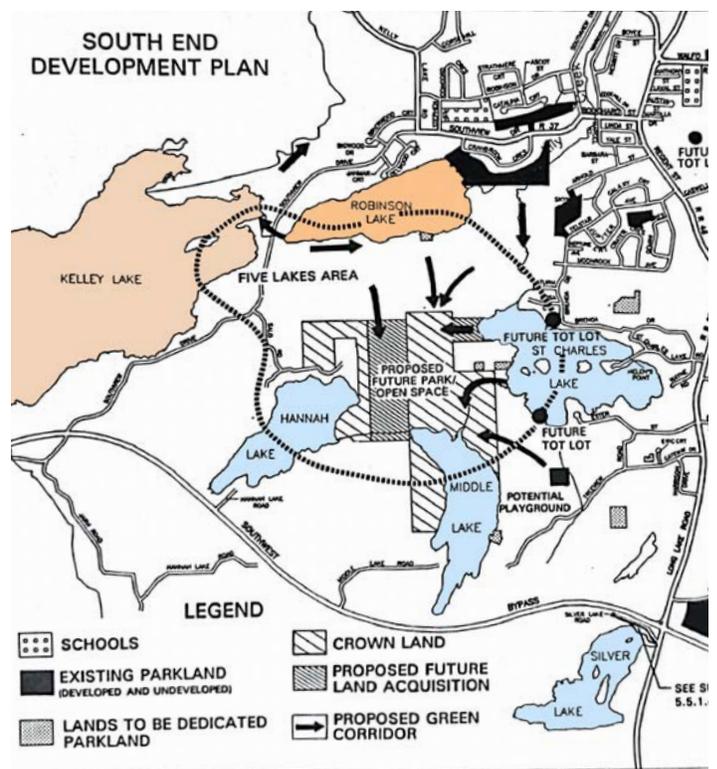
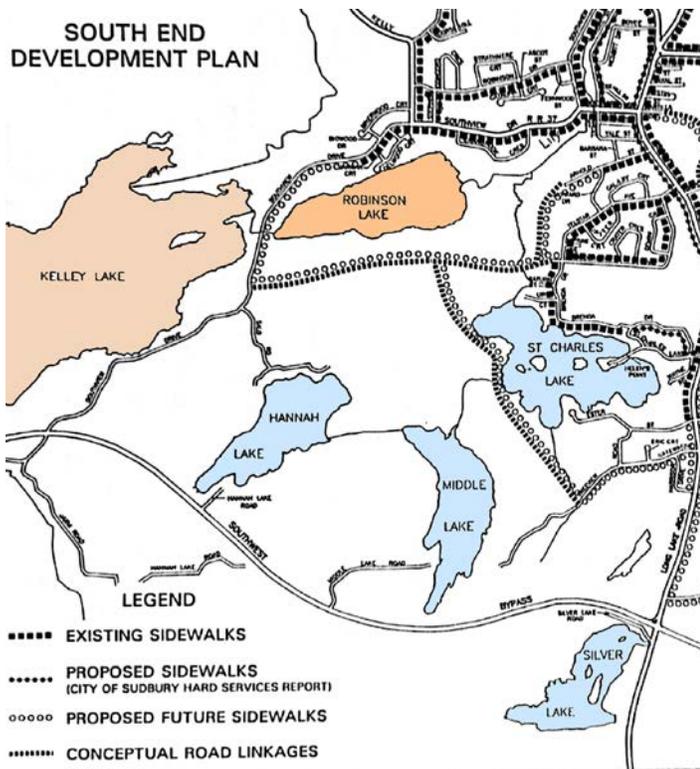


Figure 22

Excerpts from South End Community Profile 1995

44. Michel and Ghorbani, Interview with Arnel Michel.

45. "Councillors Approve Major Moonglo Expansion."

Paradoxically, the city approved a master plan for the Moonglo neighborhood development in 1993 and tells a completely different story. (See Figure 23) Arnel Michel was approved to continue building detached single-family homes right into the Five Lakes Area.⁴⁴ Currently, Dalron (who purchased the land from the Michel's) closely follows this development plan. They are completely disregarding the conservation initiatives that were set out two years later in the 1995 Local Area Development Plan. How come the 1995 plan did not consider the 1993 plan, and why was the 1995 plan scrapped or even created if the city was always going to allow for the Five Lakes area to be developed? Once again, the opposing narratives of profitable, short-sighted development versus regenerative, long-term thinking conflict. Unfortunately, City Council favors ill-advised, southern-based development over researched and phased regeneration.⁴⁵



Most recently, in 2009, the South End got a Walmart Superstore surrounded by other box stores and a small strip mall.⁴⁶ Single-detached housing continues to sprawl out from the Four Corners by way of cul-de-sacs into previous regreening efforts.

Figure 23

1993 - Scan of Moonglo Development Plan

46. Saarinen, *From Meteorite Impact to Constellation City*.



Figure 24

Cover of the CEEP Document

Community Energy and Emissions Plan (CEEP)

In 2019 the Community Energy and Emissions Plan (CEEP) was published by the City of Sudbury. The main objective is a Net Zero Sudbury by the year 2050. The extensive document follows three main concepts: The Reduce-Improve-Switch paradigm (reduce energy use, improve efficiency, and switch to low-carbon energy sources); community energy planning prioritization; and infrastructure, mechanical, and energy systems turnover. These concepts are then applied to 8 strategy sectors with 18 CEEP goals. To achieve a Net Zero Sudbury by 2050, the current emission level, 1.8 MtCO₂e, will have to be reduced by 80%, bringing emissions down to 360 000 tCO₂e by 2050. This will most likely be achieved through renewable energy production (most likely solar), carbon sequestration (preserving and enhancing regreening efforts), and emission reduction efforts.⁴⁷

47. Monet, Babin-Fenske, and Shivshankaran, "Greater Sudbury Community Energy and Emissions Plan."

48. Ibid. 39

"As cities expand outward, they convert agricultural and vacant land to suburban uses. Costs increase for the municipality to provide and maintain infrastructure such as roads, pipes, and emergency services. Residents are more likely to be dependent on cars, driving longer distances, adding stress and time to commutes. Once neighborhoods are built, it is difficult to alter the development pattern, thus locking in transportation patterns, building design, infrastructure, and energy supply for decades to come."⁴⁸

	BASELINE/BAU	80% REDUCTION	CLIMATE EMERGENCY
Retrofit homes	Minimal retrofit instances.	Achieve 50% thermal savings and 30% electrical savings in 80% of existing dwellings by 2050 starting in 2020.	Achieve 50% thermal savings and 50% electrical savings in 100% of existing dwellings by 2040 starting in 2020.
Retrofits commercial buildings	Minimal retrofit instances.	50% thermal savings and 30% electrical savings in 80% of existing buildings by 2050.	50% thermal savings and 50% electrical savings in 100% of existing buildings by 2040.
Recommissioning	Standard recommissioning instances.	Recommission all buildings over 200,000 ft ² and 40% of buildings over 25,000 ft ² every 10 years for 10% energy savings.	
City retrofits	Same as current efficiencies.	100% of City buildings are retrofitted to net zero emissions by 2040.	
Heat pump installations	Current instances of heat pump use are extrapolated.	40% and 30% of homes have air source and geothermal heat pumps, respectively. 75% of space heating and 100% of space cooling is electric in commercial buildings.	70% and 30% of homes have air source and geothermal heat pumps, respectively. 75% of space heating and 100% of space cooling is electric in commercial buildings.

	BASELINE/BAU	80% REDUCTION	CLIMATE EMERGENCY
DEMOGRAPHICS			
Population (people)	176,435 (2016) – 184,000 (2050)	Projections held constant	
Employment (jobs)	87,714 (2016) – 98,080 (2050)	Projections held constant	
COMPACT, COMPLETE COMMUNITIES			
Spatial distribution	Continue current development patterns.	80% of new development is in urban centres or adjacent to existing or new transit services, starting in 2025.	
Dwelling size	Same as baseline sizes.	Average home size decreases 20% due to more multi-family buildings.	
Building type mix	Same as baseline building mixes.	The share of new homes that is single-family decreases to 10%.	
EFFICIENT BUILDINGS			
Efficient new homes	New homes are 5% more efficient every 5 years.	+15% more efficient every 5 years starting in 2020.	Passive House Standard efficient starting in 2030.
Efficient new commercial buildings	New construction is 5% more efficient every 5 years.	+15% more efficient every 5 years starting in 2020.	Passive House Standard efficient starting in 2030.

Figure 25

2019 - Excerpts of Goals from CEEP

The CEEP highlights passive house strategies, promises of walkability for everyone in the city through increased public and active transportation infrastructure, the protection of re-greening efforts for carbon sequestration, and infill development and multiuse zoning to create compact and complete communities. The document also understands that land-use policy is a cost-efficient energy and emissions action that the municipality can control.⁴⁹

“Unlike retrofitting buildings or creating new energy systems, directing new development to create complete, compact neighborhoods is very low cost. Well-considered land-use policy also achieves many objectives simultaneously. Infill and compact, complete developments provide greater support for transit services. They also allow more trips to be made through active transportation, as places of work, play, schools, and services are close by. Smaller homes and homes that share walls are much more energy efficient, which reduces energy bills. All these elements have impacts on energy use and emissions production. It makes sense to upgrade existing communities where possible and ensure new communities are complete. Land-use is a critical area of focus for energy efficiency and emissions reduction. It is a low-cost effort to ensure decades of low-carbon infrastructure is in place.”⁵⁰

49. Ibid.

50. Ibid. 39

The goals and action plans found in the CEEP are all necessary steps for prioritizing sustainable practices in the city. However, there is no mention of direct interventions or sites of remediation in the entire document. This document could easily apply to any city in any country. For this reason, projects like the Moonglo development are allowed to continue because the CEEP does not address any of the fundamental issues happening in the City of Sudbury. It is simply an outline of how the city could potentially achieve a Net Zero Sudbury but does not consider the multitude of forces at play. Without reinforcement by City Council, projects in the city will not adhere to these standards, and this document will go unnoticed and unfollowed.

	BASELINE/BAU	80% REDUCTION	CLIMATE EMERGENCY
LOW-CARBON TRANSPORTATION			
Expand transit	Follows the Transit Action Plan.	10-minute frequency on high-demand routes, 20-minute frequency on medium demand routes, 7 days/week service. Transit mode share increases to 25%.	
Electrify transit	Current fuel mix held constant.	100% new vehicles electric and right-sized fleet by 2040.	100% new vehicles electric and right-sized fleet by 2035.
Cycling & walking infrastructure	Current mode shares held constant.	20% of trips are walking (<2km) and cycling (<5km).	35% of trips are walking (<2km) and cycling (<5km).
Electrify city fleets	None.	100% electric by 2035.	100% electric by 2035.
Electrify personal vehicles	3% of personal vehicles are EVs by 2040.	100% of all new sales are EVs by 2035.	100% of all new sales are EVs by 2030.
Electrify commercial vehicles	Current mix held constant.	Scales up to 100% electric of all new sales by 2030.	Scales up to 100% electric of all new sales by 2030.
INDUSTRIAL EFFICIENCY			
Electrify mining vehicles	Scales up to 100% electric of all new sales by 2040.	Scales up to 100% electric of all new sales by 2030.	Scales up to 100% electric of all new sales by 2030.
Industry processes efficiency	No change.	Decrease industrial process emissions by 50% by 2040.	
	Continue	Include suggested initiatives (e.g.	Include suggested initiatives (e.g.

	BASELINE/BAU	80% REDUCTION	CLIMATE EMERGENCY
LOCAL CLEAN ENERGY GENERATION			
Ground mount solar	Current instances held constant.	+10 MW per year.	+20 MW per year.
Solar PV - net metering	Current instances of solar PV use held constant.	90% of new buildings and 50% of existing buildings have solar PV installed, supplying 50% of their electric load.	90% of new buildings and 80% of existing buildings have solar PV installed, supplying 50% of their electric load.
District energy	Current systems held constant.	Expand DE systems in the downtown core where building density thresholds are met to a 23MW capacity.	
Energy storage	None	Scale up to 50 MW by 2050 in decentralized storage.	
LOW-CARBON ENERGY PROCUREMENT			
RNG Procurement	None.	None.	Replace 75% of the remaining natural gas with RNG.
Electricity Procurement	None.	None.	Replace 100% of the remaining grid electricity with green electricity.
CARBON SEQUESTRATION			
Increase forest cover	Consistent with current reforestation efforts.	Consistent with current reforestation efforts.	Increase reforestation and afforestation efforts to quadruple carbon sequestration rates by 2050.

Figure 26

2019 - Excerpts of Goals from CEEP



Figure 27

Swan

This is my first piece directly inspired by my time spent in the trails. I found the stick while hiking with Rocco one day and thought immediately of the long, graceful necks of the local swans in flight. I took the stick home and began painting; however, it took me months to realize the artwork.

This is one of my favourite paintings I have done and has received a lot of positive feedback, which inspired me to continue creating with found objects in the trail. The colours on the swan are all so delicate and made up of watercolour washes of green, yellow, purple, and blue.

This is also the first piece that I shot outdoors. I wanted it to be engaged with the environment that influenced its creation, and I think it enhanced the work's theme.

Read All About it: The Four Corners

A study of the commercial center, known as the Four Corners, was conducted to better understand why the South End continues to sprawl regardless of environmental concerns. The four corners and the mall were built around the sprawl paradigm and have locked in unsustainable land use for many decades to come. A rich history has been developed over into the expanded metropolitan landscape upon which the five components of urban sprawl, as defined by new urbanists Andrés Duany, Elizabeth Plater-Zyberk, and Jeff Speck in their book *Suburban Nation*, would come to arrange themselves haphazardly along the car-based infrastructure. These five components can all be seen in the South End : housing subdivisions; malls, strip centers, big box stores; office “parks”; civic institutions such as libraries, churches, and schools on isolated campuses; all supported by roadways.⁵¹ A newspaper advertisement for the Southridge Mall from 1981 was used to organize extensive mapping into a satirical commentary on the current configuration of the South End.⁵² The existing strengths and weaknesses of the South End were categorized into four different advertisements: circulation, environment, sensory, and typologies. (See AD1 - AD6)

51. Williamson and Dunham-Jones, *Designing Suburban Futures*.

52. “Southridge Mall 2nd Grand Opening!”

53. “GOVA Routes and Schedules”; “Transportation Master Plan.”

AD1-AD2 - Circulation

The current configuration for circulation in the South End exists almost exclusively for the car. Embarking on a trip without one will mean walking through parking or on roads to reach a sidewalk that may or may not be connected to a bus route that will most likely drop you off at a location where you will once again have to pass through parking to reach your destination. Even with a car, circulation can feel congested, unsafe, and it is not a pleasant experience.⁵³

AD3-AD4 – Environment

Due to the severity of the existing topography, the development pattern has left a patchwork of reforested vegetation in between developments. Some formal and informal trails exist in these bushes, while the rest of the Four Corners has very little planted vegetation, and a large swath of land remains cleared of vegetation and unused behind the South Ridge Mall. Water systems surround the Four Corners. However, no direct public or urban connections are being made. A rich landscape continues to be undervalued and misused.

AD7-AD8 – Sensory

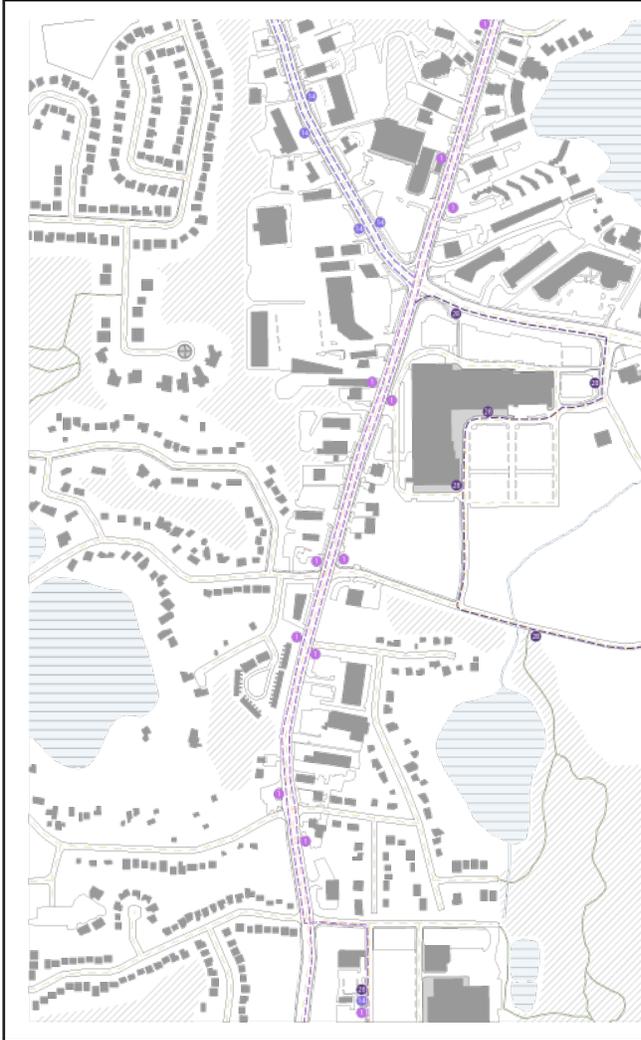
The Four Corners is a bustling hub dominated by cars. The peak active hours are at noon and after the workday from 4-6 PM. Looking at peak activity hours, we see that the current configuration doesn't promote trip retention. People hop in their cars and go to each destination individually. People exit the south end in the morning, and most stores aren't open until 11. At noon, most local retailers and dine-in restaurants are open for business, and trip retention increases as people filter in to run errands or have lunch.⁵⁴ Local retail shops have begun to close at peak evening hours while all dine-in restaurants are open. Commuters stop for groceries or pick up meals on their way home from work. Trip retention is at its peak. Not so easy on the senses, overwhelming fumes from the busy arterial roads make the area an undesirable place to be. Additionally, sightlines are obstructed by existing & artificial landscapes and generic box stores, making it hard to orient oneself.

54. Ibid.

55. "Zone Map"

AD5-AD6 – Typologies

A study of the typologies shows no significant relationship between building typologies. Most of the land around the Four Corners is privately owned save a "small" park in Moonglo and the roads. Even-though they are privatized, some spaces are inherently more publicly accessible than others. Zoning in the South End consists of large single-use, rationalized zoning making up an oversimplified tapestry that does not allow for mixed-use development.⁵⁵



1

Bus Routes

There are three bus routes that travel through the main arterial roads. Only route 28 circulates through the rear of the Southridge Mall, however, this drops passengers at a considerable distance from any other destination.

Parking

The amount of parking space in the South End of Sudbury completely dominates the landscape. Resulting in isolated buildings that are swimming in asphalt lakes.

MALL WARS

Complex approved despite opposition

Southridge Mall plans \$50-million expansion

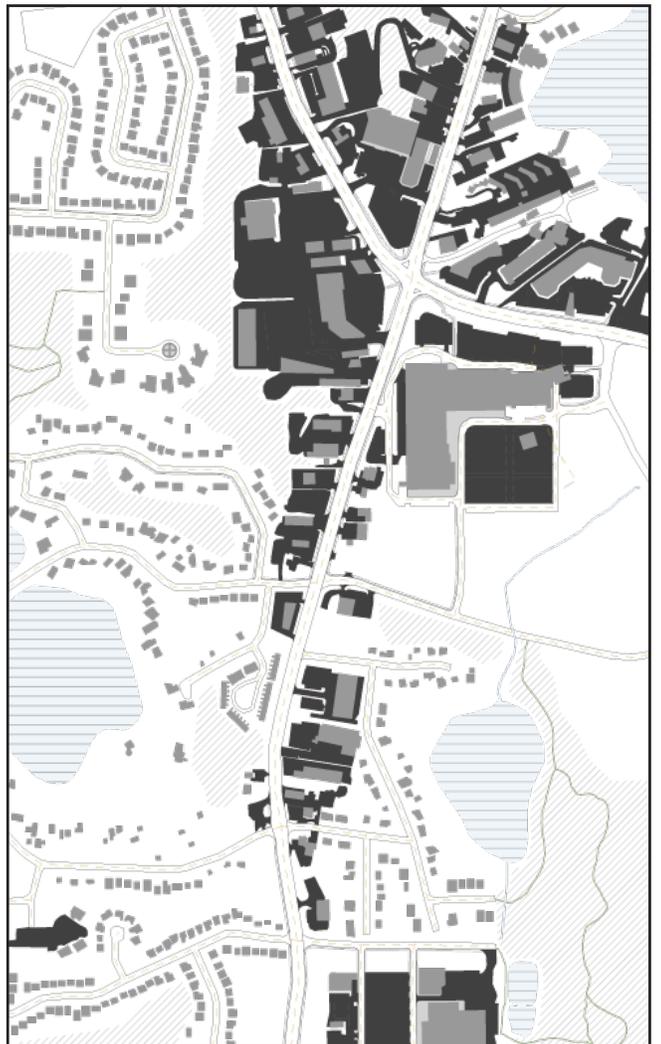
STAFF — The owners of the Southridge Mall at the Four Corners are planning a \$50-million expansion that will make their shopping complex the biggest in Northern Ontario.

Ward 9 Ald. Gino Pollesel said the owners may be ready to proceed with a rezoning for the Southridge property next month.

Pollesel said when finished, the Southridge Mall would be larger than the New Sudbury Centre, now the biggest shopping mall in Sudbury.

He also said the owners were aware of a \$30-million shopping mall proposed for Barrydowne Road and The Kingsway but were not worried about it.

Pollesel said representatives of Bramaiea Developments, owners of the mall, met with regional staff in December to outline their plans, which include rezoning a large section of property at the rear of the existing mall. A formal application for the expansion is expected to come before the region's planning committee in the next few weeks.



2

Roads

All roads feed into Regent and Paris who bisect each other to create the four corners. Traffic is heavy throughout the day and into the evening on the main arteries, while the minor roads see mostly local traffic.

Sidewalks

The sidewalks in the South End are fragmented and often don't fully reach any specific destination. Parking lots make up much of the pedestrian experience and along side roads little thought or regard is given the positioning and protection of the sidewalk from busy vehicular traffic.



3

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Canadian Artists

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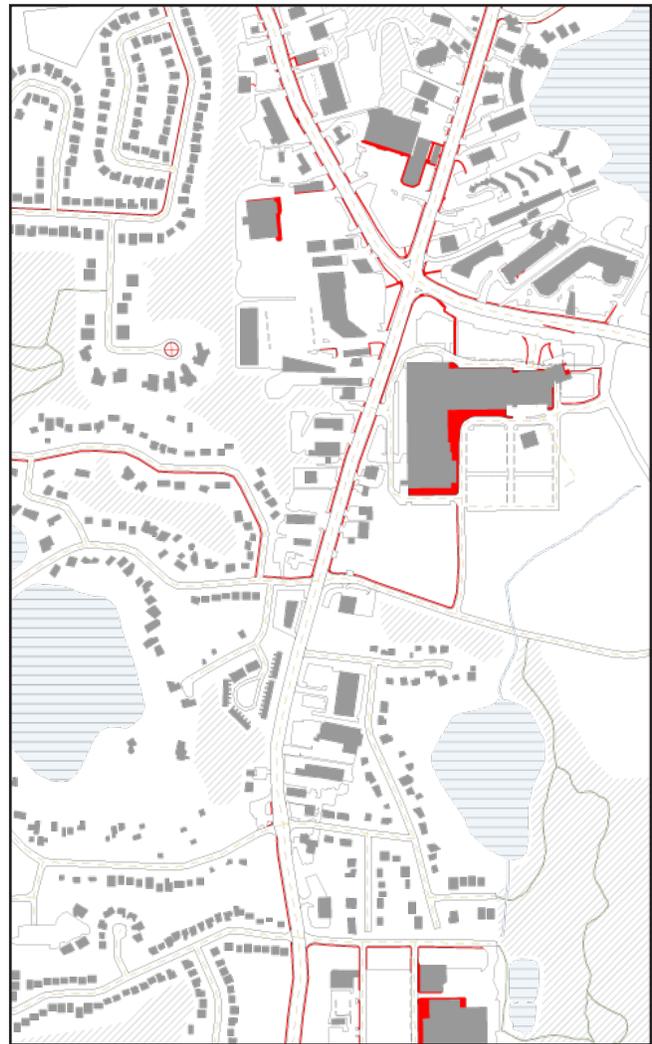
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Southridge Mall



4



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Southridge Mall
1933 Regent Street South

 eye examinations arranged 

5

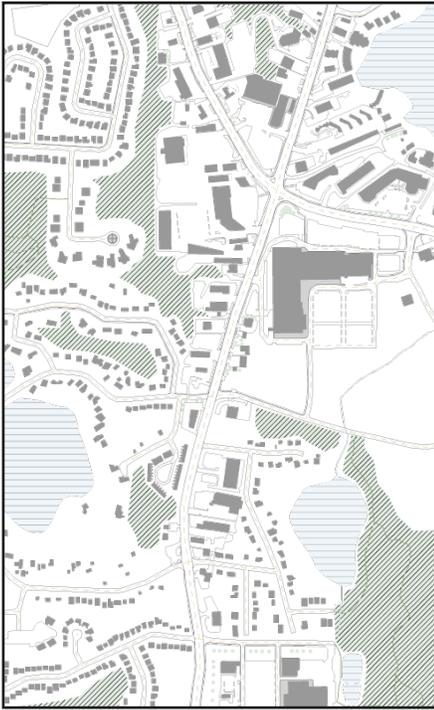


BAG-IT

Southridge Mall
1933 Regent Street
Sudbury

(705) 522-3444

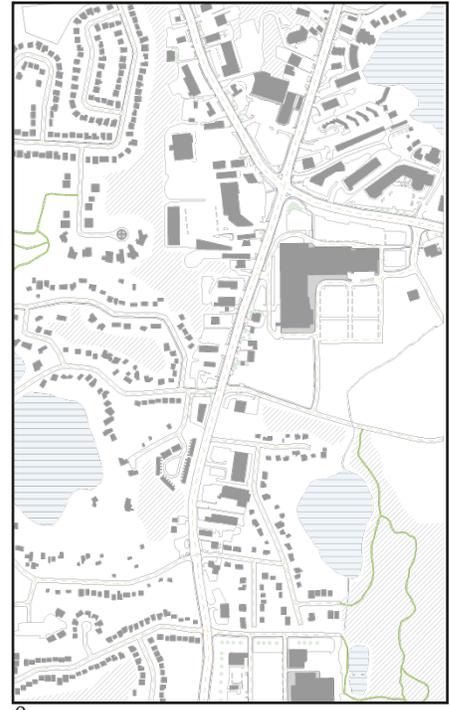




6 Vegetation Map of the remaining regreening vegetation around the Four Corners.



7 Vegetation Map of the plantings around the Four Corners.



8 Map of the green pedestrian paths around the Four Corners.



9 Map of the cleared and unused earth around the Four Corners.



10 Hydrology Map of the water systems surrounding the Four Corners.

20% off All in Stock **20% off**
Grass Beds
Quilted Urban Sprawl
Low Quality Environment

10% Of All Land Used
Optimally

- Wild Vegetation
- Planted Vegetation
- Hydrology
- Nature Paths
- Barren Land

See Our Complete Lack Of
Connection to the Landscape!

Country Lane Shoppe  Southridge Mall
522-3167
Bed & Bath Boutique

The Map pictured to the left has each of the individual components expressed above layered into a single image. One can begin to discern the development pattern that has left a patchwork of reforested vegetation in between developments, due to the severity of the existing topography. Some formal and informal trails exist in these bushes, while the rest of the Four Corners has very little planted vegetation and a large swatch of land remains cleared of vegetation and unused. Water systems surround the Four Corners, however, there are no direct public or urban connections being made. A rich landscape continues to be under valued and misused.



**SOUTHRIDGE
MALL**

**SUPER BAD
TYPOLOGIES**

2nd GRAND Opening SALE

• While quantities last
• We reserve the right
to limit quantities

200 only



**Fab Laundry
Detergent**
12 L size
Save \$2.40

Grand
Opening
Sale
Price **4⁹⁹** ea.
(limit 2 per customer)

100 only

FIGURE GROUND
Lack of Architectural or Urban Identity!
Save Typology



300 only



**Delsey
Bathroom Tissue**
4 roll pkg.

Save 58¢
Grand Opening Sale Price
\$1.19
(2 per customer)

200 only

PAMPERS FOR TODDLERS
48 per pkg.

Save \$1.00
Grand
Opening
Sale
Price **7⁸⁸**
(limit 2 per customer)

100 only

GARBAGE CANS

Save \$3.28
Grand
Opening
Sale
Price **5⁹⁹**
(2 per customer)

100 only

LUMP CHARCOAL
Save 50¢

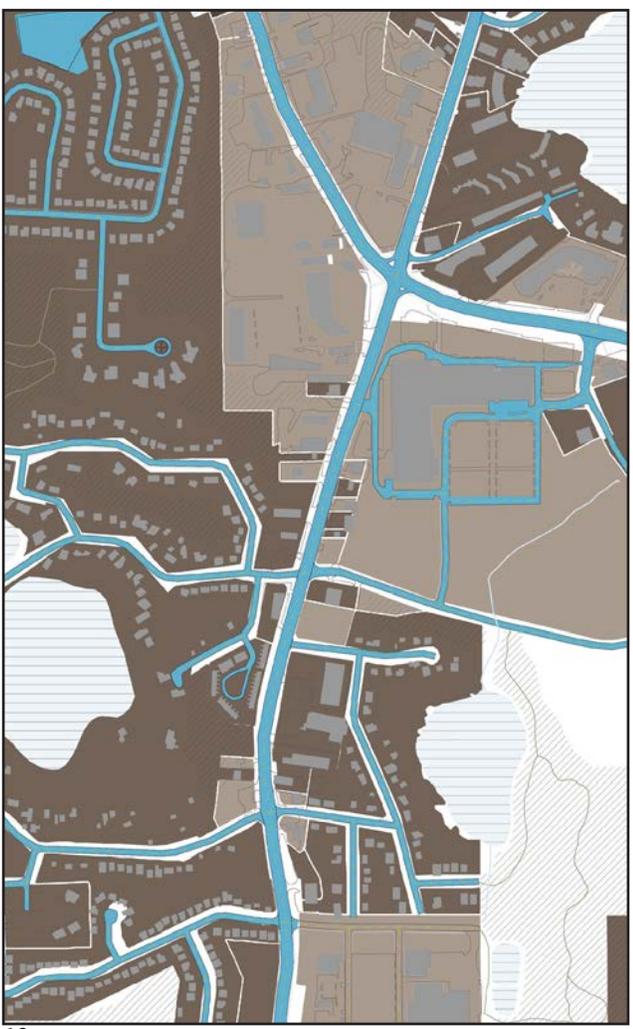
Grand
Opening
Sale
Price **3⁴⁹**
20 lb.
(2 per customer)

500 lbs. only

**NEILSON BROKEN
CHOCOLATE BARS**
Save 60¢

Grand
Opening
Sale
Price **1³⁹**
lb.
(2 lbs. per customer)

**200 only
PUBLIC VS PRIVATE OWNERSHIP**



12

Save Civic Space

**300 only
ZONING**



13

Save Mixed Use

- Privately Owned Less Accessible
- Privately Owned More Accessible
- Publicly Owned

300 only
Kleenex Boutique
PAPER TOWELS
 Save 58¢
 Grand Opening Sale Price **99¢**
 (2 per customer)

- Commercial
- Industrial
- Low Residential
- Med Residential
- High Residential
- Institution
- Park

The majority of the land around the Four Corners is privately owned save a small park in Moonglo and the roads. Even privatized, some spaces are inherently more publicly accessible than others.

500 only
GULF MOTOR OIL
 10W30
 Save 40¢
 Grand Opening Sale Price **99¢**
 (5 litres per customer)

Zoning in the South End exists in large moves making up an over simplified tapestry that does not allow for Mixed Use development. One zoning anomaly is the South End Library which is not zoned as Institutional but rather Commercial?

SECOND GREAT

GRAND SENSUAL SALE

★ ★ ★ ★ ★

SALE

OF YOUR NEW

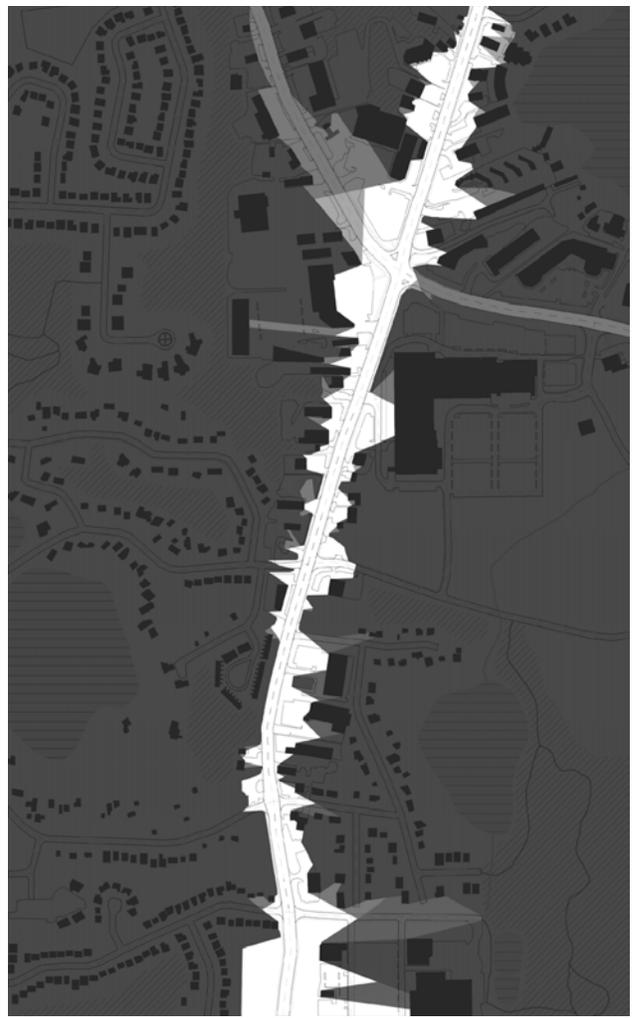
BAG-IT

Store in SUDBURY
★ Southridge Mall ★

LOOK AT THESE ABYSMAL VIEWS



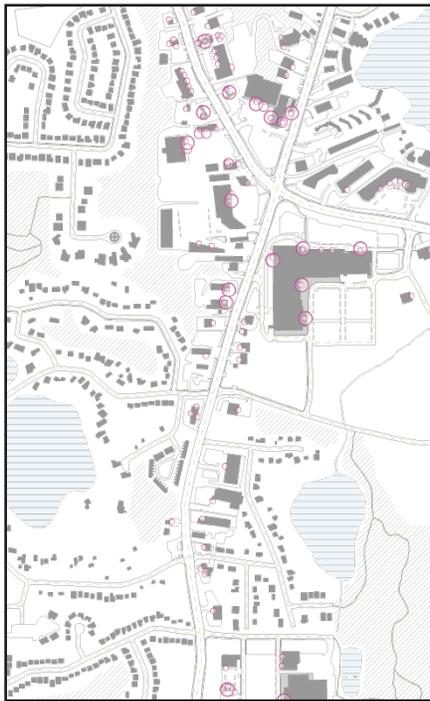
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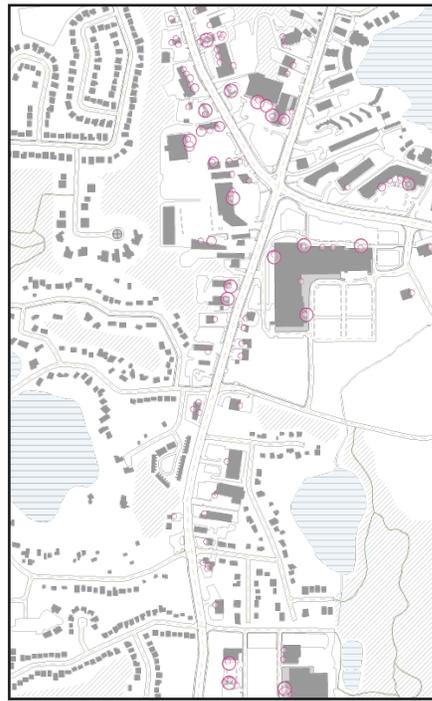
15



16 Active Map of the Four Corners at peak AM hours. Mostly grocery stores, gas stations and fast food restaurants are open at these hours. Trip retention is minimal as most residents are leaving their homes to go to work in other parts of the City.



17 Active Map of the Four Corners at noon. Most local retailers and din in restaurants are open for business starting at 11. Trip retention is increased as people filter in to run errands or have lunch.



18 Active Map of the Four Corners at peak PM hours. Local retail shops have begun to close while all din in restaurants are open. Commuters stop for groceries or pick up meals on their way home from work. Trip retention is at it's peak.

Sam the Record Man

CANADA'S LARGEST AND BEST-KNOWN RECORD STORE

SAM'S Smelly Corner

Exhaust

Food

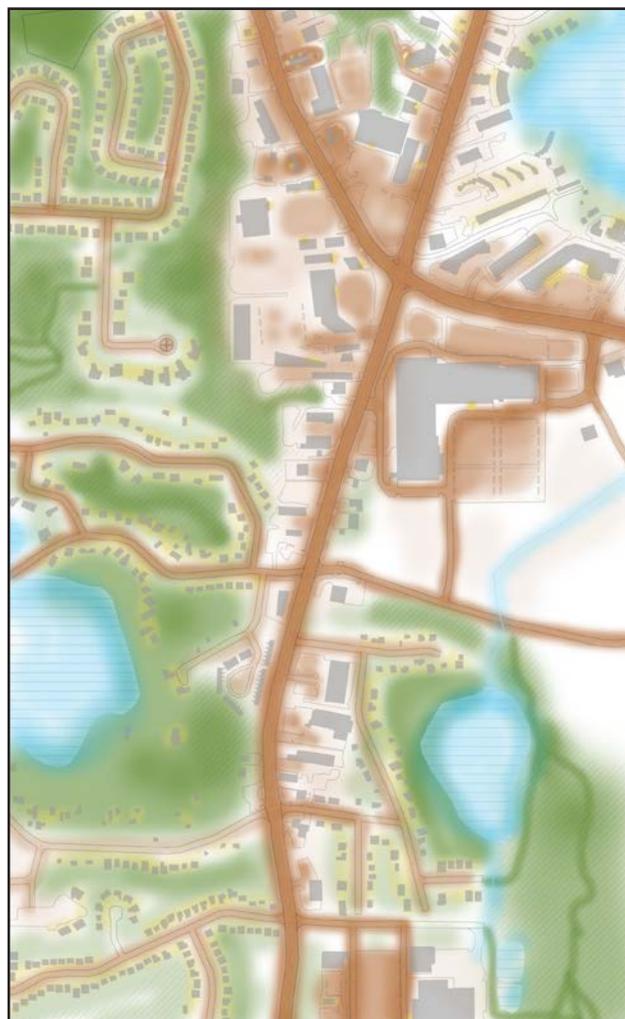
Vegetation

Water

The Four Corners is a bustling hub dominated by cars. The peak active hours are at noon and after the work day from 4-6PM. Not so easy on the senses, over whelming fumes from the busy arterial roads make the area an undesirable place to be. Additionally, sightlines are obstructed by existing & artificial landscapes, and generic box stores making it hard to orient one's self.

SOUTHRIDGE MALL
Living Centre Bld., at Hwy. 404

Mon., Tues., Wed. 9 a.m. to 6 p.m.
Thurs. and Fri. 9 a.m. to 8 p.m.
Saturday 9 a.m. to 6 p.m.



19

Sudbury's Conflicting Agendas: Why are we continuing to sprawl?

For decades to come, developments in Sudbury, such as the Moonglo West Expansion, lock in unsustainable land use and stunt the potential to densify our existing communities. Instead, they encourage more sprawl, resulting in more tax dollars spent to accommodate isolated neighborhoods.⁵⁶

The article published Dec. 13 ('Councillors approve major Moonglo expansion') highlights the dominant voice in Sudbury's land use: premature development. Premature, meaning the land is subdivided to increase land value for developers before assessing the needs of the city.⁵⁷

I grew up in the South End of Sudbury and the area lacks amenities that take full advantage of all the lakes, creeks, peaks, and valleys that the natural landscape offers. By choice and without any help, citizens create informal trails through the left-over forests between sprawling neighborhoods. These trails see plenty of activity and are treasured before they are unfortunately destroyed and prepped for development. One such vulnerable and cherished landscape is where Dalron is developing the Moonglo West expansion.⁵⁸

The City of Sudbury previously recognized this landscape as "The Five Lakes Area" in 1995's "Local Area Development Plan – The South End." The document can be found at the public library and details the city's commitment for the Five Lakes Area to become local green space. The proposed plan highlights environmental concerns about development on the south shores of Robinson Lake and suggests dense multifamily housing mixed with trails and recreation.⁵⁹

** This is the article that was written and published in the Sudbury Star**

56 Monet, Babin-Fenske, and Shivshankaran, "Greater Sudbury Community Energy and Emissions Plan"; Williamson and Dunham-Jones, *Designing Suburban Futures*.

57. "Councillors Approve Major Moonglo Expansion."

58. Ibid.

59. Long Range Planning Section and Department of Planning & Development, "Local Area Development Plan - The South End."

Opinion / Column

Sudbury's conflicting agendas: Why are we continuing to sprawl?

Special to The Sudbury Star
Feb 05, 2022 • February 5, 2022 • 3 minute read • [Join the conversation](#)



The planning committee has approved a re-draft of a previously planned neighbourhood expansion for the Moonglo West area of the South End. PHOTO BY MIKE HENSEN/POSTMEDIA

By Darius Ghorbani

An excerpt reads:

“The Secondary Plan (section 3.2.2.5a) states that the Five Lakes Area should be utilized for conservation and recreational uses and calls for a study to explore how this potential can best be utilized. It is recommended that this be carried a step further and that the ‘Five Lakes Area’ be designated as a Community Improvement Area in the Secondary Plan. This will lead to the creation of a Community Improvement Plan for the area which can address such matters as the preservation of public lands for parks and open space purposes; measures to be taken within the watershed to protect lake water quality; the provision of trails for walking, mountain biking and x-country skiing; the development of privately owned lands in the area and the connection of such areas to public lands; the preservation of view corridors; and urban design and land use considerations.”⁶⁰

Figure 28

Title Page of Sudbury Star Article

60. Ibid. 44

Unfortunately, none of this is happening in the Dalron plan.

The city has also issued the “Community Energy and Emissions Plan” (CEEP) in 2019, which promises a net-zero city by 2050. This document makes many promises about walkability, preserving greening efforts for carbon sequestration, and promoting multifamily housing. The CEEP extensively uses the term “Compact and Complete Communities.”⁶¹

An excerpt reads:

“As cities expand outward, they convert agricultural and vacant land to suburban uses. Costs increase for the municipality to provide and maintain infrastructure such as roads, pipes, and emergency services. Residents are more likely to be dependent on cars, driving longer distances, adding stress and time to commutes. Once neighborhoods are built, it is difficult to alter the development pattern, thus locking in transportation patterns, building design, infrastructure, and energy supply for decades to come.”⁶²

61. Monet, Babin-Fenske, and Shivshankaran, “Greater Sudbury Community Energy and Emissions Plan.”

62. Ibid. 39

63. Ibid.

64. Ibid.

What is compact or complete about adding 180 single-family homes deeper into a neighborhood that is already inaccessible without a vehicle? I wonder how many citizens even know about these documents and I ask how binding are they for our city council? Are these documents grounds for real change to our paralyzing development pattern?

Sudbury is dominated by cars that pollute our ecosystems with a housing market whose prices have become unattainable for most people.⁶³ Being an official document from the City of Greater Sudbury, shouldn't council follow CEEP guidelines?

As the CEEP suggests, we can avoid more urban sprawl by looking to existing commercial centers such as the Four Corners and reassessing the inefficient land use.⁶⁴ What if we diverted development from prime recreational areas and invested in a walkable, livable Four Corners? We ought to celebrate the identity of our northern city by enhancing the spectacular landscape that developers and our city council so easily dismiss.

**Mr Doree** • 11 DAYS AGO

In my neighbourhood, I'm being told the same thing is happening. A plan that was promised to us a few years back included preserving old established walking trails, and now that developer, you know who, is making a new plan and paving it all over. City supports that too!

REPLY ^ 1 ▾ 0

ADVERTISEMENT

**Linda Derkacz** • 11 DAYS AGO

Our Greater city does not care except for money in their pockets. Besides taking away the landscape of the wilderness how many tax payers have voiced their concerns when more low income housing is to be built in their back yards. Many concerns have been given each time the city adds another development all to fall on deaf ears. The city does not care once money is in their hands they walk away.

REPLY ^ 1 ▾ 0

Compact and complete communities are possible when we integrate housing with commerce that mutually supports recreation around our natural resources.⁶⁵ Rather than destroying our landscape and ecosystems to mimic insensitive southern suburbs, imagine having the ability to safely walk from home to local services while having access to amenities that took advantage of the landscape. How much happier would we all be?

Can anyone name one thing they love about the Four Corners or our sprawling neighborhoods? I could show you so many great places in the Five Lakes Area.

Figure 29

Comments Left on the Article

65. Monet, Babin-Fenske, and Shivshankaran; Lukez, *Suburban Transformations*; Dunham-Jones, *Retrofitting Suburbia*.

Artifact: Guiding Post

As part of the thesis defense, and for the purpose of community engagement, an artifact that encapsulates the ethos of the project will be constructed. This object intends to activate people's thoughts concerning the reckless mismanagement of land in Sudbury. How can the object stress that the Five Lakes Area is more valuable long-term left as is, rather than developed into 180+ single detached homes?

The proposed artifact will be a wayfinding device for the Five Lakes trail system. Found at one of the most frequented junctions in the trail network, the device will direct hikers to nearby attractions. The primary focus of this device is not to help lost travelers, seeing as the Five Lakes area is too small of a place to get lost in and can be easily navigated by following the smoothed dirt paths caused by repeated visitors. Instead, this wayfinding device will serve to bring significance to an area that has been marked for demolition.

A 6x6 by ten-foot post will be dug four feet into the ground, and all four sides will feature two nearby sites and a specific flora that can be found nearby. (See Figure 31) The sites highlighted on the post will soon be built over and replaced with sprawling single-detached family houses. By recognizing these sites as destinations of interest and calling into attention the unique flora that only grows in these areas, hopefully, others will realize the inherent worthiness of this place and begin to advocate for its well-being.

During the construction process, the question of if the artifact will "actually" be placed in its intended location and if it is "legal" to do so has arisen. The answer is yes; the artifact will be placed in the trail junction, which is probably not legal. However, other trail goers have brought in pallets and planks of wood to get over small creek crossings, and nobody has batted an eye. It is not proposing to bring

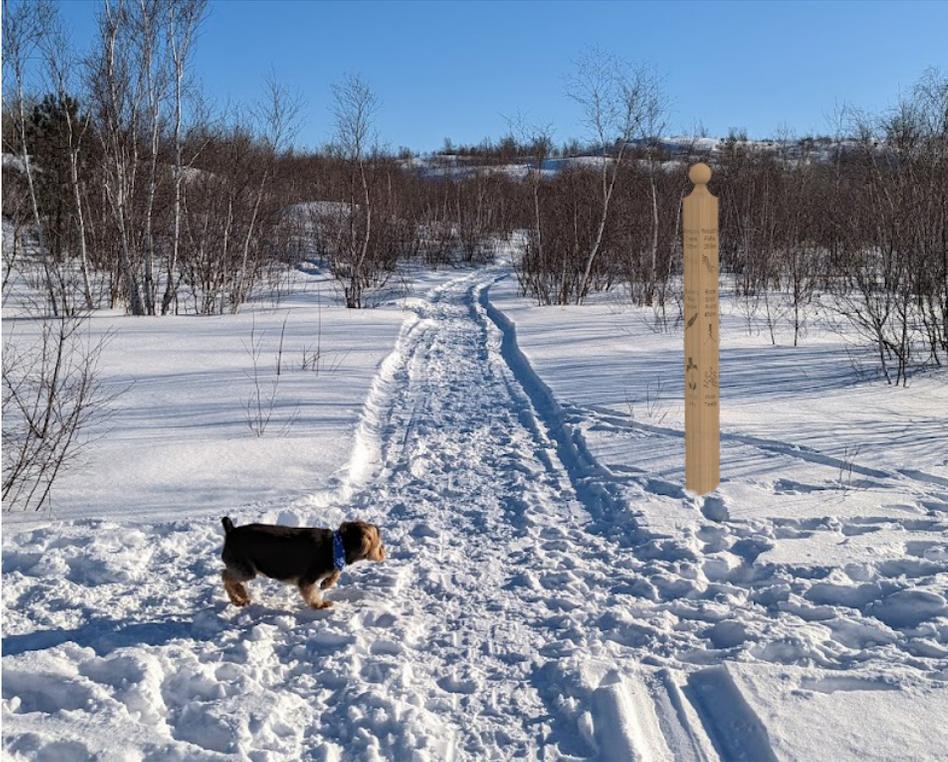


Figure 30

Rendering of Post in the Intend Location in the Five Lakes Trail System

wood to the site; rather, what this wood represents that has brought about these questions. Advocating on behalf of the landscape, the artifact does not serve a human need but instead celebrates the landscape. This is problematic for a developer's rationalization of the land and could inspire them to take down this monument to the landscape.

If they do, so be it. At the very least, the simple post caused enough conversation about the Five Lakes Area for someone to act, even if it is not in the best interest of the landscape. If removed, maybe someone will miss walking by my post, a dog will find a new spot to mark, birds will find a new perch, and perhaps I will get sued.

Alternatively, Dalron will weep at the beauty of my craft and cease all construction.

Figure 31

(Next page) Elevation of All Four Sides of Post



Dirt
Jumps
300m

Robin
-son
Trail
550m

Son
Before
the
Father

E

Rocco's
Falls
200m

Rock
Soul
Point
450m

Pine
Trees

S



Rocco's
Creek
125m



Swan's
Bay
360m



Wild
Iris

Robin-
son
Lake
35m



Robin-
son
Park
550m



Cat
Tails

W

N



May 7-8 2022

Saturday, May 7, 1:00-3:00 pm
Remagining downtown as a neighbourhood is one theme of this year's Downtown Jane's Walk. Kate Bowman, Architect - Partner with Centreline Architecture will join Paul Haynes, local history explorer and XPLR Sudbury hike leader, for the 90 minute walk from Ste. Anne des pins, Durham St. N.
 Preregister at Rainbowroutes.com

Sunday, May 8, 1:00-3:00 pm
Rethinking current development models is one theme of this year's south-end Jane's Walk. Darius Ghorbani, Master's Student at the McEwen School of Architecture, will join Paul Haynes, local history explorer and XPLR Sudbury hike leader, for a 90 minute walk from the Greater Sudbury south-end library.
 Preregister at Rainbowroutes.com

Jane's Walk

Jane's Walk is an international event that celebrates the design principles of Jane Jacobs and invites community members to explore the places where they live, work, and play. Questioning the places we visit and learning how we can re-imagine them is a valuable tool for everyday people to begin advocating for better neighborhood and city planning.⁶⁶

Paul Haynes is a Sudbury Historian who frequently organizes public hikes, through Rainbow Routes, around the city to share information about the places we call home.⁶⁷ He has invited me to organize a Jane's Walk the weekend of May 6-8, 2022, to help bring awareness to the subjects of my recent article in the Sudbury Star titled "Sudbury's conflicting agendas: Why are we continuing to sprawl?"⁶⁸

Figure 32

Rainbow Routes Icon for this year's Jane's Walk Sudbury

66. JanesWalk, "About Jane's Walk."

67. Haynes, Communication with Paul Haynes.

68. "Sudbury's Conflicting Agendas."

The walk will begin at Robinson Park and traverse through my favorite trails in the Five Lakes Area, culminating in the Four Corners. The objective is to experience three different active transportation methods; a manicured park and trail system, a wild and self-managed trail network integrated with the landscape, and finally, the disjointed pedestrian system along the main roads of Sudbury. Hopefully, people will recognize the potential of having a hybrid system that accommodates the self-managed trail systems, such as the Five Lakes Area, by better integrating them with the managed trail systems from the City of Sudbury. This hybrid model would replace the Four Corners' fragmented and uninviting pedestrian system and connect everyone to the landscape and services.

Participating in this Jane's Walk will allow citizens to re-think their neighborhoods, see the potential in prioritizing active transportation, and offer informal discussions between city planners and everyday people. Daniel Barrette from Rainbow Routes is planning on attending the walk and should be able to provide insight on the capacity for transforming the circulation systems of Sudbury. With any luck, as news of this event circulates, additional influential members of Sudbury's planning departments will also join.

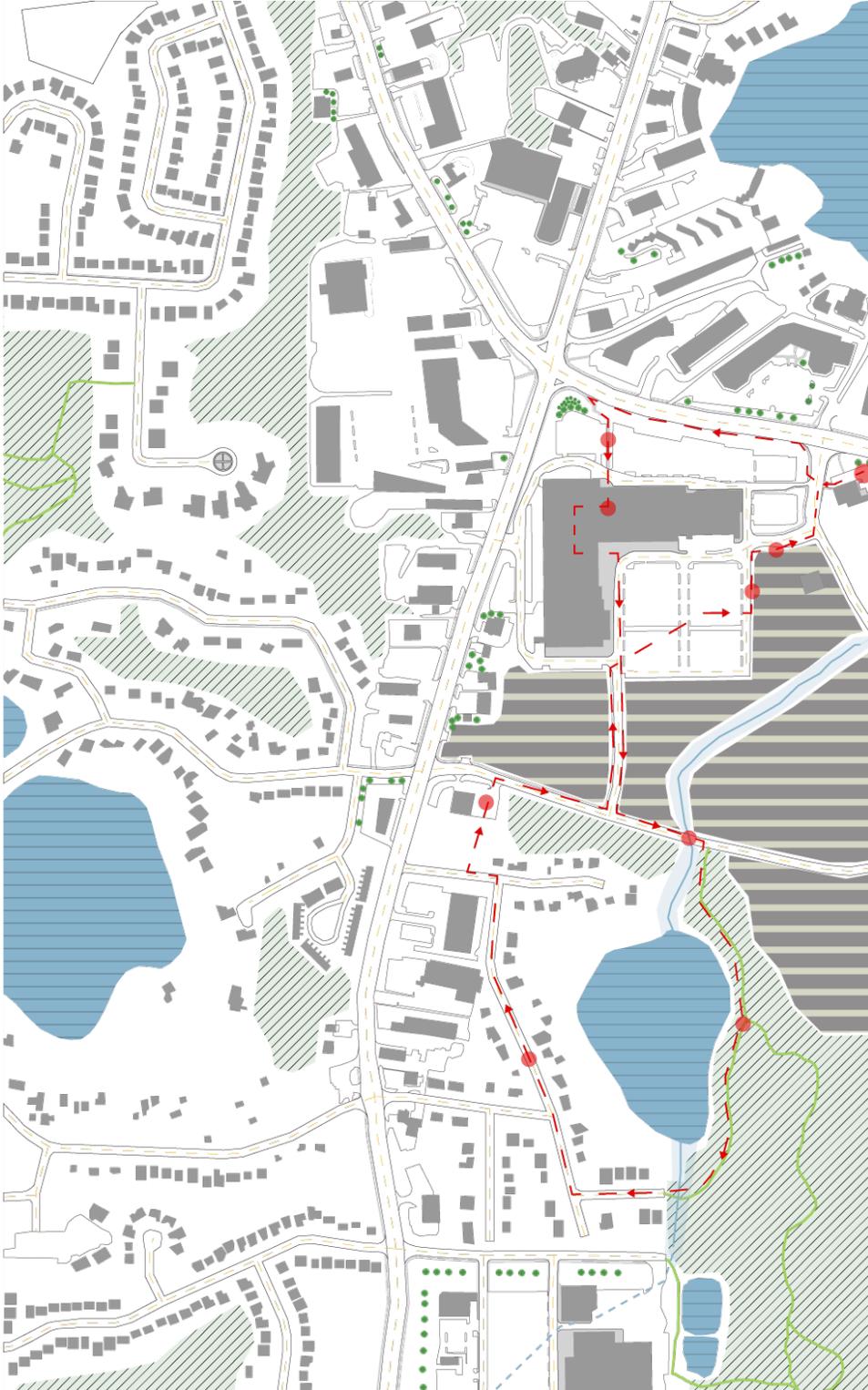


Figure 33
Route Map for Jane's Walk



Figure 34

Happy Little New Years Bird

For me, this piece symbolizes hope and recalls a happy sentiment. I do not recall exactly when I picked up this piece of wood, but I remember it was on top of a ridge, and it was a crisp autumn day. Like an animal going into hibernation, I was venturing into the bush with Rocco at this time to find inspiring pieces of wood before they were buried under snow for another season.

I started painting this bird a few days before the New Year, and I finished it rather quickly and joyfully. The pastels met the velvet willingly, and it felt as though the bird jumped right out onto the page and found its beak. Typically, during the painting process, I get discouraged and find it hard to achieve my vision, and I take months to finish. However, with this little bird, I finished in no time at all!

Creating Compact and Complete Communities

The thesis asks **how we can develop a strategy to reinstate culturally significant architecture and introduce walkable urban infrastructure that prioritizes active modes of transportation?** In his book *The Next American Metropolis*, Peter Calthorpe writes that “The guiding principles of retail are value and convenience. Value leads to ever larger and more remote distribution centers. Convenience has come to simply mean larger parking lots.”⁶⁹ This cannot be more evident in the development pattern and the resulting infrastructure present in the South end of Sudbury today. Calthorpe postulates that to support efficient transit, we require a layered circulation framework where arterial roads allow for cars and public transportation to work simultaneously, with pockets of intensified stations that are pedestrian-oriented and filled with mixed-use development. Neighborhoods need walkable streets that don’t lead to bustling arterial roads, but that lead directly to services and amenities. We need to reorganize our hierarchy of prioritized transportation and put pedestrians first. Transit Oriented Development (TOD) should develop without transit, meaning they should be pedestrian-oriented and leave nobody stranded.⁷⁰

Guiding principles for connectivity and growth in our communities include three concepts: first, development should be structured around public transit; second, zoning standards need to support mixed-use; third, reorienting architecture towards the public domain instead of being privatized and scaled for the car.⁷¹ Figures 34-38 illustrates a catalog of strategies demonstrating how these principles can be applied to any city. Even though these strategies may be used virtually anywhere, they account for the unique situation of the place of interest, therefore, their application will help reveal and enhance the local identify of the area. These principles can be boiled down into five major urban design concepts: creating walkable urban streets; prioritizing active modes of transportation; consolidating and beautifying parking; creating new landscapes; and landscape-based infrastructure.⁷²

69. Calthorpe, *The next American Metropolis*.

70. Ibid.

71. Ibid.

72. Calthorpe, *The next American Metropolis*; Lukez, *Suburban Transformations*; Dunham-Jones, *Retrofitting Suburbia*; Williamson and Dunham-Jones, *Designing Suburban Futures*.



Walkable Urban Streets

Single-use zoning on individual parcels of land that are separated by fences, roadways, parking lots, or bustling intersections make it almost impossible for strong relationships between commercial, residential, and office uses to exist. Not to mention traversing through parking lots or across intersections as a pedestrian is very unsafe.⁷³ Streets should become populated and layered with multiple uses with proper setbacks of 2 meters for pedestrians to walk directly into stores, offices, and residences; followed by a cycling lane of at least 1.5 meters in width; incased in a buffer zone of 1.5 meters of trees and bioswales to protect pedestrians and absorb water run-offs; followed by 2.7 meters wide street-side parking and transit stops; and finally a thoroughfare for slowed vehicular traffic with a minimum of 10 meters in width.⁷⁴ These thoroughfare should be frequently punctuated with pedestrian connections that align with significant destinations—promoting links that create a sense of community and safety.⁷⁵

Figure 35

Walkable Urban Street Diagram

- 73. Lukez, *Suburban Transformations*.
- 74. Calthorpe, *The next American Metropolis*.
- 75. Dunham-Jones, *Retrofitting Suburbia*; Lukez, *Suburban Transformations*.



Figure 36

Prioritizing Active Transportation
Diagram

76. Calthorpe, *The next American Metropolis*; Lukez, *Suburban Transformations*; Dunham-Jones, *Retrofitting Suburbia*.

77. Lukez, *Suburban Transformations*.

Prioritizing Active Modes of Transportation

Active modes of transportation are essential for maintaining a healthy and vibrant city. Their infrastructure requires far less maintenance than automobile infrastructure, making a healthy lifestyle more accessible.⁷⁶ Pulling from different “air rights” projects where highways are bridged over to create new landscapes, we can imagine building above a bustling intersection such as the Four Corners. Projects such as the “Breda Sands” proposal by Monolab for Breda in the Netherlands imagine planes of concrete forming an artificial landscape above motorways. Chasms in the form are created to allow light to enter spaces deeper within. Thereby physically and metaphorically prioritizing active transportation by recreating a healthy landscape directly on top of a noisy and unsafe intersection.⁷⁷



Consolidating and Beautifying Parking

Parking lots make up most of the surface area in the Four Corners. Buildings become isolated objects surrounded by a sea of parking that become an unsafe hindrance that pedestrians have to traverse to reach services. By consolidating parking into above or below ground parking structures, we can free up an immense amount of space upon which mixed-use infill development can occur. Furthermore, beautifying existing parking lots by adding trees and pathways for pedestrians can reduce heat island effects in the summer, help manage stormwater runoff, and provide safe passage for people to access services.⁷⁸

Figure 37

Consolidating and Beautifying
Parking Diagram

78. Lukez; Calthorpe, *The next American Metropolis*; Dunham-Jones, *Retrofitting Suburbia*.



Figure 38

Creating New Landscapes Diagram

Creating New Landscapes

New landscapes can remediate the scars of industry much in the same way the re-greening efforts in Sudbury have begun to heal the scars of mining and logging.⁷⁹ New landscapes can be made on vacant or cleared land waiting for development, on top of buildings or roofscapes, and on existing or proposed infrastructure. These landscapes can improve an area both ecologically and aesthetically, making it more inviting for people to visit.⁸⁰

79. Beckett and Ghorbani, Communication with Petter Beckett; Lukez, *Suburban Transformations*.

80. Lukez, *Suburban Transformations*; Dunham-Jones, *Retrofitting Suburbia*; Beckett and Ghorbani, Communication with Petter Beckett.



Landscape Based Infrastructure

Basing our infrastructure around existing landscape features such as valleys and waterways is a long-standing tradition. Only recently have we begun to demolish the landscape to fit our infrastructure. By basing infrastructure around the landscape, we can enhance our connection with the environment and protect its natural ebbs and flows.⁸¹

Figure 39

Landscape Based Infrastructure Diagram

81. Beckett and Ghorbani, Communication with Peter Beckett; Lukez, *Suburban Transformations*.



Case Study: Downtown Kendall/Dadeland – Miami-Dade Florida

Figure 40

Illustration of Downtown Kendall

82. Dunham-Jones, *Retrofitting Suburbia*.

83. Dunham-Jones; "Downtown Kendall."

Downtown Kendall/Dadeland in Miami-Dade, Florida shows how clear and feasible goals from a city planning department can significantly impact how developers treat a site. Downtown Kendall was originally an edge city outside of Miami, Florida that had a large dead mall and an organization strategy that prioritized the car and did not allow for mixed-use development. Dover, Kohl & Partners, the leading urban Design planning firm, hosted several design charrettes to engage the community in 1998. They developed a new planning strategy called SmartCode. This form-based zoning typology replaces Euclidean zoning laws and instead focuses on the intersection of lots. These intersections create subdistricts wherein street frontage dictates the use of the space.⁸²

Figure 40 is a figure-ground map of the site as it was in 1995, showing a lack of streets and lots of open space. Figure 41 is the projected figure-ground for 2025 that shows a dense fabric formed by new streets and pedestrian-oriented restitching strategies that prioritize walking to the mall. The entire landscape has been changed by reassessing the value of vacant lots and introducing a mix of uses to densify and create stronger connections.⁸³

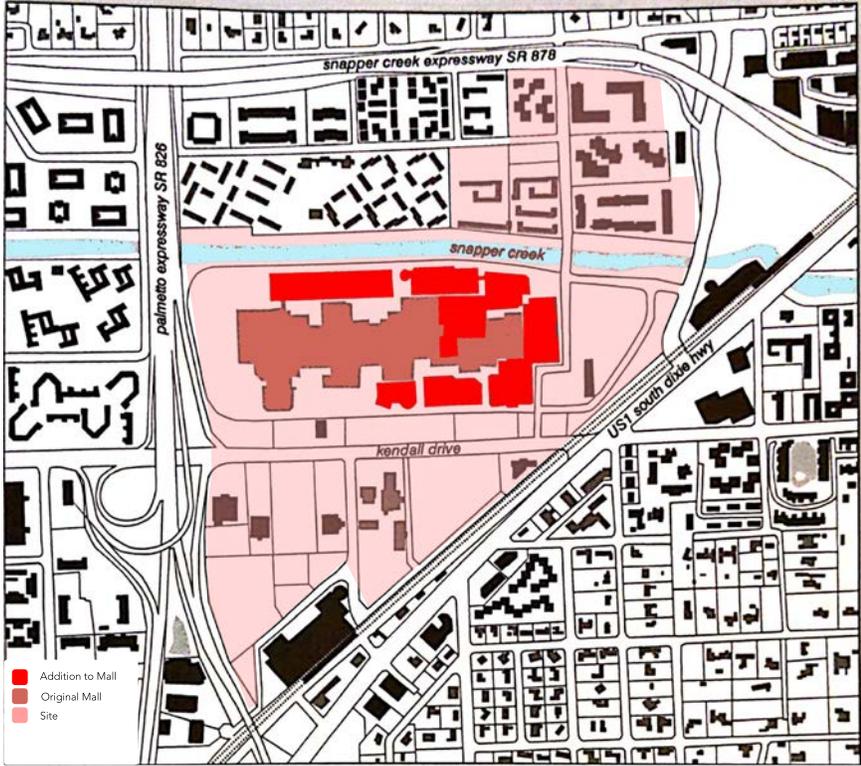


Figure 41
Figure Ground of 1995 Downtown Kendall

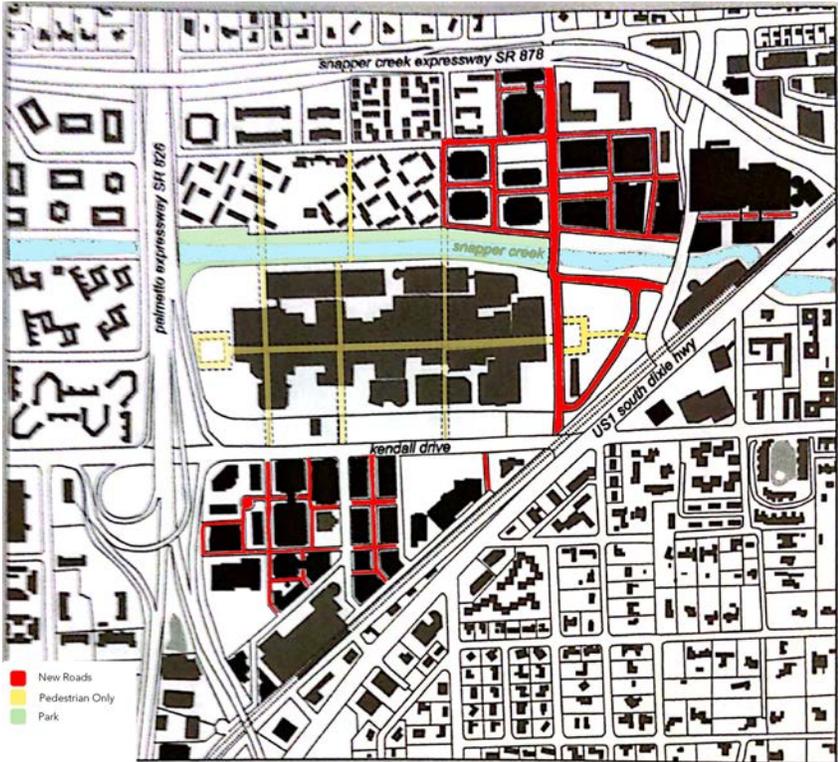
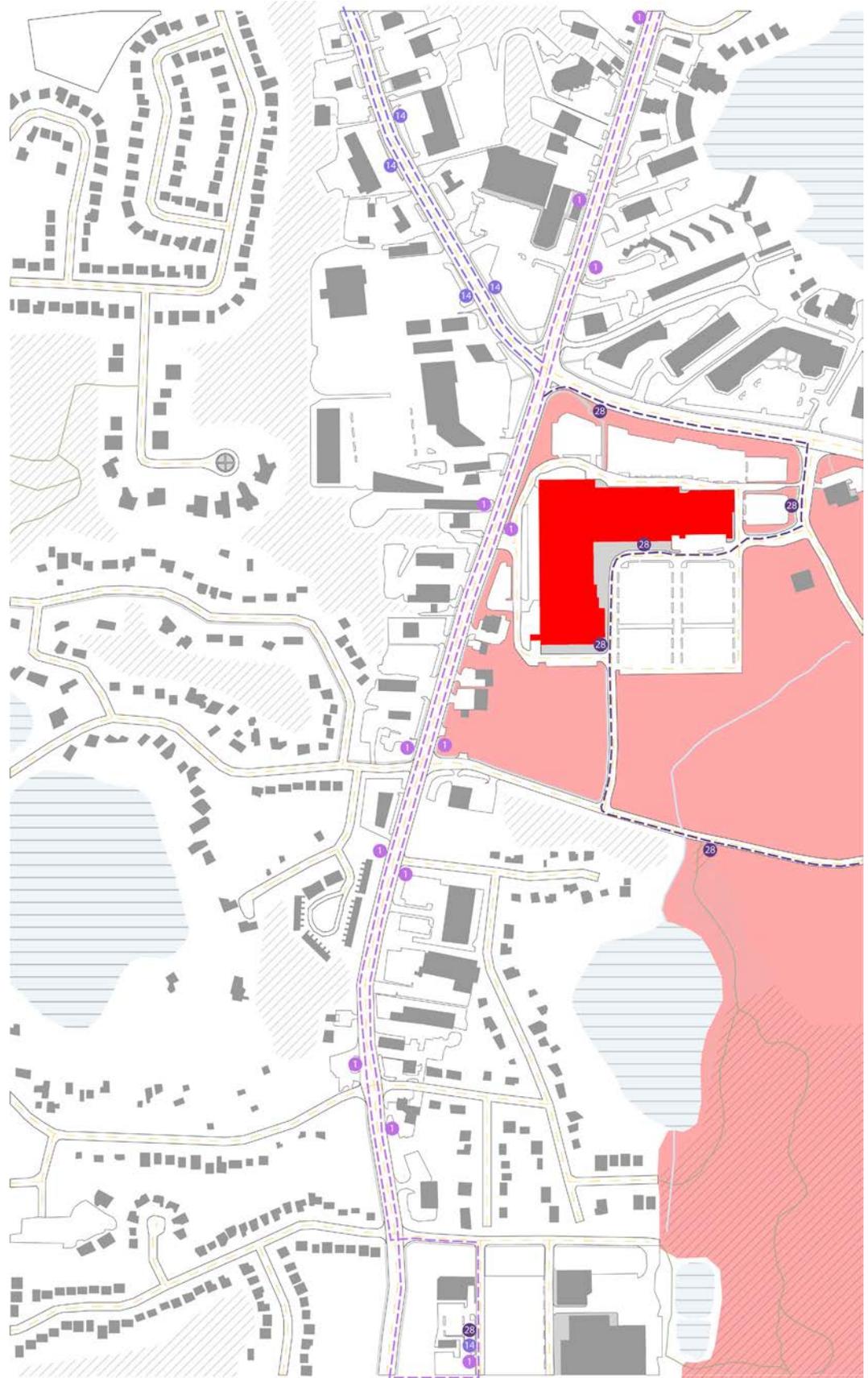


Figure 42
Figure Ground of 2025 Downtown Kendall

Figure 43
Map of Bus Routes &
Southridge Mall Site



Bus Line 1

Bus Line 11

Bus Line 28

Southridge Mall - Sudbury Ontario

When evaluating the Four Corners in the South End of Sudbury through the lens of Transit Oriented Development, one can recognize that the Southridge Mall possesses the potential to become a TOD. The public transit in and around the area circulates mainly around the South Ridge Mall, with Lines 1 & 11 passing by on Paris Street and Line 28 going directly into the parking lot. (See figure 42) This makes the dead Mall a perfect location for a village center acting as a node along a more extensive Transit Oriented Development system engaged with the rest of the city.⁸⁴ The mall is located on the southwest corner of the Four Corners and has vehicular access from both main arteries and Mclsaac road on the South. To the south of the property, owned and operated by the Mclsaac family, contains nature trails leading to Walmart's rear and surrounding neighborhoods.⁸⁵

Parking lots surround the entire perimeter of the mall, with additional vacant and cleared land to the South. The pedestrian experience is not very accessible from any point of departure. Walking from the Four Corners, one must go up a flight of stairs encased by rock cages that feel unsafe and are not handicap accessible. (See figure#) Alternatively, someone in a wheelchair would have to travel along the sidewalk almost 600 m from the corner of Regent and Paris to reach the mall's main entrance.⁸⁶ Due to the outcropping of the site and large gabion retaining walls holding up the parking lots, the Mall is barely visible from the street. Once on top, however, you can see the four corners. (See Figures 43-44) The gabion baskets are an excessive landscape move that was required to increase the square footage of parking lots that could be level with the preexisting ridge that the mall was built on. If removed, one could imagine that much of the hillside could be recovered.⁸⁷

84. Calthorpe, *The next American Metropolis*.

85. Maclsaac, Communication with Andrew Maclsaac.

86. "Transportation Master Plan."

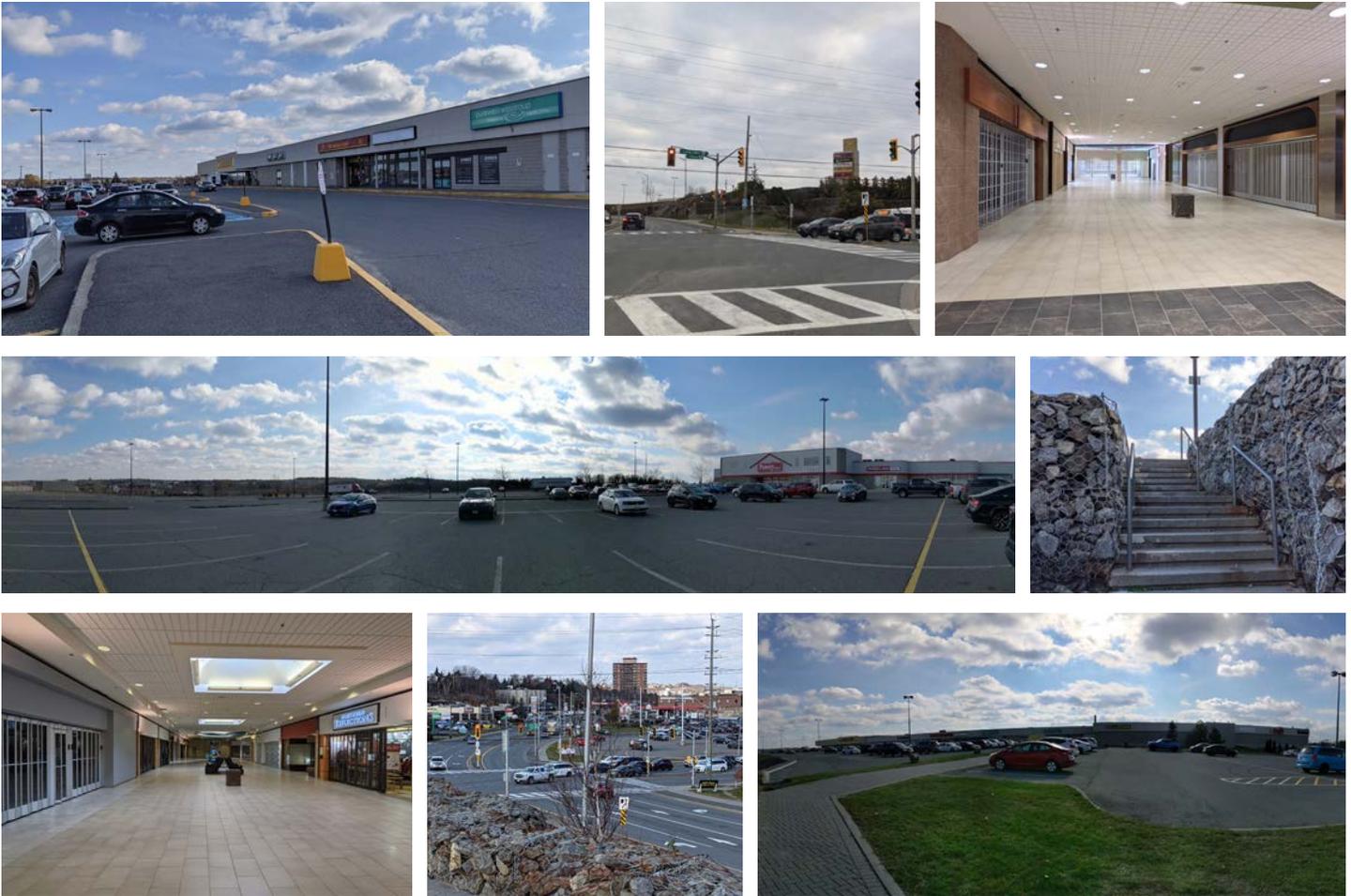
87. "City of Greater Sudbury Aerial Photo App."



Figure 44

Sight Lines along Paris and Regent Street

The Southridge Mall may seem utterly empty because of the almost entirely vacant interior shops. The mall, however, has six large occupants who act as anchors on each end of the structure, framing the empty middle. The primary occupants include GoodLife Fitness, Dollarama, Sports Check, TSYS, Giant Tiger, and the most recent addition, the Health Sciences North pediatrics facility. The interior shopping experience is vacant because that shopping model is no longer viable. Therefore, it remains almost empty, with only Sports Check and Dollarama drawing shoppers into the building.



Interestingly, the local Christmas Market, called Maker’s North, has occupied the dead retail spaces for one weekend at the end of November for the past two years. The Maclsaac family opens a few shops and allows local craftspeople to set up shops and sell their merchandise for a small fee.⁸⁸ The pop-up event has proven to be a significant injection of life into the mall and demonstrates the need for a flexible space where local vendors can sell their goods.

Figure 45
Photos of Southridge Mall

88. Maclsaac, Communication with Andrew Maclsaac.

Case Study: Westgate Mall – Ottawa Ontario

The Westgate Shopping Center is Ottawa's oldest mall, having been built during the 1950s. The city has since expanded around it, making the mall a part of the City of Ottawa's New Official Plans. The Ottawa Master Plan envisions Westgate as the new town center for the West End community and plans for it to become a sustainable mixed-use development. The Ottawa-based urban planning and design firm Fotenn is the lead design firm on the project, developing a rezoning strategy to accommodate five new mixed-use towers for the site. The construction will be completed in phases to allow continued use of portions of the existing mall until the project is finished. The project is also layered with TOD strategies and the new light rail lines being implemented.⁸⁹

89. "Westgate Mixed-Use Community Master Plan"; "Westgate Proposal - DocumentCloud."

90. Ibid.

The Westgate project and the proposed Southridge Mall project share similar Northern Ontario mall condition that needs a mixed-use development model to revitalize their communities. Unfortunately, the proposed development for Westgate fails to reintegrate the mall's location with surrounding amenities such as Hampton Park, that is situated directly across the Queensway highway. Furthermore, both the proposed architecture and the landscape design lack a distinct identity related to the mall or community's history. Drawings and renderings of the proposed development seem as though they could be placed in any city and show little consideration for the northern climate.⁹⁰ (See figure 45) Any proposed plans for Southridge Mall should be wary of developing over the site's history. Instead, the design should strive to celebrate place and community by enhancing connections to identity and landscape.



Figure 46

Rendering of Westgate Mall Proposal



Figure 47

Site Plan of Westgate Mall Proposal

Case Study: Belmar – Lakewood Colorado

Belmar in Lakewood, Colorado is an excellent example of a very rigorous and ambitious dead mall revitalization project. In 2001 the Villa Italia Mall had very low occupancy and served nobody well. The city partnered with developers and locals to radically transform its urban center. The project had a staggering 750-million-dollar budget and was financed through several different avenues. Fortunately, Belmar's investors have already made a return on their investment. Figure 47 shows the existing mall site in 1975, primarily vast empty parking with a central regional mall. Contrasted with figure 48, the replacement project strongly connects to its surrounding neighborhood and a tight urban fabric within the site.⁹¹

91. Dunham-Jones, *Retrofitting Suburbia*.

92. *Ibid.*

The Belmar project drew inspiration from the Morning Side Heights development in New York City, completed in 1915. The neighborhood was built in 15 years and contained a similar mix of uses as the Belmar project. In contrast, Winter Park Village in Florida is a similar dead mall revitalization project that took place at the same time as Belmar; unfortunately, it has not seen the same success because it was not as rigorously phased and has a planning scheme that still prioritizes the car. Belmar was completed in 12 years which is exceptionally fast, and has implemented the guiding principles discussed.⁹²



Figure 48
Figure Ground of 1975 Belmar

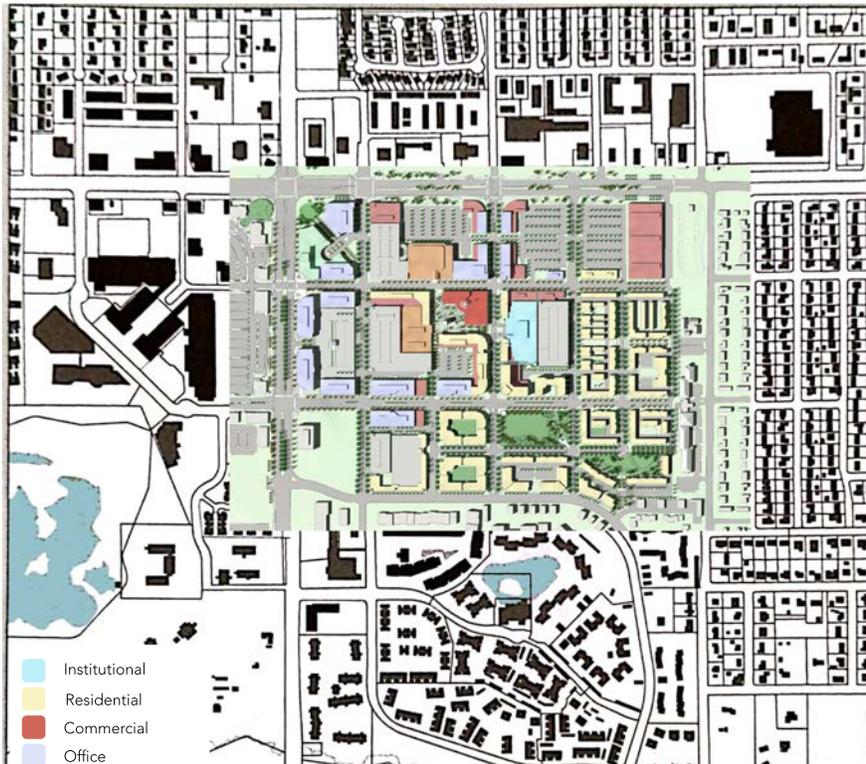


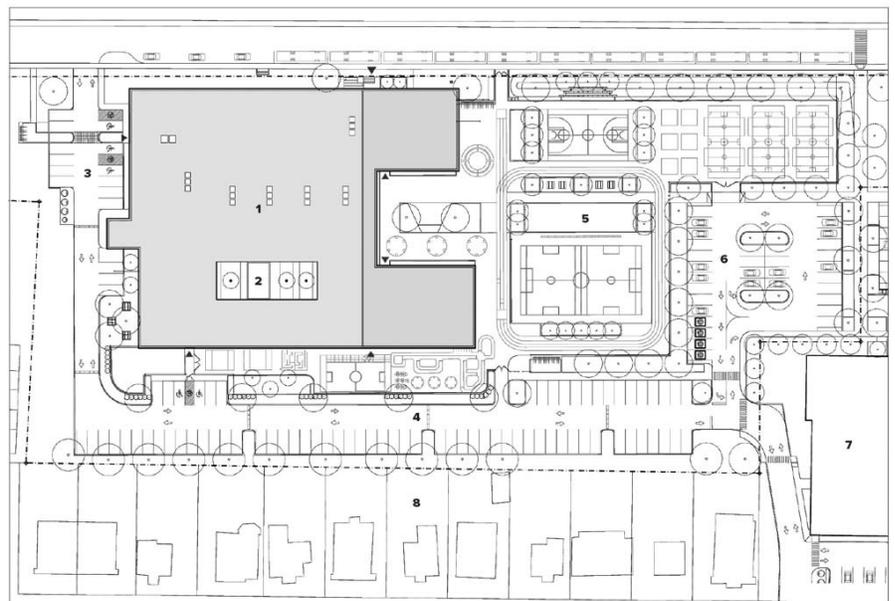
Figure 49
Figure Ground of 2015 Belmar

Figure 50
Elevation Inside École Val-Martin
Inner Courtyard



Figure 51
Site Plan of École Val-Martin

SITE PLAN



- 1 ELEMENTARY SCHOOL
- 2 COURTYARD
- 3 DAYCARE PARKING
- 4 TEACHER PARKING
- 5 SCHOOLYARD
- 6 PARENT PARKING
- 7 ROLLAND-GRATTON
ADULT LEARNING CENTRE
- 8 RESIDENTIAL ZONE



Case Study: École Val-Martin – Laval Québec

Contemporary architecture firm Chevalier Morales won the 2021 Canadian Architect Award of Merit for their design of the École Val-Martin.⁹³ The project is a retrofit of a grocery store that had recently become vacant in the city of Laval, Quebec. The project challenges conventional sprawling building patterns by refocusing design efforts back into an existing structure, instead of continuing to sprawl. A progressive elementary school was proposed that will form connections with the urban fabric around it.⁹⁴

To adapt the grocery store to provide enough daylight for the classrooms, two courtyards were formed; one courtyard is entirely enclosed while the other is U-shaped. The existing structure had an irregular grid; however, this formed the logic for the program layouts and circulation layout. The facades were punctuated to mimic the surrounding neighbourhoods and landscaping tactics prioritize nearby connections. The building is typical of many box stores that may soon find themselves abandoned across the country, therefore, this project serves as an excellent Canadian precedent for adaptive reuse that mitigates urban sprawl.⁹⁵

93. "Chevalier Morales."

94. "École Val-Martin."

95. Ibid

Chapter 4: Regenerating the Four Corners

Specific and significant design interventions will simultaneously improve the well-being of inhabitants and ensure the longevity of the natural environment.



Figure 52

Eyes of the Five Lakes

This piece is made from two chards of Birchwood that I found when Dalron came and razed the trailhead to the Five Lakes Area to the ground. I have always thought that the dead knots in birch trees looked like eyes, and I wondered how it would feel to be torn down so unceremoniously.

In this piece, I appropriate the eyes of the tree to make the eyes of a human being who sees their flesh (birch bark) being set to flame around them. We are at once the fallen trees and the people behind it all. Our dead eyes cannot see how we let the world burn around us.

Getting on the Right Path

To begin this project, serious consideration for the self-maintained paths that exist in the leftover green spaces of Sudbury must be given. This means protecting and conserving them while also enhancing and connecting them to services, thus becoming accessible to all. The City of Sudbury plans to prioritize active modes of transportation by adding bike lanes to main arterial roads.⁹³ This is a superficial remedy, especially when considering the active lifestyle that makes up much of the culture of Sudbury.

Dedicated green corridors that lead directly to the natural amenities around the area and stitch together the fragmented fabric of the city should be implemented before designing any new architecture.⁹⁴ The trail systems are the only pedestrian-friendly and environmentally conscious infrastructure in Sudbury. If we start by enhancing and connecting these systems to serve people properly, the ensuing buildings we develop around them will inherently prioritize pedestrians and be ecologically conscious. Figure 53 demonstrates opportunities to regenerate underutilized land such as parking lots and roadsides to form connections to existing green infrastructure.

96. Monet, Babin-Fenske, and Shivshankaran, "Greater Sudbury Community Energy and Emissions Plan"; "Transportation Master Plan."

97. Beckett and Ghorbani, Communication with Peter Beckett; Calthorpe, *The next American Metropolis*.

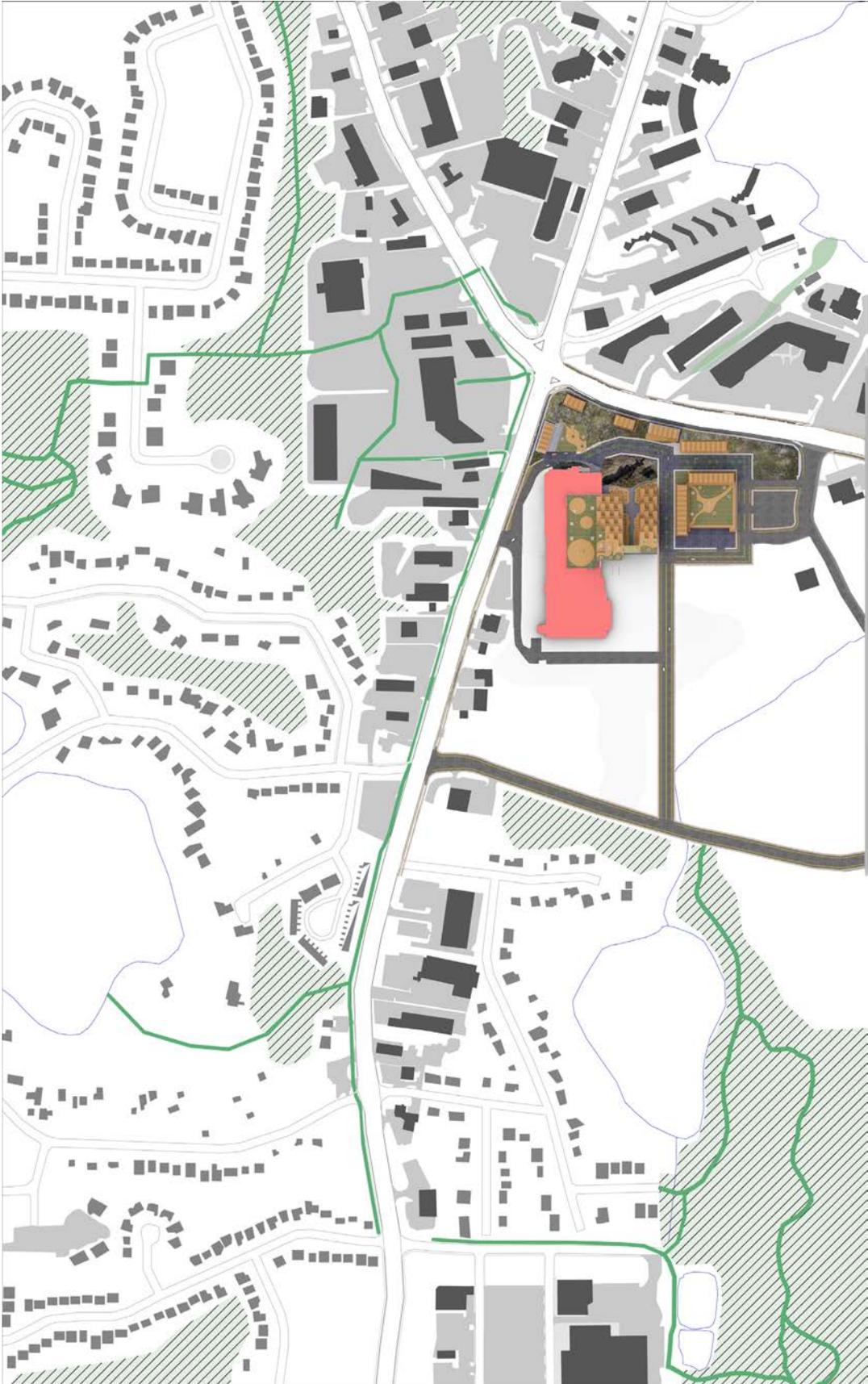


Figure 53
Map of Proposed Green
Paths

Resurrection Hill

The epic natural processes that have formed the Sudbury landscape are the starting point for beginning to re-imagine the Southridge Mall site.⁹⁵ The design aims to bring everything one loves about being out in the bush into the heart of the Four Corners, while adding density through mixed-use development. The project will recall the existing landscape where possible and use architecture to create landforms that bring people from the street level of the Four Corners up to the top of the southern ridge, which will be the updated mall.

98. Saarinen, *From Meteorite Impact to Constellation City*.

Two methods were used to reconstruct the hill upon which the Southridge Mall was constructed; studying current elevations of the site and referencing old aerial photos of the area before the mall was built. Figure 56 is an elevation of current Regent Street shows the only remaining remnants of the hill where it peaks through from under the gabion basket retaining walls. At the same time, contrasting the evolution of the aerial photographs grants insight into how the landscape was developed and what issues were faced by the mall's developers. One can see that houses lined the Four Corners on the ground, and the hill's slope did not begin immediately from Paris Street. (See Figure 54)

It can be deduced from the elevation of Regent Street and the shadow lines of the hill's topography in old aerial photos that the slope rippled from west to east while having a steady incline towards the south. Furthermore, in an aerial taken in 1969, there is the first appearance of what seems to be a small pool of water where the hill is suspected of having made a "V" formation.

1946



1969



1979



1980



Figure 54

Historical Photos of Southridge Mall Site

The reason for the sudden arrival of this pool is unknown. It appears, however, to be artificial as it morphs shape and gets filled with debris over the ten years that it is present before it is also buried under the Mall. This suggests that water on the site needed to be drained before the construction could begin. Could the recovery of the landscape also return the natural ebbs and flows of water on the site to revitalize this pool once again?



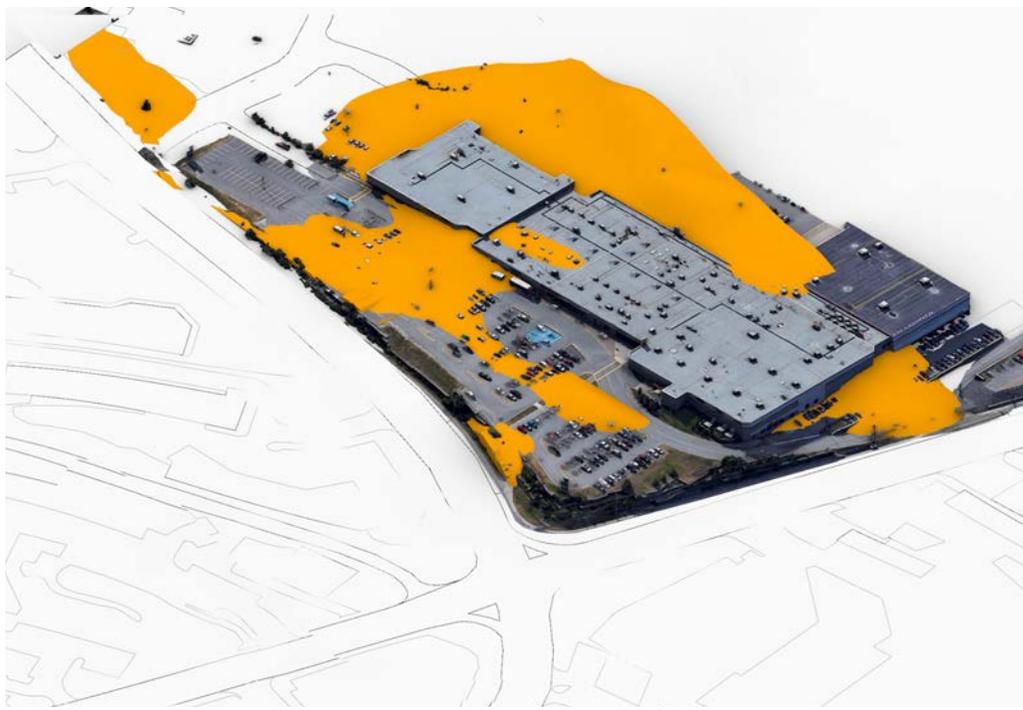
Pre-existing Hill



Leveled Hill for Construction



Figure 55
(Above) Evolution of Hill



Southridge Mall in Contrast with Pre-existing Hill



- Hill
- Gabion Basket
- Gravel
- Grass

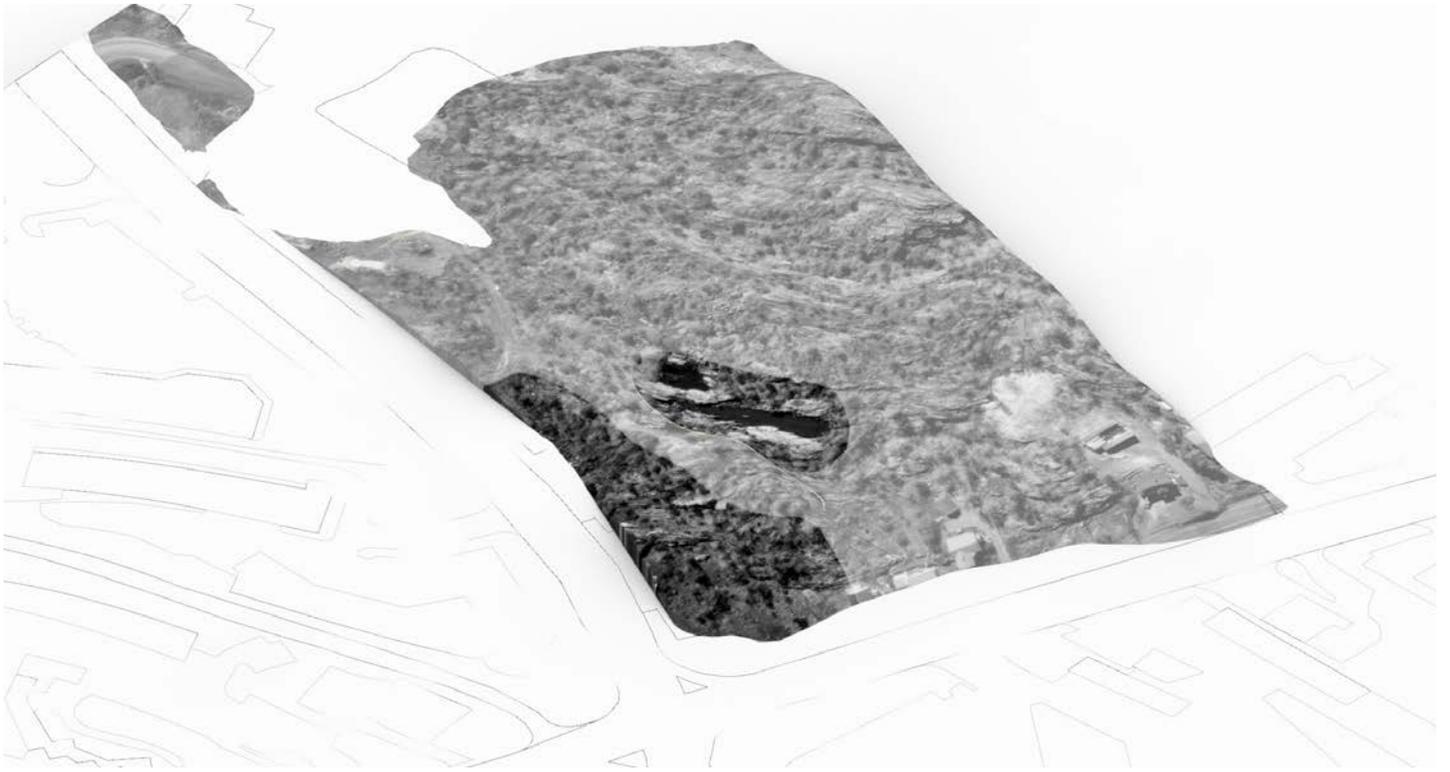
Figure 56
(Below) Elevation Study Along
Regent Street



Figure 57

Topographical Map of Pre-existing Hill

A reproduction of a portion of the Hill closest to the Four Corners was then 3D-modelled by drawing topographic lines using the aerials and the elevation study as a reference. (See Figure 57) Figure 55 demonstrates the three most recent conditions that the hill has experienced. Firstly, the pre-existing hill with the pool dug out serves as the base condition. Next, it was determined at which elevation the hill was levelled to accommodate the Southridge Mall. Finally, a comparison of the site's current configuration with the pre-existing hill (shown in orange) demonstrates how severe the topography contrasts with the levelled parking lots.



Two conclusions can be drawn from Figure 55. All the rock that has not been removed to level the site is still intact, and the topography that is popping out from the mall (shown in orange) would have been crushed and used as infill for the gabion baskets that support the parking lots. Therefore, if the infill rock is removed with the care and precision that an archeologist takes with recovering ancient artifacts, a portion of the pre-existing hill could be resurrected. The areas most likely to have a successful recovery are along Regent Street, at the Four Corners intersection, and where the pond was dug. (See Figure 58)

Figure 58

Potential Area for Resurrection

Provocations & Intentions

The site can be broken into two parts: the Paris and Regent Street condition and the existing Southridge Mall condition. The recovered, remediatted, and re-instated landscape will act as a unifying element bridging the Four Corners and the Mall by reinstating the culturally significant landscape of Sudbury.

To begin imagining the introduction of walkable and skiable trails like those surrounding the Four Corners, Figure 59 layers images of Sudbury's landscape onto the existing circulation networks for a safer and more pleasant pedestrian experience. The resulting images reflect the Sudburian outdoorsy culture found in the Five Lakes Area. This texture mapping exercise asks: once the landscape is recovered, how would this change the connection between the mall site and the Four Corners? If re-greening efforts are applied to the resurrected landscape and then left to prosper, the natural vegetation inhabiting Sudbury's wilderness would presumably return to the rock faces.

99. Dunham-Jones, *Retrofitting Suburbia*.

The Southridge Mall's current occupancy and vibrancy are reflected in Figure 60. Moderately successful chain retailers can be found along the perimeter of the building, leaving the middle interior-oriented portion of the mall almost entirely vacant. Being of cheap construction, the thesis proposes to remove the uninhabited portion of the mall to be replaced with a walkable mixed-use environment that recalls the pre-existing hill in form and function. The western portion of the mall will remain virtually untouched, with special consideration given to the newly added Health Sciences North Pediatric Center. The only remaining portion to the east will be the Giant Tiger which will have its central opening turned 90 degrees clockwise to face the east. This proposed configuration is typical of dead mall revitalization projects where two anchor points are left while the interior is infilled with mixed-used development.⁹⁶

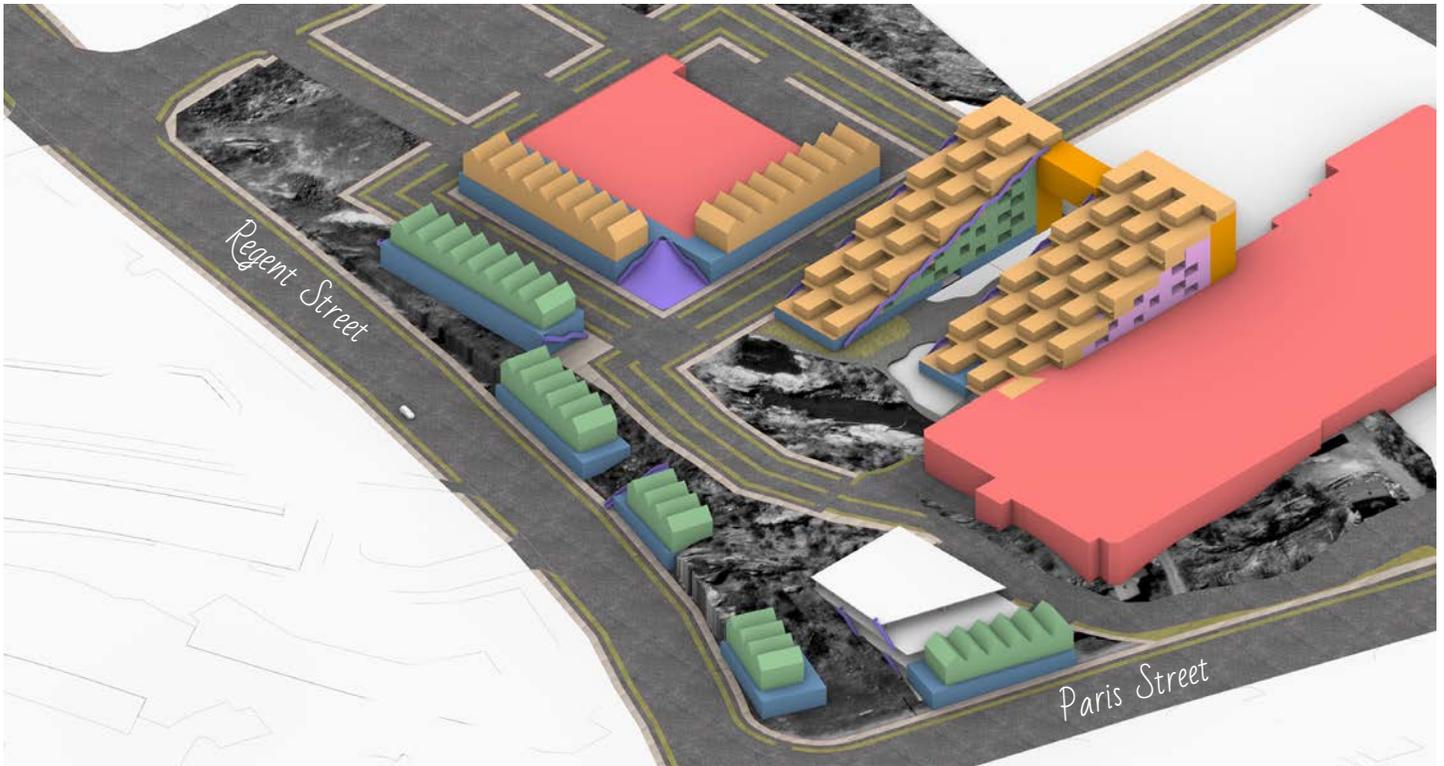


Figure 59
Texture Mapping the Four Corners



Figure 60
Current Occupancies and Vibrancy
of the Southridge Mall

- Pediatric
- Vacant
- Moderately Active
- Active
- Under Construction



Analyzing where the pre-existing landscape touched down to Regent and Paris Street allows for small-scale mixed-use developments to be nestled into the landscape and begin activating the street condition. The street-edge housing will be geared towards students as they are most amenable to the liveliness of the road. At the same time, the regenerated mall will have a mix of senior, student, and pediatric housing. In the summer, walkable urban streets will be made by adding dedicated bike lanes that convert to cross-country ski paths in the winter. These lanes will help skinny Paris and Regent and act as a calming buffer between pedestrians and vehicular traffic. On the site, new roads will be made that prioritize active transportation and connect people directly to services and their homes. (See Figure 61)

Figure 61

Site Organization Strategies

- Southridge Mall
- Pediatrics
- Students
- Seniors
- Retail
- Circulation

The Hill

The shape of the regeneration of the Southridge Mall will be based on the topography of the pre-existing hill to reinstate the original ecological flows that were disrupted and fragmented in 1979. Offering a dense new fabric for people to co-habitate with the landscape, the mixed-use building gently rises from the recovered pond, using staggered housing units to replicate the characteristic smooth northern slopes.⁹⁷ (See Figure 62) This will allow water to flow down the building and be channelled into the pond, similar to how water flowed on the pre-existing hill.

100. Saarinen, *From Meteorite Impact to Constellation City*.

The Hill is a 9-story building broken up into two sections connected on the ground floor by an inner-courtyard and a programmatic walkway on the 7th and 8th floors. The first level is dedicated to retail. The eastern retail block has an exterior public circulation. Meanwhile, the western block has an interior circulation connected to the existing Southridge Mall. The slope comprises of two-bedroom senior units that each have a large exterior balcony. The staggered senior units rest upon student housing on the eastern side and a mix of student and pediatric housing on the west side. (See Figure 63)

Circulation for the east residential units is a double-loaded corridor that doubles as the back of house circulation for the main level retailers. The west side has a single loaded corridor servicing the residential units that form an interior atrium connected to the existing mall. On the main level, the current circulation from the Southridge Mall has been kept and is the guiding logic for the entrances to the new Atrium Space. Maintaining a linear path of travel between the courtyard and the new walkable urban streets, the eastern retail block is bi-sected to offer a pedestrian underpass into the courtyard.

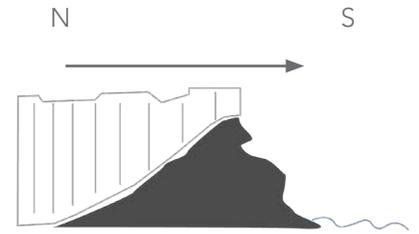
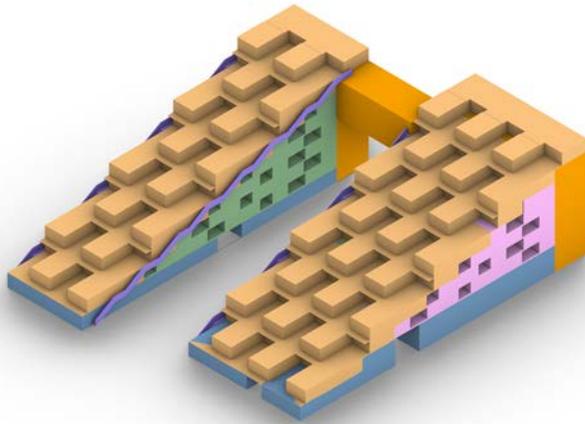


Figure 62
Diagram of Glacial Erosion

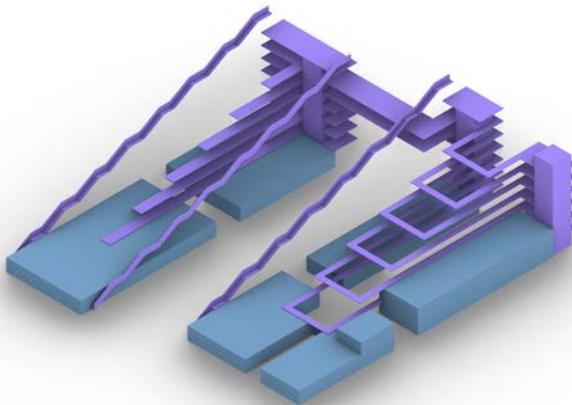
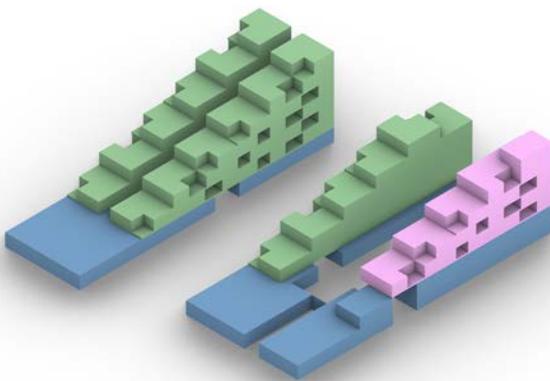


Figure 63
The Hill Massing & Spatial Organization

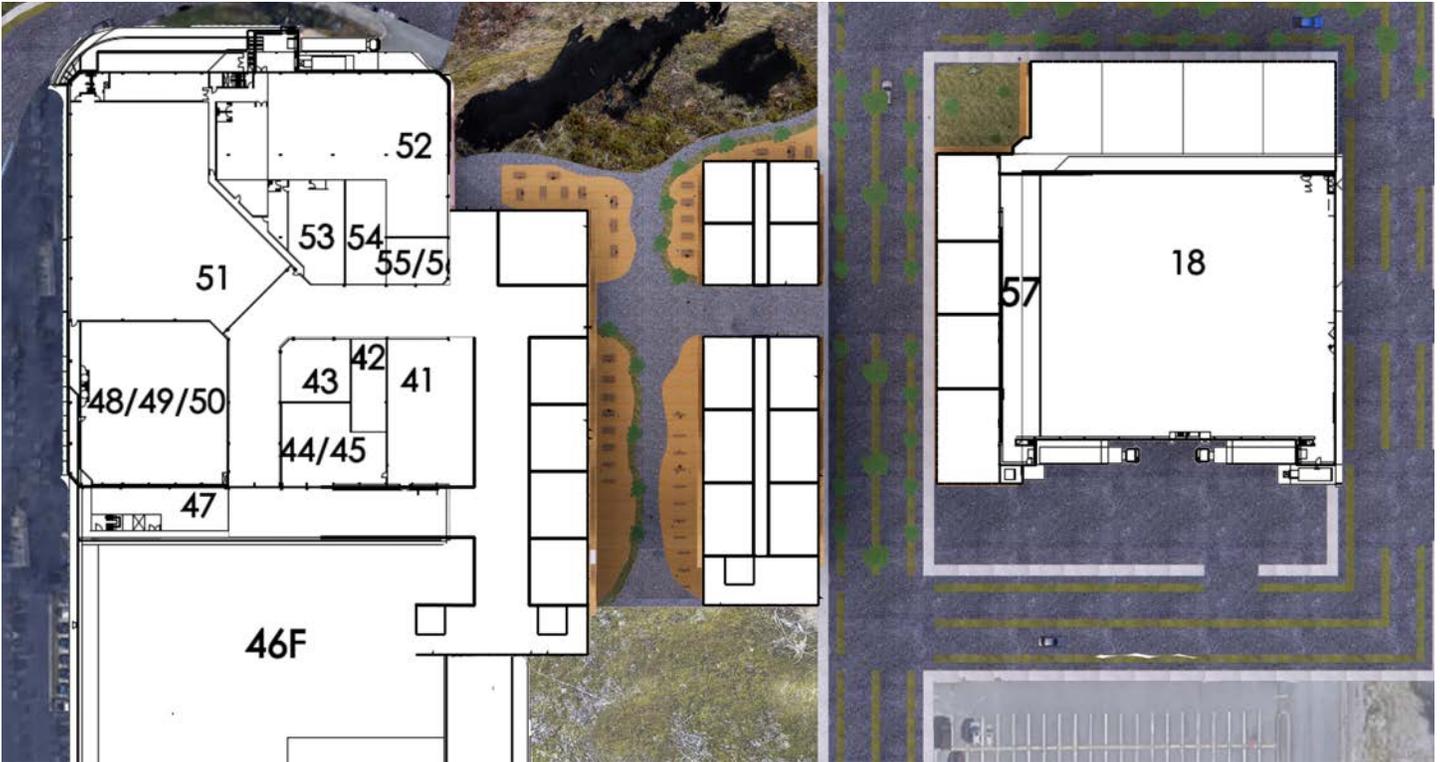


- Circulation
- Pediatrics
- Students
- Seniors
- Retail



Figure 64
Site Map

Re-orienting the public access to the Giant Tiger from the north side to the east allows the retailer to be surrounded by dense mixed-use development on the north and west sides. The mixed-use development proposes senior and family geared townhouses located on top of retail. Access to the townhouses is given through exterior staircases located along the block's perimeter and leads to a rooftop communal backyard space on top of the Giant Tiger. A sloped hill found on the block's northwest corner offers a more gentle means of arriving at the common area. (See Figure 64) Furthermore, the loading docks that serve the existing Southridge Mall have all been preserved to service the new retailers. (See Figure 65)



New retail stalls fill the need for dedicated third spaces in Sudbury’s South End. Currently, there is a lack of space for people to gather and for culturally significant stores that celebrate the varying ethnicities and demographics. In The Hill, the southern façade houses the interior circulation cores and programmatic third spaces for seniors, students, and families receiving pediatric care to interact. The crosswalk located on the 7th and 8th floors that connects the two buildings is a scenic place to be in communion with fellow residents even during the winter. (See Figure 69)

Figure 65
First Floor of Regenerated Mall

Figure 66
(Next page) Perspective Looking at Hill SW





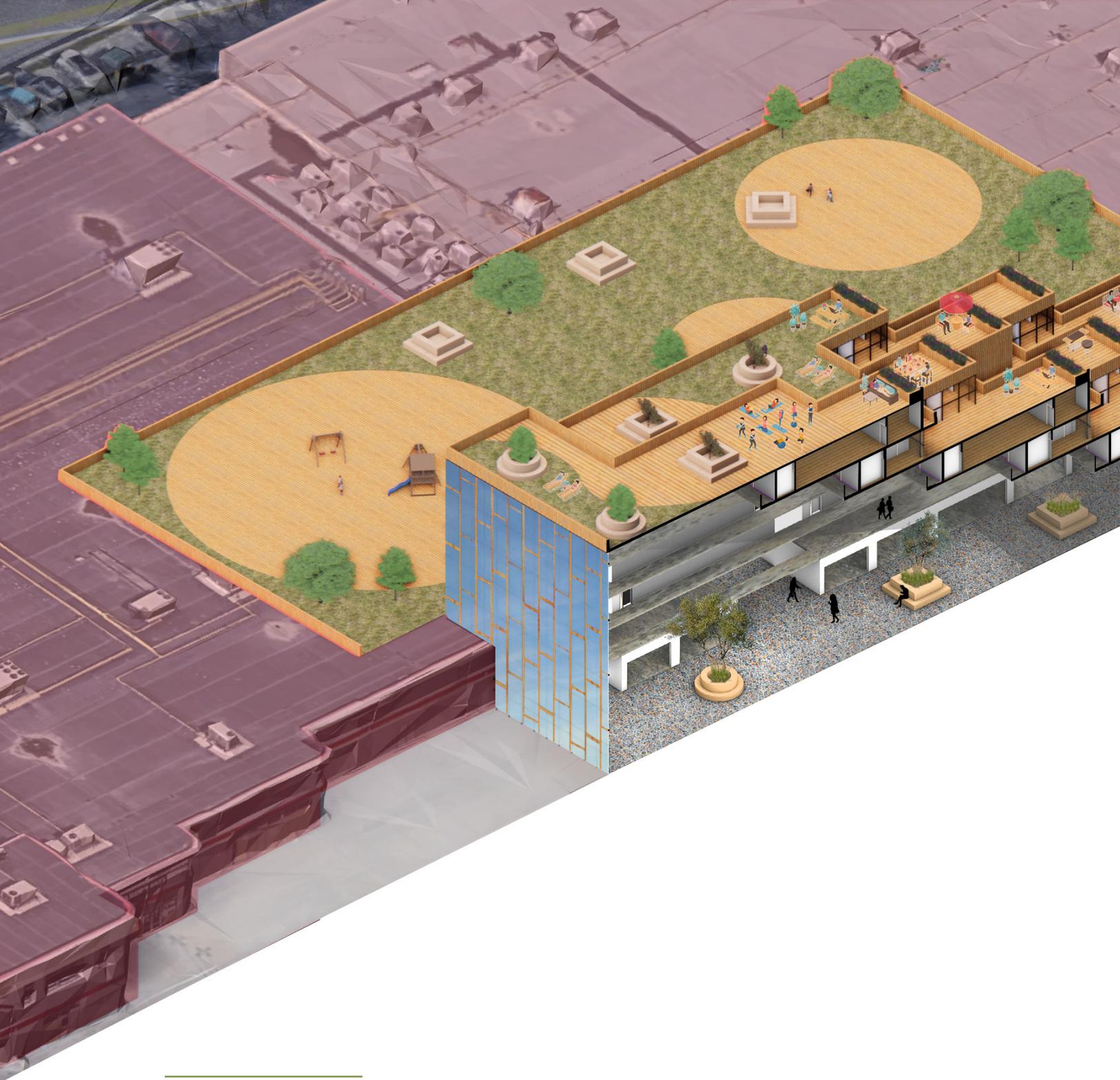


Figure 67
Perspectival Section of Regenerated
Mall



Inside, the Atrium finds a winter garden that is fed sunlight from a south-facing curtain wall. Plants would be able to survive year-round in the open-air market space. Simultaneously, this space could host the Makers North Christmas market that already takes place in the vacant storefronts in the Southridge Mall. (See Figure 68) Similar pop-up events would have the opportunity to occur here year-round. Additionally, many malls are used by the senior population to maintain their activity levels throughout the winter or in severe weather conditions, in an activity called “mall walking.”⁹⁸ The injection of senior housing into the mall will help maintain a steady influx of people inside the mall and would prevent the currently dead interior. (See Figure 67)

The Health Sciences North Pediatric Center is the newest addition to the Southridge Mall and is an opportunity for families from all over northern Ontario to visit the site. Sudbury acts as a central hub for many northern communities that must travel a great distance to access services. Providing a dedicated residence for families that must travel and find accommodations in addition to receiving treatment for their sick children is an excellent way to promote health and wellness on the site. Therefore, a daycare and pediatric play space have been placed on top of the existing mall to allow children and their families to have an opportunity to connect with others in similar situations. This family space can also be used by students who may have children or other families in the area who need additional daycare. The proposed pediatric amenities will remain separate from the care center so as not to contaminate or impact the well-being of others who are receiving intensive care.



Figure 68

Photo of Maker’s North Spring Market held on Saturday April 30th, 2022

98. Dunham-Jones, *Retrofitting Suburbia*.



Figure 69

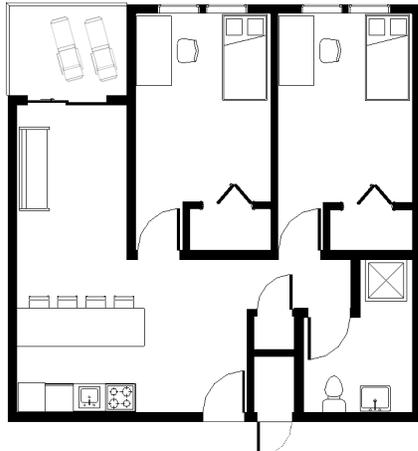
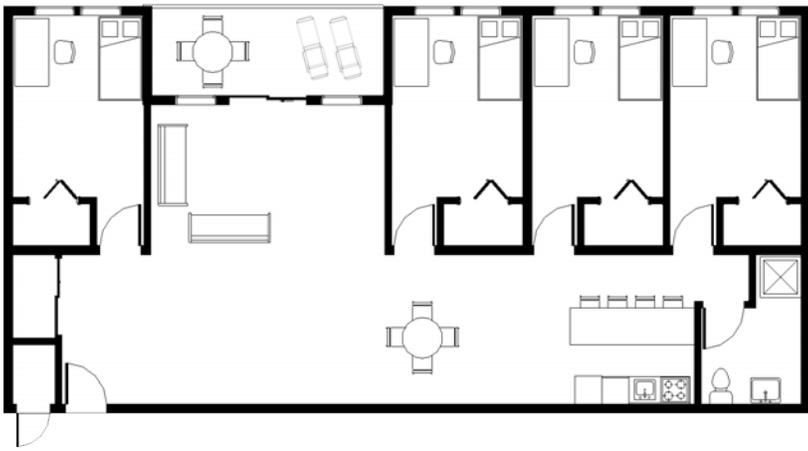
Perspective of The Hill Courtyard

Finally, the new landform will feature an exterior circulation staircase as a secondary means of moving around the building to access the senior units and the rooftop common spaces, creating a vertical neighbourhood. The courtyard will become an extension of the recovered landscape, gently sloping toward the pond to funnel people and water towards this natural amenity. Filled with outdoor patios, this is a lively area where residents of the site and the South End can gather outdoors year-round. Throughout the seasons, the connection from the interior of the mall to the exterior courtyard can remain animated through indoor-outdoor pop-up markets that occupy the circulation spaces. (See Figures 68 & 69)



(Figure 65)

Figure 70
The Hill Typical Residential Floor Plan



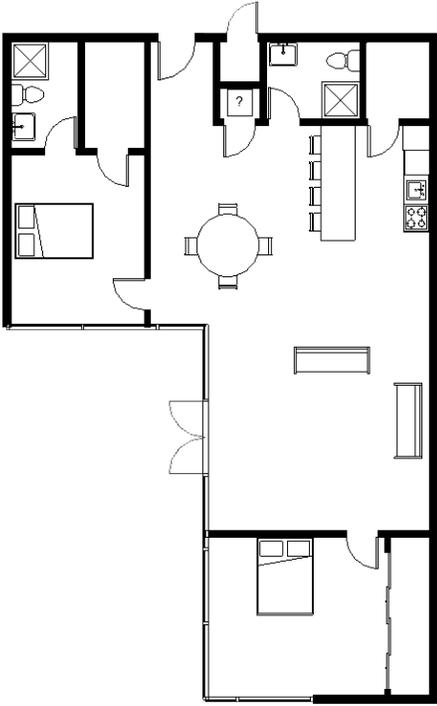


Figure 71

(Upper Left) Perspective from Senior Unit Balcony Facing the Four Corners

Figure 73

(Above) Two Bedroom Unit Layout for Seniors

Figure 72

(Lower Left) Four Bedroom & Two Bedroom Unit Layouts for Students and Pediatric

Figure 74

(Next page) Axonometric of Site





Activating the Four Corners

Only 32 years ago, houses sat at the street level of the Four Corners until the development of the Southridge Mall buried these homes under gabion baskets. Having since been forgotten, the South End has become an unimaginable place to live due to uninhibited box store developments and the unintended consequences of urban sprawl and car-privileging development. Walking along Regent or Paris Street is overwhelming, and there is no refuge from the noise or smells of speeding cars.

The thesis proposes mixed-use developments to line the street edge where the recovered landscape touches closest to the street level, thereby reoccupying the land that was lost. Three proposed developments will be constructed along Regent Street, and one development with an attached parking structure will be placed on Paris Street. Each development will feature retail space on the ground floor, with either 4 or 6 students townhouse units above. Active transportation pathways will narrow the streets and attract cyclists in the summer and cross-country skiers in the winter by connecting the existing path systems around the South End. Introducing a lively student population mixed with active trails should animate the Four Corners and slow traffic.

While all four mixed-use developments may appear identical at first glance, the existing slope along Paris and Regent Street makes each retail unit a different height. The slope may seem insignificant; however, noteworthy results are produced when cutting floor plans from each development's ground plane, as shown in Figure 75. Figure 77 demonstrates that at the ground level of the farthest building from the Four Corners, one is at the third story of the closest units to the Four Corners. The changing storefront heights give each development a unique character that is the product of the land

Figure 75

(Next page) Regent Street Elevation
and Section Study



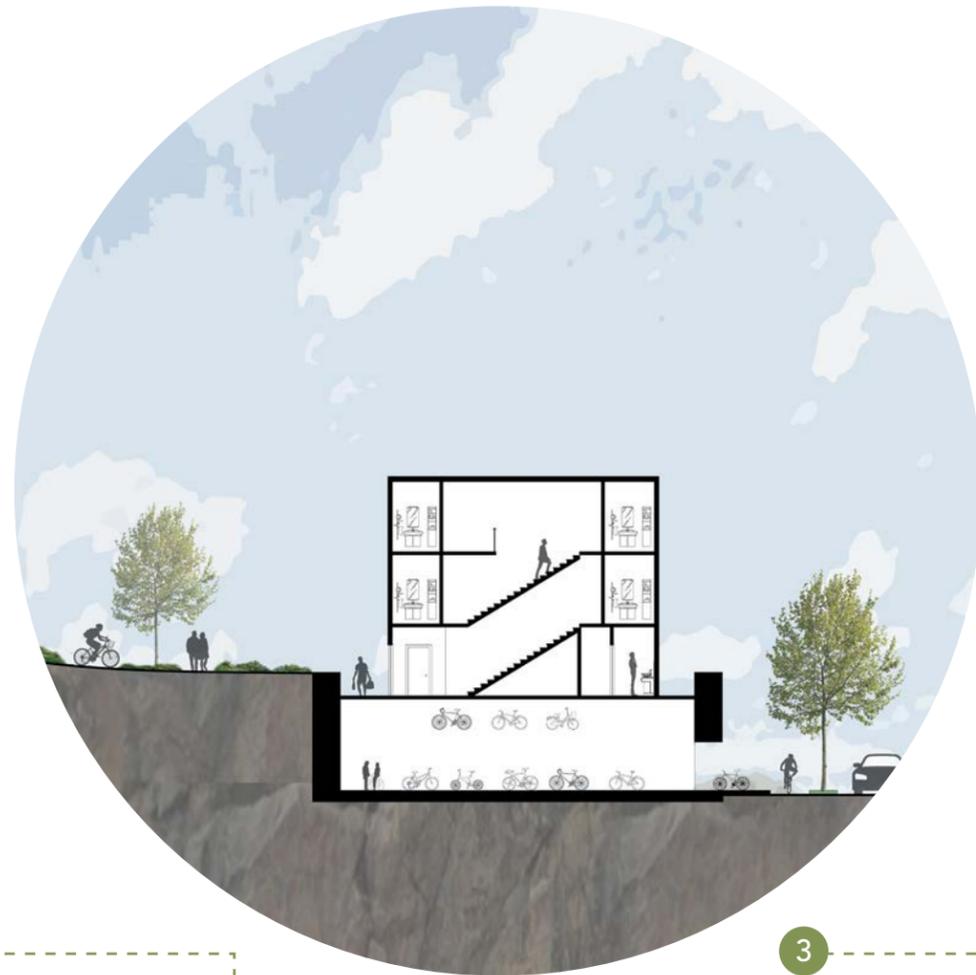
instead of imposing uniformity. Each storefront is fitted with at least one large picture frame window with an extruded bevelled edge to give pedestrians an interactive seating space on the street and store owners an opportunity to advertise their goods on the interior—further activating the street edge and promoting connections to culturally significant spaces.

Figure 76

Site Plan of Mixed-use Developments



4



3



7

6



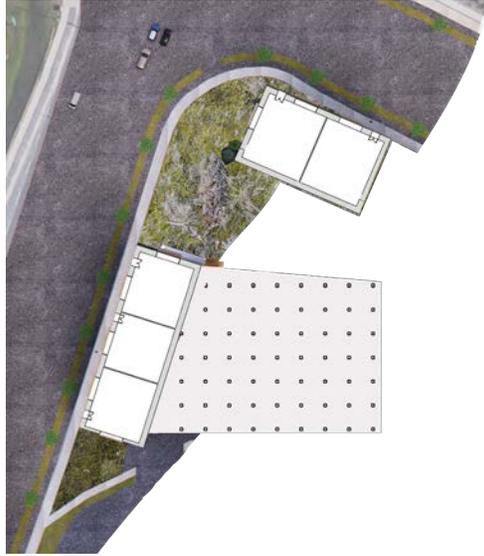
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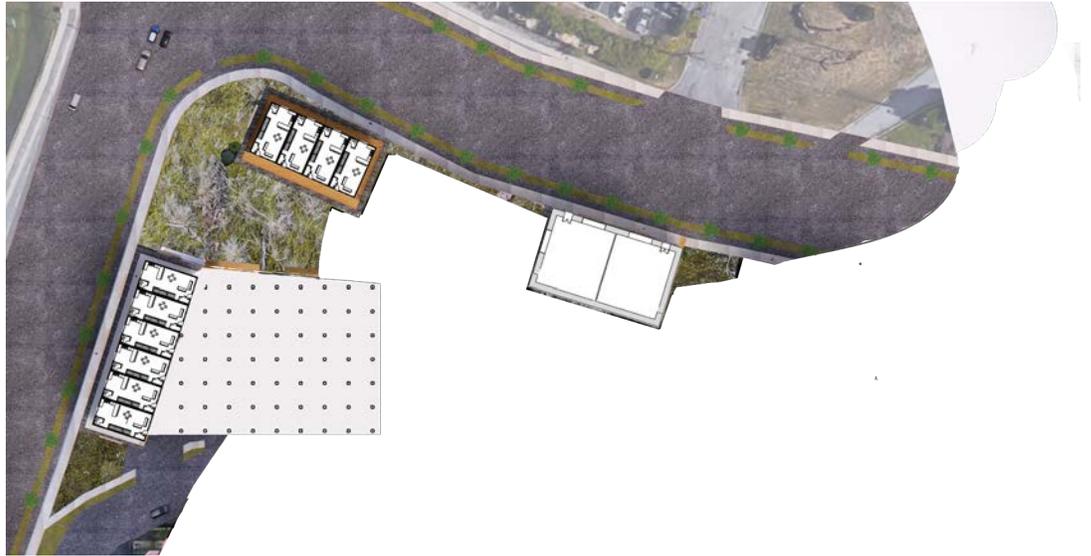
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Figure 77
Plans of Mixed-use
Developments

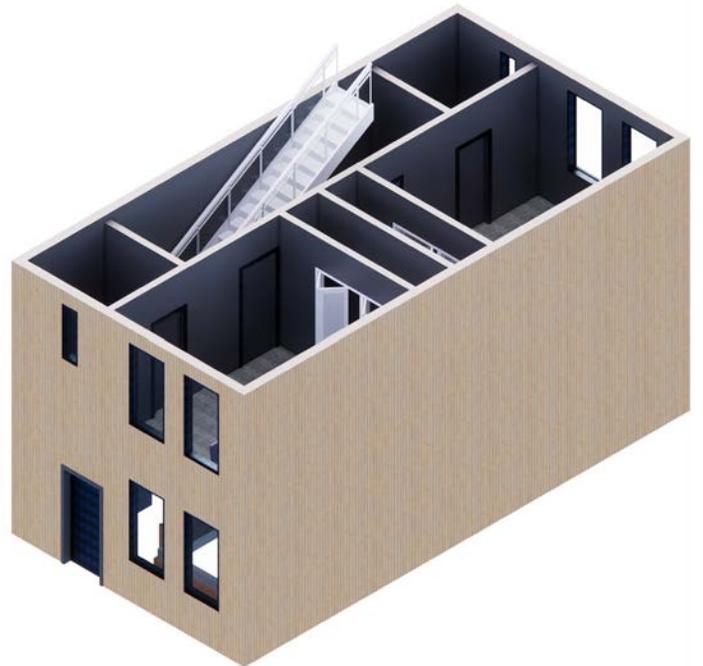
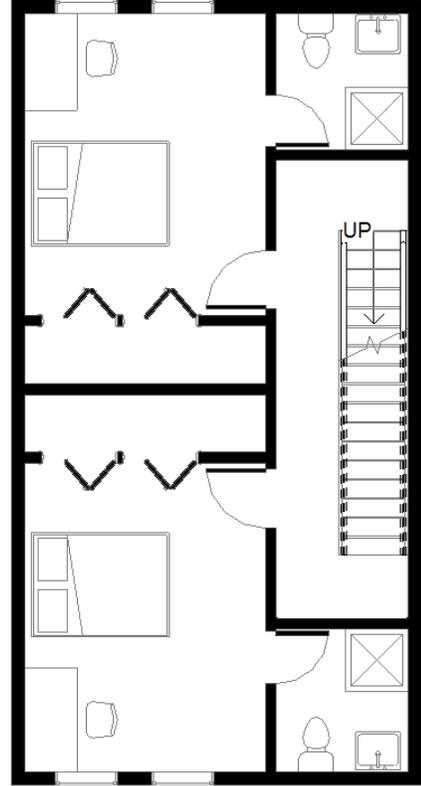
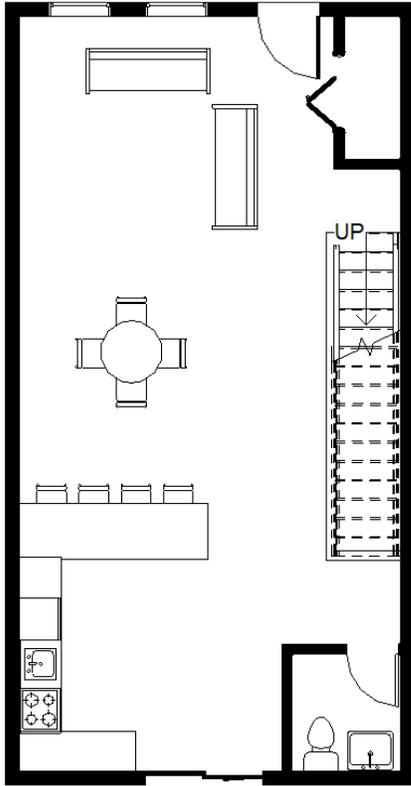




In the sections in Figure 75, one can imagine the different types of retail spaces that could occupy the street edge. In section 1, a Canoe and Kayak shop is shown. This retailer takes advantage of the 4.5-meter-tall space to suspend their products above the ground floor. The store is attached to the parking structure. This lets buyers load their watercraft into their vehicle or portage on the integrated walking paths to nearby attractions like Nepahwin or Still Lake. The parking structure uses the existing sloped landscape to its advantage. Each level of the parking structure can be accessed by the existing car ramp used to get to the ground level of the Southridge Mall. Blasting into the rock to carve out space for an integrated parking structure has little consequence due to the presence of the ramp. This part of the landscape most likely suffered much destruction when the mall was built and is therefore unsuitable for land recovery.

Section 2 shows the local Finnish bakery Leinala's Bakery Limited occupying a prominent space in the South End. Currently tucked away in a shop underneath a parking garage, Leinala's is an extraordinary place for the Finnish community in Sudbury as it provides access to Finnish literature, baking, delicacies, and sauna

Figure 78
Perspective from Collective Backyard above Parking Structure



supplies. The sauna culture that the Finns started in Sudbury has become a local phenomenon, and most homes in the South End, even those not directly attached to a body of water, have a sauna in them. Providing a space in the heart of the South End for people to share their experience of the sauna is community binding.

Section 3 is of a bike shop that, similarly to Section 1, shows the retailer utilizing the extra headroom to suspend products. These retailers are not attached to dedicated parking; however, this is not an issue. The bike lanes and pedestrian paths make cycling or walking to the bike shop more convenient than parking and carrying your bike into the space. Even if customers must commute by car, the adjacent parking structure is no farther away than the distance one might be expected to park their vehicle away from the entrance to nearby grocery stores.

Finally, Section 4 shows a bookstore that supports the student residents above. The lack of dedicated student housing near the university campus requires students to travel a significant distance to access the resources they need. Integrating assets for academic success with student housing situated in the public realm will benefit the residents and make learning material more accessible to the public.

The student townhouse units comprise three levels, with the first having a kitchenette, bathroom, and common area, while the upper two floors have two bedrooms per floor with a personal ensuite. (See Figure 79) Along Regent Street, the severe grade change between the street level and the resurrected landscape allows for direct access to the units from the landscape. However, the units along Paris gain access through the attached parking structure. The parking structure also serves as an alternative method of reaching the mall's ground floor through exterior staircases along the north side. (See Figure 80) The top of the structure is at the same level as the mall's ground floor. Instead of featuring additional parking, it is host to a communal backyard space.

The organization of buildings along the perimeter of the Four Corners transforms an unpleasant and inactive place into a vibrant town center that reintroduces the landscape. (See Figure 80)

Figure 79

Townhouse Unit Layout for Students

Figure 80

(Next page) Perspective from the Four Corners







Walkable Urban Streets



Prioritizing Active Transportation



Consolidating and Beautifying Parking

Conclusion

Currently, Sudbury's South End has little to no evidence of the culturally significant eras of its past. The effects of commercialization and sprawl have removed a rich history of people co-existing with the landscape and utilizing its interconnectivity to their advantage. The Finnish population was the first group that established themselves around Nepahwin Lake to escape the bustle of downtown Sudbury. The Finns created a vibrant community that celebrated their sacred sauna traditions at Work Man's Park and held outdoor events and summer camps at the adjacent athletic field. They also formed a Finnish newspaper, bakeries, shops, and an elementary school that supported a robust cultural identity tied to the landscape. At the same time, active transportation infrastructure connected the South End to nearby townships wherever the landscape was most agreeable for travel.

The forces that gentrified the area and pushed previous settlements out of their homes continue to sprawl into the remaining forested areas around the South End. One such cherished landscape is the Five Lakes Area behind the Moonglo neighbourhood. Currently threatened by the construction of 180 single-detached houses, this land contains many vital wetlands and an expansive trail network that supports outdoor recreation year-round. There is a severe contrast between how services were organized around the landscape when the Finnish population inhabited Nepahwin Lake versus the fractured commercial district known as the Four Corners.

This thesis asks the question: *how can we develop a strategy to reinstate culturally significant architecture and introduce walkable urban infrastructure that prioritizes active modes of transportation?*

Early in the thesis, it became apparent that the proposed Moonglo housing development should inhabit the currently mishappen Four Corners to preserve the Five Lakes Area. An in-depth mapping analysis found the Four Corners to be missing any green space, lacking a coherent pedestrian system that connects users directly to

services, an abundance of parking lots and was unsafe due to two arterial roads packed with cars that blast through the area.

To remedy this, five principles were established based on ideologies from new urbanists such as Jane Williamson and Peter Calthorpe. Walkable urban streets have been created by moving buildings up to the street edge to create a tighter and more pedestrian-friendly experience. Active modes of transportation have been prioritized by connecting the existing trail networks with bike lanes that convert into cross-country ski lanes in the wintertime. Parking lots have been consolidated and beautified by constructing a parking structure nestled into the landscape that doubles as a collective backyard where residents can move vertically on the site. New landscapes have been created through The Hill, a mixed-use building that uses the existing mall's roof and exterior circulation to become an interactive extension of the landscape. Finally, infrastructure has been based around the landscape by recovering the pre-existing hill and utilizing its peaks and valleys as a method to access the site.

The thesis proposal introduces new ways of living and transportation methods that align with Sudbury's 2050 Net Zero goals, as highlighted in the CEEP. If the proposal were to be completed as specified, the new town center would begin to transform the rest of the Four Corners. With increased interest and activity occurring around the site, demand for additional living accommodations that follow these design principles will encourage developers to regenerate their car-dependent, isolated developments.

Drawings produced to imagine this regenerated landscape are a palimpsest of the area's maps, images, and history. Analyzing the site's evolution through aerials and elevations exposed how the region became disconnected; however, it also revealed where the trauma to the landscape could be undone. Finding inspiration from the textures and precious moments found on trails, a process of texture mapping images onto these remediation sites brings the best parts of the surrounding wilderness into the Four Corners. Looking toward 2050, I hope that the presence of nature increases in the South End of Sudbury so that people can venture out on foot directly from the Four Corners to experience the incredible landscape that has fully reclaimed its place in our city.



Creating New Landscapes



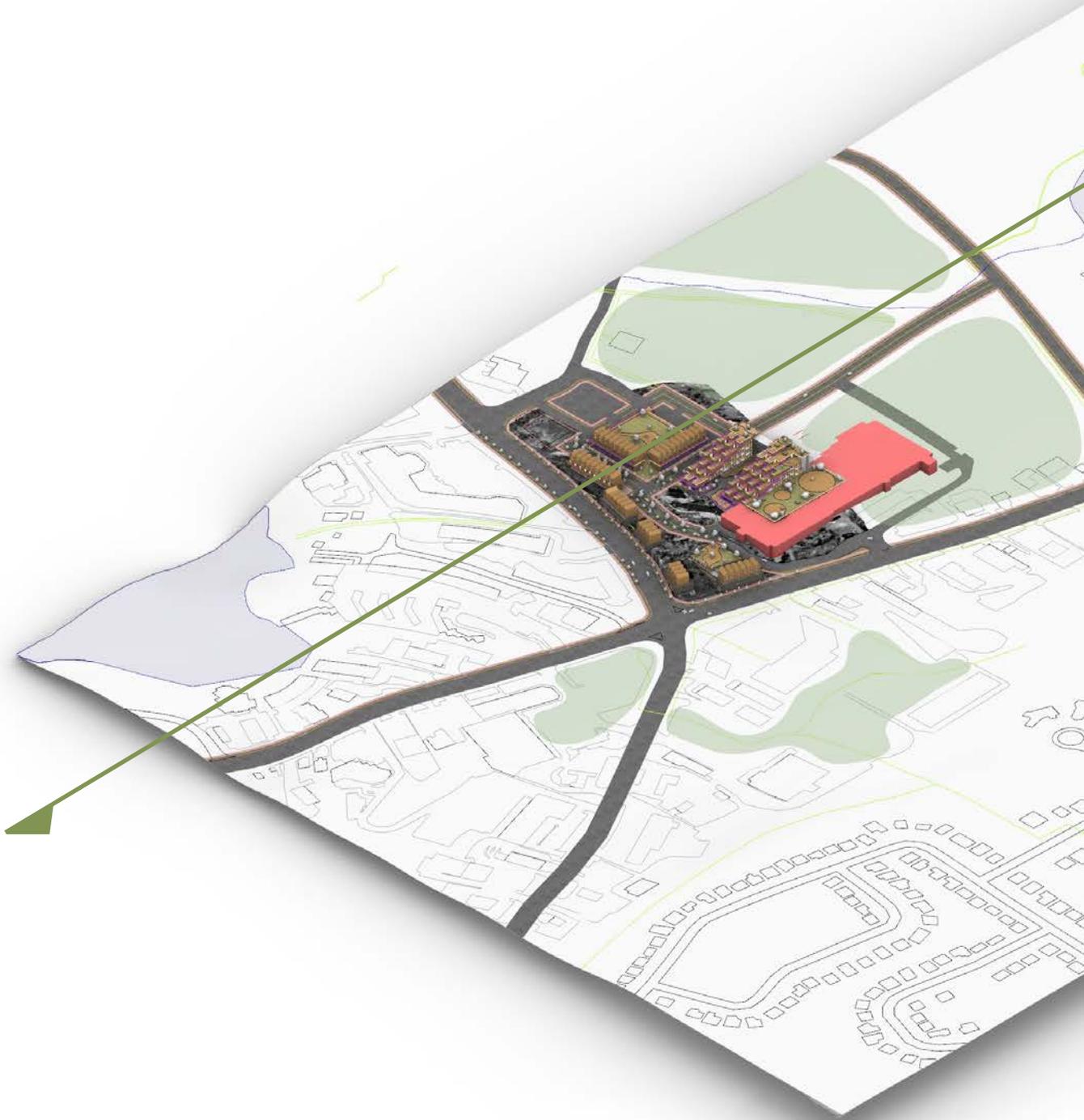
Landscape Based Infrastructure

Figure 81

The Five New Urbanist Design Principles

Figure 82

(Next page) Future Sites of Regeneration in the Four Corners





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