



SUSTAINABLE LANDSCAPE PLAN

 MOHAWK

2016

Acknowledgments

The Mohawk College Sustainable Landscape Plan was prepared under the guidance of the Mohawk College Sustainability Office and with input from Aboriginal Student Services. The consultant team was comprised of:

- Brook McIlroy Inc. (Landscape Architects, Architects, Planners and Urban Designers), in collaboration with:
- Aquafor Beech (Storm Water Management)
- Virginia Taylor Landscape Architect (Community Gardening)
- Orchard People (Orchard Specialists)

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Executive Summary

The Sustainable Landscape Plan guides transformational sustainable practices that enhance and develop Mohawk College's outdoor spaces.

The Sustainable Landscape Plan for Mohawk College has been prepared to guide improvements to outdoor spaces in a manner that demonstrates Mohawk's leadership in creating an environmentally sustainable setting for learning, research and community service. This plan also allows the College to proactively identify and address potential risks associated with climate change, including major weather events and effective stormwater management.

The Sustainable Landscape Plan is designed to be a 'living document' that will evolve in alignment with best practices and the changing needs of our staff and students. The recommendations within this document take into consideration the College's role in regional economic development, Mohawk's institutional carbon impact and recognize the financial benefit of taking action with regard to sustainable planning for outdoor environments.

Following an introduction that provides an overview of the plan and the policy context, the report provides an analysis of the context for the Fennell and Stoney Creek Campuses, their locations in the region, and within the city of Hamilton. An overview of weather and climate, including a discussion about climate change, provides further context to frame sustainability recommendations.

The Campus Analysis section provides an overview of Mohawk's demographics, and provides a description of the two sites that includes existing open spaces, landscape elements, and a summary of connectivity and mobility.

The Campus Opportunities section introduces best practices and emerging trends in campus design and discusses applicability to Mohawk College. This section addresses the need for a contemporary learning environment and the promotion of sustainability. Current and Future Opportunities are presented as context for recommendations in the areas of: buildings and development, open spaces, gardens and food, mobility and circulation, parking, and teaching and learning.

The Vision section outlines a series of objectives that guide the vision for the Sustainable Landscape Plan by identifying outcomes that support sustainability and an enhanced campus experience. These objectives build on existing strategic plans for Mohawk College.

The Campus Places section aims to create campuses that become exemplary educational and living laboratories for a sustainable culture. The section presents a detailed description of campus places and their intended character, activities and priority actions for both campuses.

Guiding Principles are also outlined, identifying a material and planting palette that will create visual continuity across campuses, and reinforcing Mohawk's commitment to a pedestrian-first priority and a comprehensive public art strategy.

The Stormwater Management section provides an overview of the opportunities and options for sustainable stormwater management addressing flooding, water quality, stream morphology, groundwater protection and aquatic habitat.

The Campus Consultation section provides an overview of the consultation methodology that was undertaken as part of the Sustainable Landscape Plan and other strategic plans. The section outlines and summarizes the discussions that guide future development at Mohawk College.

Finally, the Implementation section summarizes strategies to implement the recommendations of the Sustainable Landscape Plan addressing programs, partnerships, and capital planning.



The H-Wing Terrace.



1.0/ Introduction & Background

The following section introduces the purpose and objectives of the Mohawk College Sustainable Landscape Plan for the Fennell and Stoney Creek Campuses, and its relationship to other on-going strategic initiatives.

1.1/ Introduction

The Sustainable Landscape Plan provides a vision for the programming and design of the College's open spaces and the outdoor networks that link key campus destinations.

The Sustainable Landscape Plan guides future open space and landscape projects.

Mohawk College is committed to creating sustainable campuses with high quality outdoor spaces and cohesive designs that foster academic excellence while integrating the campus learning environment into the Hamilton community.

The Sustainable Landscape Plan provides a comprehensive vision for the design and programming of campus open spaces. As Mohawk College aims to be a leader in environmental sustainability through reducing wasteful consumption (i.e. a 30% reduction in 2007 level emissions by 2020)¹, the Sustainable Landscape Plan will foster economic, social, and environmental sustainability while strengthening opportunities for the campus community to directly engage and share responsibility in achieving the Action Items identified in the Mohawk College Environmental Management Plan (EMP) 2.0.²

Key projects will facilitate on-site food production, sustainable agriculture, stormwater harvesting, and

a variety of collaborative and educational programs that augment the Campus Renewal Plans³, as well as the College's Strategic and Academic Plans. The Indigenous Gathering Place strengthens the College's commitment to further indigenize the campus and broaden the understanding of the indigenous experience by creating a campus focus that draws people of all backgrounds together in a space of learning and celebration.

New and enhanced open spaces will provide students, staff and faculty with unprecedented access to social, learning, and collaborative outdoor spaces, while strengthening the College's connection to the surrounding community.

The Plan represents the collective vision of the College, its staff, and its students. It will be used by the College (e.g. Capital Planning, Facilities Management, etc.) to guide future development and investment in campus open spaces in accordance with a detailed phasing and implementation strategy.

As a visual expression of the College's commitment to sustainability, aspects of the Sustainable Landscape Plan will be used in the College's marketing and

promotional efforts to attract new staff, faculty and students, as well as potential investment and funding partners.

Ultimately, the Sustainable Landscape Plan will augment the Campus Renewal Plans, EMP 2.0, and the Future Ready Facilities Plan.

The Sustainable Landscape Plan intends to provide the College and its partners with a clear vision and implementation strategy to ensure new developments, including built form, infrastructure and open spaces, furthers the College's strategic, academic, and sustainability goals.

The Sustainable Landscape Plan is designed to be a 'living document' that will evolve in alignment with best practices and the changing needs of our staff and students.

¹ Environmental Management Plan (EMP) 2.0, 2014, Page 21

² Ibid., Pages 25-64

³ IBI Group, 2014



The Mohawk Students' Association Plaza.

1.2/ Background

Previous projects and renovations at both campuses have placed Mohawk College at the forefront of sustainable campus development.

A Sustainable Foundation

Along with social and financial sustainability, environmental sustainability is a cornerstone of Mohawk College's Strategic Plan. The College works with the community, businesses, other colleges and universities, and individuals to promote environmental awareness and sustainability. Mohawk College has reduced its impact on the planet and, moving forward, it has established comprehensive policies to build a sustainable and prosperous future for generations to come.

The documents outlined below guide the physical development of Mohawk's campuses, including built form, open space programming, and space planning. The Sustainable Landscape Plan will be an integral component in this foundation. It will build on the directions of the existing policies, providing a vision for the design and programming of open spaces and the spaces that link key campus destinations.

The Sustainable Landscape Plan will further emphasize the College's commitment to quality, innovation, and sustainability in all aspects of campus development.

Environmental Management Plan (EMP) 2.0

The Environmental Management Plan 2.0 (June 2014) is the College's leading land and facilities policy document, guiding the transformation to an environmentally, socially and financially resilient institution.

The Pillars, Strategies and Actions outlined in the plan have established Mohawk College as an industry leader in sustainability, exceeding original targets (i.e. a 20% reduction in 2007 baseline emissions by 2020) eight years ahead of schedule.

Demonstrating a continued commitment to sustainability, a revised plan (EMP 2.0) was prepared, setting new sustainability targets (i.e. 30% reduction in 2007 baseline emissions by 2020).

EMP 2.0 focuses on the Sustainability Office's commitment to initiatives, programs and incentives that demonstrate strong leadership aimed at further embedding sustainability into the fabric of the College's daily operations. Integrating sustainability into regular campus activities will reduce carbon emissions and operational costs, and provide an improved quality of life for students, staff and the broader community.

The Fennell Campus Renewal Plan

The Fennell Campus Renewal Plan (August 2014) provides a comprehensive master plan that guides physical growth, including buildings, open space and landscaping, in support of the College's values of promoting a sustainable environment and fostering innovation. The Plan considers the future of Fennell Campus and how it addresses adjacencies in the community, as well as how the campus functions within its built footprint.

The Renewal Plan derives from the desire to improve the design of Fennell Campus. The Plan establishes a vision for the campus that reflects the views of the Board of Governors and College stakeholders, while recognizing other precedent setting campus master plans.

The pillars of the plan include:

1. Quality - The Plan calls for first class facilities and built environments to provide the appropriate technologies and support to foster excellence.
2. Innovation - The Plan creates spaces for applied research and leadership to foster partnerships with business, industry, community, government and educational institutions.
3. Sustainability - The Plan makes sustainability an integral and visible priority at Fennell Campus.

The Stoney Creek Campus Renewal Plan

The Stoney Creek Campus Renewal Plan (July 2014) acts as a guide for the built form of Stoney Creek Campus. The Plan looks to the future of the campus and how to address adjacencies with the community, as well as how the campus functions within the built footprint. The Plan offers a foundation to guide physical growth in the form of buildings, open space and landscape in support of the promoting a sustainable environment and fostering academic excellence.

The process of renewal planning incorporates the views of the Board of Governors, stakeholders of Stoney Creek Campus, and takes direction from other precedent setting campus master plans.

The pillars of the Plan include:

1. Quality - The Plan calls for the highest quality facilities and built environment. Mohawk will provide staff and students with first-class facilities that have the appropriate technologies and the support required to foster excellence.
2. Innovation - The Plan strives to create spaces for hands-on experience and in-class learning,

preparing students with skills and industry knowledge needed to succeed in the workplace. Through partnerships with business, industry, community, government and others, Mohawk will generate prosperity and connect with the communities it serves.

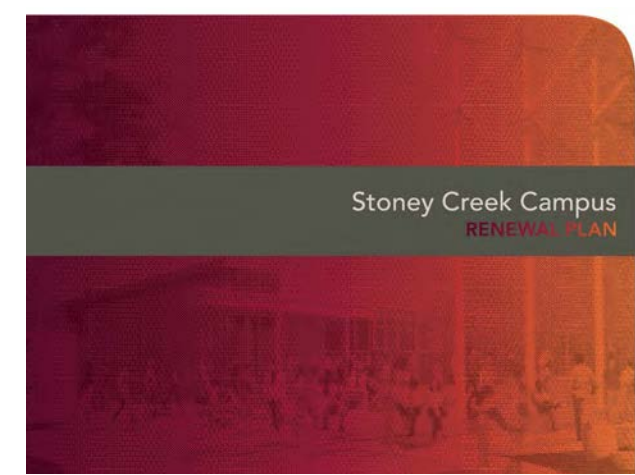
3. Sustainability - The Plan strives to make sustainability a visible priority. Through building and renovating to LEED® standards, site design, native landscaping, stormwater management, public transit and renewable energy resources, Mohawk College will be a leader in being 'green.'



Environmental Management Plan 2.0 (June 2014)



Fennell Campus Renewal Plan (Aug 2014)



Stoney Creek Campus Renewal Plan (July 2014)

Building on Momentum

Guided by the documents outlined in Section 1.2.1, the Fennell Campus Renewal Project is the largest renovation in Mohawk College history, and is designed to make the entire campus a more welcoming place to live and learn. In addition to two LEED Gold buildings (The Learning Exchange & Cummings Library and the David Braley Athletic and Recreation Centre), and the Mohawk College Terminal (MCT), a number of 'Sustainable Landscape' projects have been undertaken, including:

- Mohawk Students' Association (MSA) Plaza- A pedestrian-only square constructed on an underutilized area. The MSA Plaza features include: walking paths and pedestrian-only areas, permeable concrete and paving stones, new trees and plant species, and programming that supports health and wellness.
- The expanded Community Garden, a 50 plot, 320 square foot garden near the front entrance of the campus.

- The Fennell Lawn, a large flexible open space associated with the Learning Exchange & Cummings Library.
- A green roof associated with the Learning Exchange & Cummings Library.
- The Amphitheatre and associated native and low-maintenance planting.
- The designation of 200+ parking spaces for alternative modes of transportation, including e-vehicles (4), bicycles (170), carshare (2), and carpool (40).
- External signage and wayfinding that improves the on-campus experience for students and visitors, contributing to Mohawk's identification and ease-of-use.

Combined, these spaces achieve a variety of environmental, social and economic sustainability objectives including:

- The reduction of non-porous surfaces on campus.
- The reduction of energy costs through the reuse of on-site run-off.

- Campus production and distribution of food.
- The augmentation of the urban tree canopy and campus landscaping, which improves air quality, reduces energy costs, absorbs runoff, and improves mental health.
- Flexible open spaces that accommodate a variety of uses and ensure the long-term usability of outdoor spaces.
- Support for alternative modes of transportation.

As local and global sustainability initiatives gain momentum, Mohawk College must continue to build on the work completed to-date to remain competitive, allow the College to continually recruit and retain students, and provide a positive working and learning environment for all students and staff.



Students utilizing the pedestrian-only MSA Plaza.



2.0/ Campus Context

This section provides an overview of Mohawk College's campus locations within Hamilton and the surrounding region to illustrate geographic, policy and climatic contexts.



2.1/ Campus Location - Fennell

Fennell Campus is well-integrated into its adjacent context, including the Hamilton Mountain and surrounding neighbourhoods.

Mohawk College's Fennell Campus is located on the Hamilton Mountain, approximately 2.5 kilometers southwest of the Downtown. The campus is bordered by Fennell Avenue to the north, West 5th Street to the east, Governors Boulevard to the south, and Hillfield Strathallan College to the west.

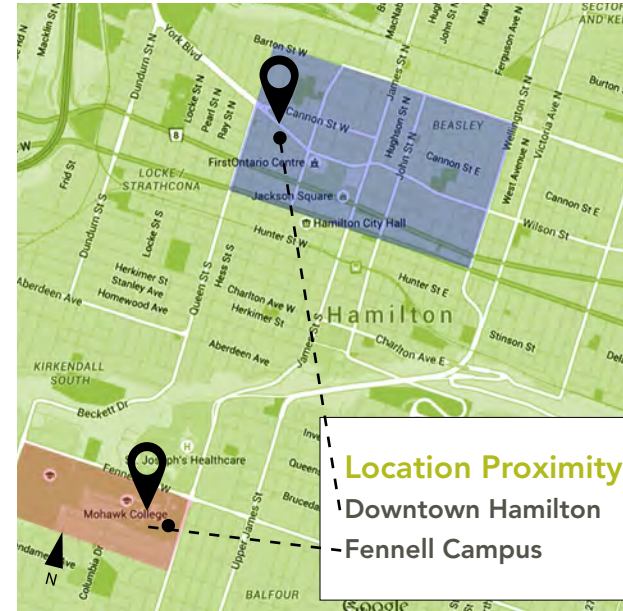
Adjacent Context

Fennell Campus is well-integrated into its surrounding neighbourhood, which includes:

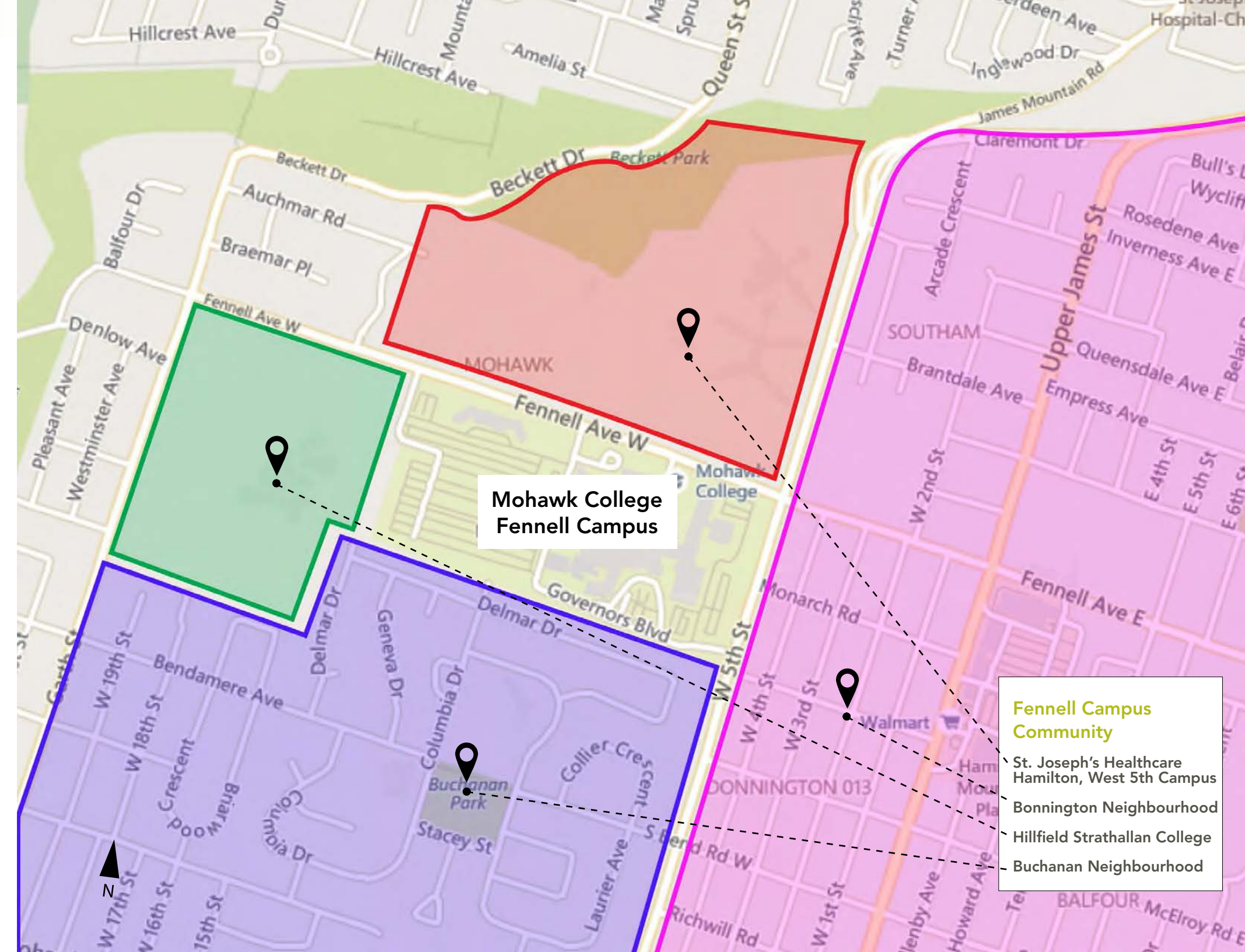
- St. Joseph's Healthcare Hamilton, West 5th Campus - An 850,000 square foot mental health and medical facility opened in 2014. With affiliations to Mohawk College and McMaster University, the hospital is an academic health science centre where research, clinical care, and education are interconnected. Certified LEED Gold, the building (and surrounding campus) promote sustainability through solar orientation,

preservation and infill of the existing tree canopy, a sustainable stormwater management system and the use of recycled materials.

- Hillfield Strathallan College - A 50-acre private, co-educational day school campus divided into four unique schools including Montessori, Junior, Middle and Senior School.
- Bonnington Neighbourhood - A residential neighbourhood to the east of Mohawk College, Bonnington has a strong grid-network of streets that link to the College's east side via West 5th Street.
- Buchanan Neighbourhood - A residential neighbourhood characterized by single detached dwellings to the south of Mohawk College. Buchanan has a curvilinear street configuration with direct links to the south side of the campus via Delmar Drive and Columbia Drive.



Fennell Campus Relative to Downtown Hamilton



2.2/ Campus Location - Stoney Creek

The Stoney Creek Campus exists in an area that is comprised of largely industrial areas with some nearby residential neighbourhoods.

Mohawk College's Stoney Creek Campus is located in Lower Stoney Creek, approximately 20 kilometers east of the Downtown. The campus is bordered by Arvin Avenue to the north, Dewitt Road to the east, Barton Street to the south, and the Leaside Avenue to the west.

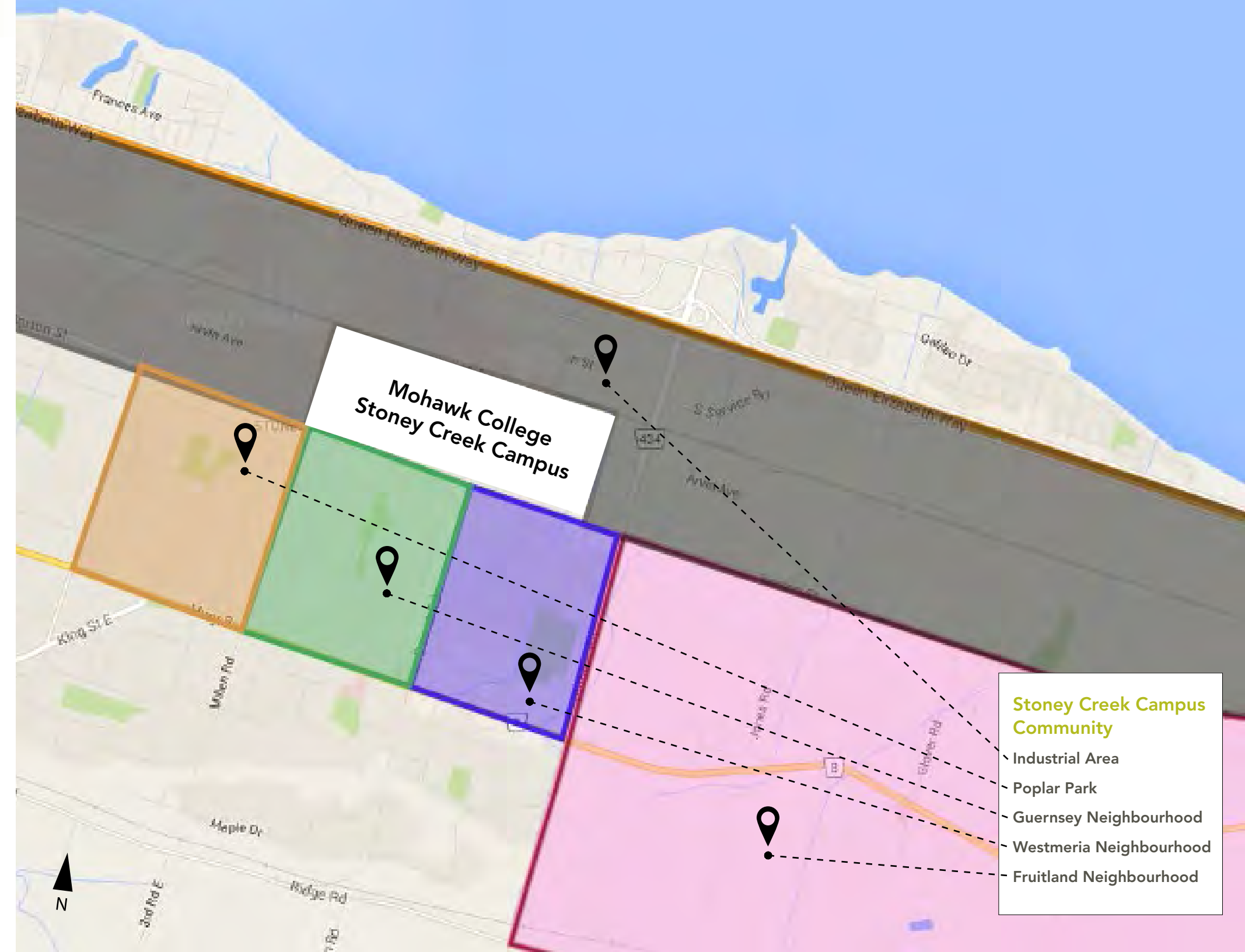
Adjacent Context

Stoney Creek Campus is located in an area largely comprised of commercial and industrial development, with some nearby residential neighbourhoods:

- Nearby industrial and commercial properties include a variety of uses such as automotive repair and sales, manufacturing, logistics and distribution, and others.
- Taylor Steel - A family-owned business since 1967, Taylor Steel is a producer and seller of flat rolled steel products. Part of the lands owned by Taylor Steel border on the Stoney Creek Campus.
- Guernsey Neighbourhood - A residential area located to the south of the campus, across Barton Street. The neighbourhood is characterized by detached homes with a high percentage of home ownership, and is primarily populated by families.



Nearby industrial properties in Stoney Creek.



2.3/ The City

The city of Hamilton is nestled between the Hamilton Harbour and the Niagara Escarpment, with significant new growth focused on 'The Mountain.'

Hamilton

Hamilton is located roughly midway between Toronto and Buffalo, and is the focal point of the Golden Horseshoe. The port city dates back to the 19th Century, and today encompasses a number of municipalities which became a part of Hamilton in the amalgamation of 2001: Ancaster, Dundas, Flamborough, Glanbrook, and Stoney Creek. The joining of these communities to form the 'new city of Hamilton,' has contributed to the diverse social and economic fabric of the city.

With most of the city on the south shore of Lake Ontario, the city's location is an established hub for multiple modes of transportation and goods movement. The Port of Hamilton is the busiest of all Great Lakes ports, and the John C. Munro International Airport is Canada's largest courier and cargo airport. Hamilton is also in proximity to rail lines and provides easy access to 400 series highways.

Hamilton's metropolitan area is the ninth largest in Canada and the third largest in the province. That being said, the city is heralded as an industrial powerhouse that successfully coexists with beautiful natural surroundings. Approximately 60% of Hamilton's total land area is designated as rural,

supporting a booming agricultural sector. Some well-known natural attractions include the Bruce Trail and more than 100 waterfalls and cascades.

The two major physical features are the Hamilton Harbour, which marks the northern limit of the city, and the Niagara Escarpment running through its middle on an east-west axis, forming the division between the upper and lower city.

The Mountain

Recognized as the fastest growing area of Hamilton, the upper city or "Mountain" is an area of significant urban expansion.

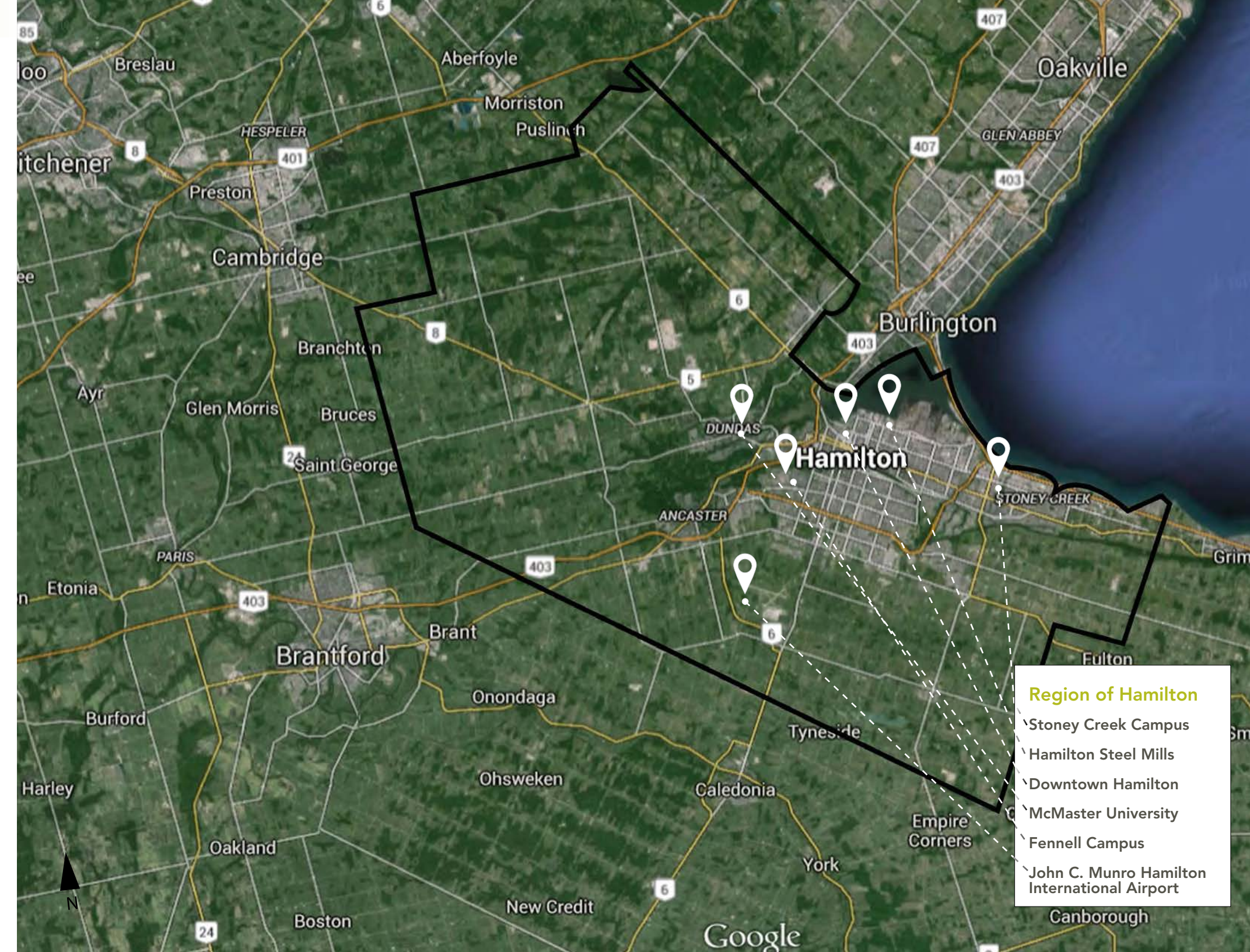
The area has a multi-faceted socio-economic composition ranging from low-income public housing to million dollar estates, from highly-paid unionized workers to small-wage unskilled workers, and from long-established families to recent immigrants.

The land on which Fennell Campus presently sits was previously owned by the Hamilton Psychiatric Hospital (now St. Joseph's Healthcare, Hamilton, West 5th Campus). The site was used as farmland to meet the food requirements of the patients and

staff that inhabited the hospital until the 1960s when agricultural activity ceased at the site, and the land was sold.

Since that time, the area has developed considerably to include a number of amenities and attributes. The community is served by stores and major shopping centres along Upper James Street from Fennell Avenue to Rymal Road. Major retail also includes the Concession Street shopping district, the Meadowlands Power Centre near the border of Ancaster and the main retail hub at Limeridge Mall. Additionally, the area boasts a number of parks, natural areas, unique historical destinations as well as 51 elementary schools, 12 secondary schools, and four public libraries.

While many of the residential properties on the Mountain are occupied by single families, there is a strong demand for rental housing. A high concentration of rental housing marketed to students is located in the neighbourhood to the east of West 5th Street, bordered by Fennell Avenue and Mohawk Road.



2.4/ The Region

Mohawk College is located within one of Canada's fastest growing regions, where urbanization is carefully balanced with the protection of natural features.

Greater Toronto and Hamilton Area

The Greater Toronto and Hamilton Area (GTHA) includes the City of Toronto, the four regional municipalities that surround it (Durham, Halton, Peel and York), and Hamilton. With a current population of over 6 million people, it is Canada's largest urban region. The GTHA is also one of Canada's fastest growing urban regions, forecasted to grow to 8.6 million people by 2031.

The GTHA represents the third largest financial centre in North America, and is a hub for commerce, distribution, finance and economics, with the largest industry being in financial services. While agricultural uses have been decreasing steadily in the GTHA over the last decade, it still represents a significant economic driver, particularly in Toronto's four regional municipalities.

Areas within the GTHA are generally well-linked through a network of highways, with Downtown connections through higher order transit.

The Niagara Greenbelt

In response to the rapid growth of the GTHA, the Greenbelt Plan (Ministry of Municipal Affairs and Housing, 2005) was established to protect agricultural and natural areas for current and future generations. By designating areas where development should not occur, the Greenbelt Plan has become a significant driver for intensification within established Settlement Areas in the GTHA, including Hamilton. The Plan is currently under review.

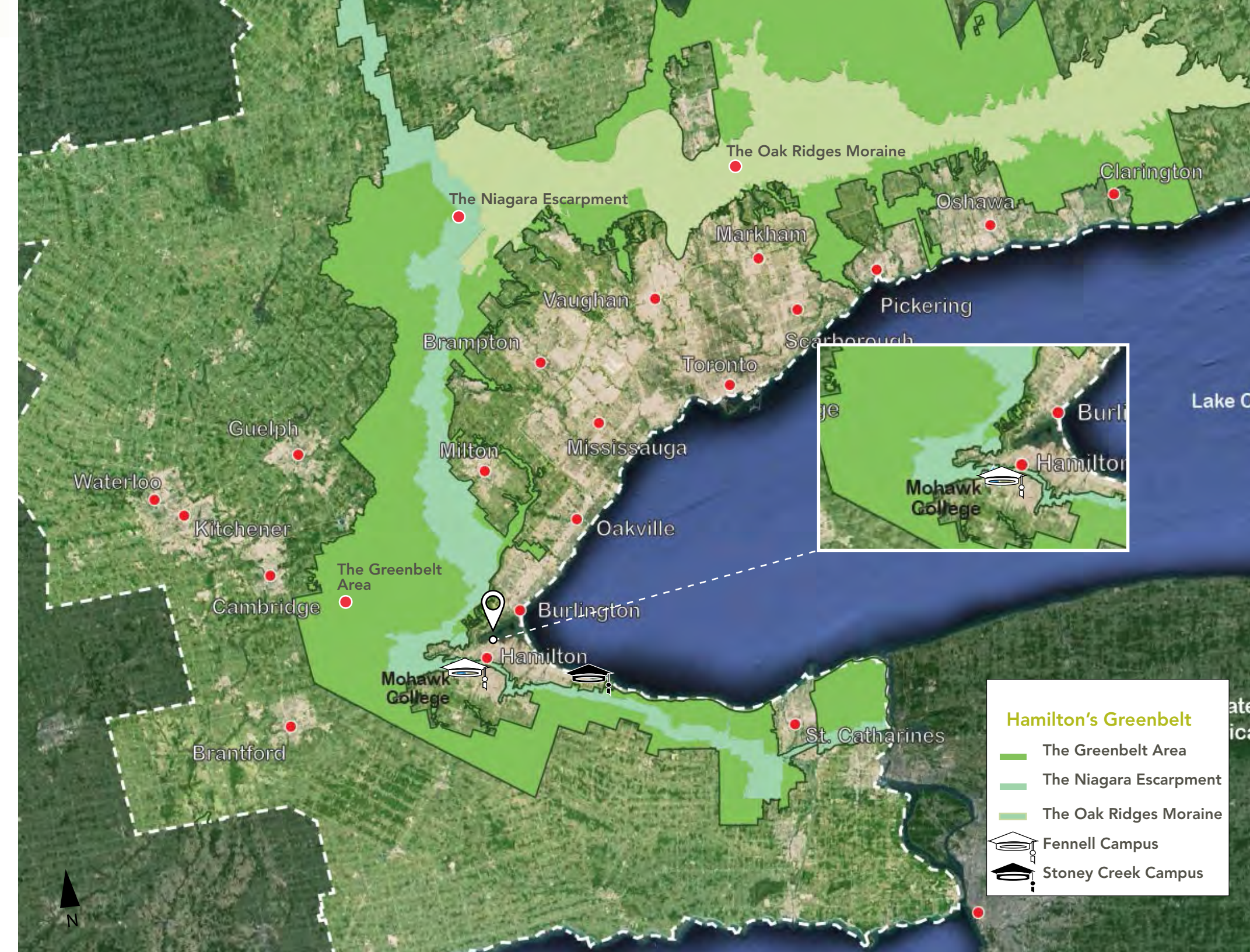
The Greenbelt surrounds a significant portion of the Golden Horseshoe, totaling more than 1.8 million acres, including the Niagara Escarpment and the Oak Ridges Moraine. Designation as a Greenbelt protects the environmentally sensitive land and farmland from adverse effects of urban development and sprawl. Protection of this area is essential for providing clean air and water to nearby cities.

Farming is the dominant land use, as just over 50% of Greenbelt land is owned by farmers. There are an estimated 7,000 farms in the region, many of which are family owned and operated. The region produces a wide range of fruits and vegetables, dairy, beef, pork, poultry and wine grapes. This protected area of green space, farmland, forests, wetlands and watersheds is one of the largest and most successful greenbelts in the world.

Greater Golden Horseshoe

Centred on the western end of Lake Ontario, the Golden Horseshoe stretches from Oshawa to Niagara Falls and is the most intensely industrialized area in the country. As one of the fastest growing regions in North America, the population is expected to increase to 11 million people over the next 30 years.

Economic activity in the region is diverse, including a growing market in research and innovation. The region is also home to reputable educational institutions, expansive transportation systems, and a vibrant demographic of people and businesses.



2.5/ Weather and Climate

Hamilton's humid-continental climate serves as an ideal basis for agriculture; a significant contributor to Hamilton's economy.

The recommendations of the Sustainable Landscape Plan include a mix of interventions that are influenced by the site and environmental context of Mohawk College. This includes active management and re-use of on-site stormwater, significant on-site food production (i.e. an orchard and community garden), and sustainable landscape planting. These directions are influenced by a variety of factors, including climate, wind, rain, and soil quality. Their successful implementation depends on a thorough understanding of the environmental conditions.

The recommendations of the Sustainable Landscape Plan will augment the City of Hamilton's commitment to reduce carbon emissions,¹ including adaptation measures such as:

- Official Plan Policies on environment and sustainability;
- Brownfield Pilot Project;
- LEED Grant Program;
- Clean Air Hamilton;
- Bus Pass and Commuter Programs;
- The Hamilton Community Energy Centre; and,
- Housing Retrofits.²

Climate Weather Patterns

Hamilton's climate is categorized as humid-continental, typified by significant seasonal temperature differences. Precipitation is relatively well-distributed throughout the year, with an average of roughly 893 mm and 141 days with precipitation.

High humidity levels are also characteristic of this climate.

Although the climate is moderate when compared with most of Canada, the unique physical geography of Hamilton results in noticeable disparities in weather over short distances. In fact, the upper and lower areas of the city are classified in two different climate zones.

The climate of the lower city is distinguished as a Dfa climate, averaging more than 22 degrees Celsius in its warmest month. The upper city is a Dfb climate, meaning that the warmest month averages below 22 degrees Celsius but with at least four months of the year averaging more than 10 degrees Celsius. The result of this difference is generally manifested as lower average temperatures and higher snowfall amounts in the upper city.

Wind Zones

The Mountain experiences relatively low average wind speeds of 3.76 m/s during summer months and somewhat higher average speeds of around 5.42 m/s during the winter months. Wind speed on the Mountain is on average about 0.5 m/s faster than wind along the Hamilton Waterfront.³

Rainfall and Stormwater

Hamilton experiences its highest levels of annual precipitation in May (85.5mm of rainfall), and November (83.2mm of rainfall and 7.5mm of snowfall). The largest single-day rainfall in Hamilton history was 106.8mm and was recorded on October 5, 1995.⁴

While not overly large in volume, residents of Hamilton are occasionally subject to major flooding. In particular, around Mud Street on the East Mountain and Stoney Creek have been identified as flooding hotspots in Hamilton.⁵

Food Production and Growing Zones

The Hamilton region enjoys an annual average of 177 frost-free days. Hamilton houses largely fertile land, making it an ideal location for agriculture. Agriculture is a major portion of Hamilton's economy and an important contributor to the quality of life for Hamilton's residents.⁶ The Golden Horseshoe and Niagara Peninsula's temperate climate is an ideal location for farming hard fruit like peaches or apples.⁷

More specifically, Canada's Plant Hardiness Map⁸ provides insights about what can grow where by combining information about a variety of climatic conditions across the entire country to produce a single map.



Food production in the Hamilton Region.



Hamilton's fertile land supports a robust agriculture industry.



Niagara Peninsula's temperate climate is an ideal location for farming.

Elements analyzed include:

- Monthly mean of the daily minimum temperatures of the coldest month
- Mean frost-free period (above 0°C) in days
- Amount of rainfall from June to November
- Monthly mean of the daily maximum temperatures of the warmest month
- A winter harshness index related to rainfall in January
- Mean maximum snow depth
- Maximum wind gust in 30 year period

Hamilton is located in planting hardiness Zone 6a.

Recent Trends in Weather

The Hamilton region has experienced an increased frequency of extreme cold weather and winter storms as a result of the shifting climate. With temperatures dipping below -23°C and the wind-chill reaching -31°C, February 2015 recorded Hamilton's coldest February in history.⁹

Melting arctic ice causes arctic jet streams to be less reliable throughout Canada. This can cause heat waves and drought in some areas, or extreme cold weather and snowfall in others.¹⁰ Hamilton's recent extremely cold winters are largely the product of these intense fluctuations.

While tornadoes are not uncommon in Southwestern Ontario, tornadoes along the Golden Horseshoe are quite rare. However, in November 2005, Hamilton was hit with a 150-meter wide tornado.¹¹ While still heavily debated, some scholars believe the increased specific humidity resulting from climate change can contribute to a higher likelihood of tornadoes.¹²

Regional Trends in Climate Adaptation

The risks associated with climate change have compelled the City of Hamilton to take action in combating the City's own negative environmental impact. Various municipal initiatives, like the Corporate Air Quality and Climate Change Action Plan (2006), were created for the purpose of reducing both community and corporate carbon emissions. By 2011, the City had reduced its corporate emissions by 16% was well on its way towards reaching its target of 20% reductions by 2020.

In 2011, the community-led Hamilton Climate Change Action Charter was formally endorsed by the City. The Charter's goal is to raise climate change awareness among citizens and to provide a starting point for community action.

The Hamilton Region Conservation Authority (HRCA), mandated by the provincial government in the Conservation Authorities Act, oversees the

preservation of important environmental areas. The HRCA is also active in promoting environmental stewardship and sustainability in the region.¹³

1. *Environmental Management Plan, 2011, Page 21*
2. *Hamilton Climate Change Action Charter*
3. *For a complete list of City initiatives, please refer to <http://www.hamilton.ca/HealthandSocialServices/PublicHealth/ClimateChange/Hamiltons+Role+and+City+Actions.htm>*
4. *"Canadian Wind Energy Atlas." Environment Canada. July 28, 2008. Accessed May 6, 2015.*
5. *<http://www.t4trestoration.ca/flooding-restoration/flooding-hotspots-hamilton/>*
6. *<http://www.investinhamilton.ca/key-industries/agri-business-food-processing>*
7. *http://education.nationalgeographic.com/education/encyclopedia/north-amer-ca-resources/?ar_a=1*
8. *planthardiness.gc.ca*
9. *<http://www.thespec.com/news-story/5440353-hamilton-headed-to-record-cold-february/>*
10. *<http://www.cbc.ca/news/canada/hamilton/cold-snaps-result-of-global-warming-study-says-1.2573119>*
11. *Taylor, Mark E., Paul A. Gray, and Karl Schiefer. "Helping Canadians adapt to climate change in the Great Lakes coastal zone." *Great Lakes Geographer* 13, no. 1 (2006): 14-25.*
12. *<http://climatesight.org/2011/06/03/tornadoes-and-climate-change/>*
13. *[http://www.hamilton.ca/HealthandSocialServices/PublicHealth/ClimateChange/?WT.mc_id=climate change&WT.hamilton_redirect_friendly=1](http://www.hamilton.ca/HealthandSocialServices/PublicHealth/ClimateChange/?WT.mc_id=climate%20change&WT.hamilton_redirect_friendly=1)*



Increased winter storms as a result of the shifting climate in the Hamilton region.



3.0/ Campus Analysis

The following section provides a summary of Mohawk College's Fennell and Stoney Creek Campuses, including an overview of campus demographics and a description of existing open spaces and landscape elements.

3.1/ College Demographics

The students and staff of Mohawk College reflect the multi-cultural and diverse character of the Hamilton Region.

Thirty-six per cent of Mohawk College students enroll directly from high school. The majority of students have been in the workforce. Hamilton is identified as the hometown for the majority of Mohawk students (58%), with another 7% from Brantford and 5% from Burlington.

The population of Mohawk College reflects the diversity of the city as a whole.

In 2013-2014, the College had more than 400 full-time Aboriginal students. This reflects the large proportion (48% in 2006) of the Aboriginal population in Canada who are under the age of 25, as well as the under-representation of Aboriginal students in post-secondary institutions. Services to support Aboriginal students include peer tutoring, workshops and an Elder as Resource program. Other programs, such as Aboriginal Awareness Week, serve to enhance the cultural experience of all students at the College.

There are 1,200 international students at Mohawk College, and twenty-two percent of students are born outside of Canada. As a result, the cultural make-up of the College is both rich and diverse. To serve Hamilton's growing immigrant population, Mohawk offers English language training and innovative bridging programs for foreign-trained professionals in health sciences and engineering technology.

Mohawk College celebrates the diversity of its campuses and strives to remove barriers between cultural or social groups and encourage interaction through a commitment to community consultation and relationship-building. This calls for the creation of a supportive living and learning environment, which is also of great importance for the engagement of first generation post-secondary students. In addition, the College is working toward Universal Design in all of its learning and working environments, and accessibility in the provision of services, products and facilities.

Support is available in various forms, including mentoring programs, engagement initiatives, 24/7 computer labs, and welcoming social spaces. Students also connect and collaborate through a number of peer groups and associations at Mohawk. The Mohawk Students' Association is considered the umbrella organization that offers a variety of services, activities and clubs for students.

Peer associations come in many forms at Mohawk, including religious and cultural groups, special interest or hobby clubs, associations offering activities and networking related to academic programming, and advocacy groups which engage students in causes such as social and environmental awareness.



Celebrating diversity at Mohawk College



Drum Circle performance at the future Indigenous Gathering Place location



3.2/ Campus Description - Fennell

Fennell Campus has a large number of unique and engaging open spaces which will be enhanced and strengthened through the Sustainable Landscape Plan.

Fennell Campus is approximately 60 acres in land area. Buildings are generally concentrated at the east end of the campus, with the exception of a large student residence in the west end, adjacent to Fennell Avenue. The remainder of the campus' west end is comprised of large surface parking lots (mostly General Parking with a small section reserved for the student residence).

In addition to the large west parking lots, there are two smaller lots at the southeast corner of the campus, including Visitor's and Visitor's Preferred Parking (within the access loop from Governors Boulevard), and Preferred Parking along both Governors Boulevard and West 5th Street.

Vehicular access and circulation is generally limited to the 'outer campus,' including an east and west access point to the parking lot from Fennell Avenue, as well as access to the south from Governors Boulevard (providing access to the large west parking lots, as well as three smaller lots at the southeast corner of the campus). Transit access is provided at the primary southern entrance (from Governors Boulevard) as well as the more recently established front entrance off Fennell Avenue (in association with the Learning Exchange). In the future, transit access will be consolidated at a transit terminal at the northeast corner of the campus where Fennell Avenue and West 5th Street intersect.

Pedestrian access to the site is generally provided from either the Fennell Campus Entrance at the

Learning Exchange, or from Governors Boulevard to the primary south entrance at the School of Justice and Wellness. In both cases, once pedestrians are within the 'inner campus,' vehicular access is prohibited (with the exception of College maintenance vehicles) to facilitate safe, efficient movement.

Existing open spaces on campus include:

- Mohawk Students' Association (MSA) Plaza – A multi-purpose plaza located at the centre of the Student Life District, adjacent to the David Braley Athletic and Recreation Centre and the Student Centre. The MSA Plaza hosts a variety of student events, provides a place for students to gather and socialize, and links key campus destinations through walking paths, enhanced pedestrian crossings, and pedestrian-only areas.
- Fennell Lawn – Fennell Lawn is a large open green space nestled between the McKeil School of Business and The Learning Exchange. The space hosts campus events, such as Indigenous Awareness Week, while also providing informal space for students to gather and socialize.
- Eco Tech Park – Between MSA Plaza and Fennell Lawn, there is a large open space at the edge of the McKeil School of Business. This space is generally open, with some native landscaping. A few picnic tables provide opportunities for students to gather and socialize.

- Community Garden – The community garden exists at the southeast corner of the School of Arts and Media, providing locally produced food and supporting campus initiatives, such as the Farm Stand.
- Quad and Amphitheatre – The quad is located between The Learning Exchange and the School of Human Studies. This space is utilized as an external connection between buildings, an outdoor seating areas, and a terraced, natural amphitheatre to the south.
- West open space – At the western boundary of the campus there is a large, generally vacant green space that is used for snow storage and spill-over parking.
- In addition, there are a number of smaller informal open spaces, pathways and underutilized areas that provide links between the above spaces, and can support a Sustainable Landscape Plan for the campus.



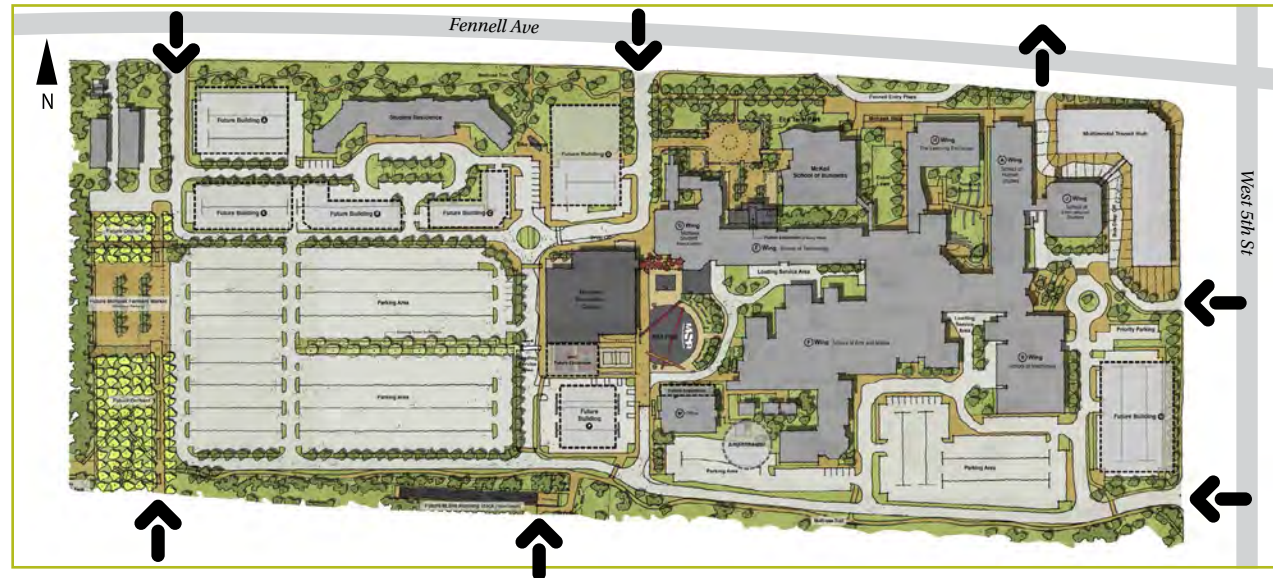
3.3/ Connectivity & Mobility - Fennell

The campus experience is defined by journeys and the experience should be safe, comfortable and interesting.

Community Connectivity

Mohawk College is placing increasing importance on how it connects - both physically and programmatically - to the surrounding community. Providing comfortable and inviting connections to campus signifies to the community that they are welcome. To strengthen connections to the community, the College should:

- Enhance existing connections at campus entry points by:
 - Ensuring universal accessibility by removing physical barriers
 - Providing lighting to ensure a safe and comfortable entry experience
 - Adding wayfinding information so community members know where key elements are located on campus
 - Utilizing a consistent design and palette of materials at entry points
- Build relationships with community members and organizations through targeted on-campus programming (e.g. Community Garden)
- Develop a community outreach program that informs about the activities, amenities and programs that are open to the community



Top: Community Connectivity - connections from surrounding neighbourhoods.
Bottom: Incorporating space for alternative sports along major inter campus routes (Photo Credit Ian Kennedy via Flickr).

Intra-campus Connectivity

Intra-campus connections are the outdoor journeys that occur between buildings or places on campus. These trips are often short (especially during cold weather months) because most buildings on Fennell Campus are connected by interior passageways. With expansion of campus facilities and a growing student population, intra-campus trips will become more frequent and important. These trips should be, first and foremost, safe but must also be fun and engaging to create a sense of joy and occasion when walking from one place to another. Key intra-campus connections should incorporate:

- Nodes of activity to encourage the frequent use of outdoor spaces (sports, activities, food, fitness). For example: bocce court, ping-pong table, outdoor fitness equipment, charcoal barbecues
- Social seating pods to encourage outdoor gathering, studying and socializing. Seating pods should incorporate power for laptops and phones and have accessible Wi-Fi
- Public art and programming

To ensure a safe and comfortable journey, intra-campus connections should:

- Be well lit along the entire route
- Include frequent emergency calling stations
- Incorporate closed circuit video surveillance to monitor and record activity
- Include recycling and garbage stations suitable to the outdoors



Top: Current intra-campus connectivity at Fennell Campus
Bottom: Incorporating social seating pods to encourage outdoor gathering.

Mobility on Campus

Active transportation refers to any human-powered transportation including walking, cycling, wheelchair, in-line skating or skateboarding. It also includes the integration of public transit. Mohawk College recognizes the need to balance the demands of pedestrians, cyclists and vehicles.

In order to achieve these goals, Mohawk will:

- Have an integrated network of pedestrian and cyclist paths that are well designed for efficient transportation as well as recreation.
- Integrate access to public transit with pedestrian and cyclist networks.
- Provide facilities for the storage and use of bicycles.
- Provide education to students and staff to promote pedestrian and cyclist safety.
- Encourage driver education about sharing the road with others.
- Provide incentives and facilities for the use of alternative energy and energy efficient vehicles¹⁴



Top: Active transportation at Fennell Campus
Bottom: Integration of public transit (HSR) with pedestrian and cyclist networks at Fennell Campus.



Pedestrian-friendly mobility on campus.

¹⁴ Fennell Campus Renewal Plan, 2014, page 15

3.4/ Campus Description - Stoney Creek

The Stoney Creek Campus is one of the largest trainers of apprentices in Ontario, serving more than 4,500 students annually.

The Stoney Creek Campus is designed to provide trade and apprenticeship students with a combination of hands-on experience and in-class learning, to prepare them with the skills and industry knowledge needed to succeed in the workplace.

As one of the largest trainers of apprentices in the province, Stoney Creek Campus services more than 4,500 students each year within its 16 acre site.

The campus currently includes four buildings that house specialty labs for Red Seal trades such as welding and carpentry, the Gerard Marshall Centre of Transportation and the main facility that includes classrooms and lecture halls, the cafeteria, student services amenities, a fitness centre and other high-tech lab facilities.

Existing outdoor spaces consist primarily of parking amenities, but also include an outdoor courtyard.

In addition, there are a number of smaller informal undeveloped spaces, pathways and underutilized areas that present opportunities for sustainable landscape development. This is particularly true of spaces along the perimeter of the campus.

Vehicles access the campus from entrances located at the east and west sides of the south edge on Barton Street, as well as through an access point on the northwest side of campus off Leaside Avenue.

The campus is served by one municipal public transit route, which stops on the south side of the campus at Barton Street. Since this is the sole transit connection, this access point tends to be underutilized.



Stoney Creek Campus.



3.5/ Connectivity & Mobility - Stoney Creek

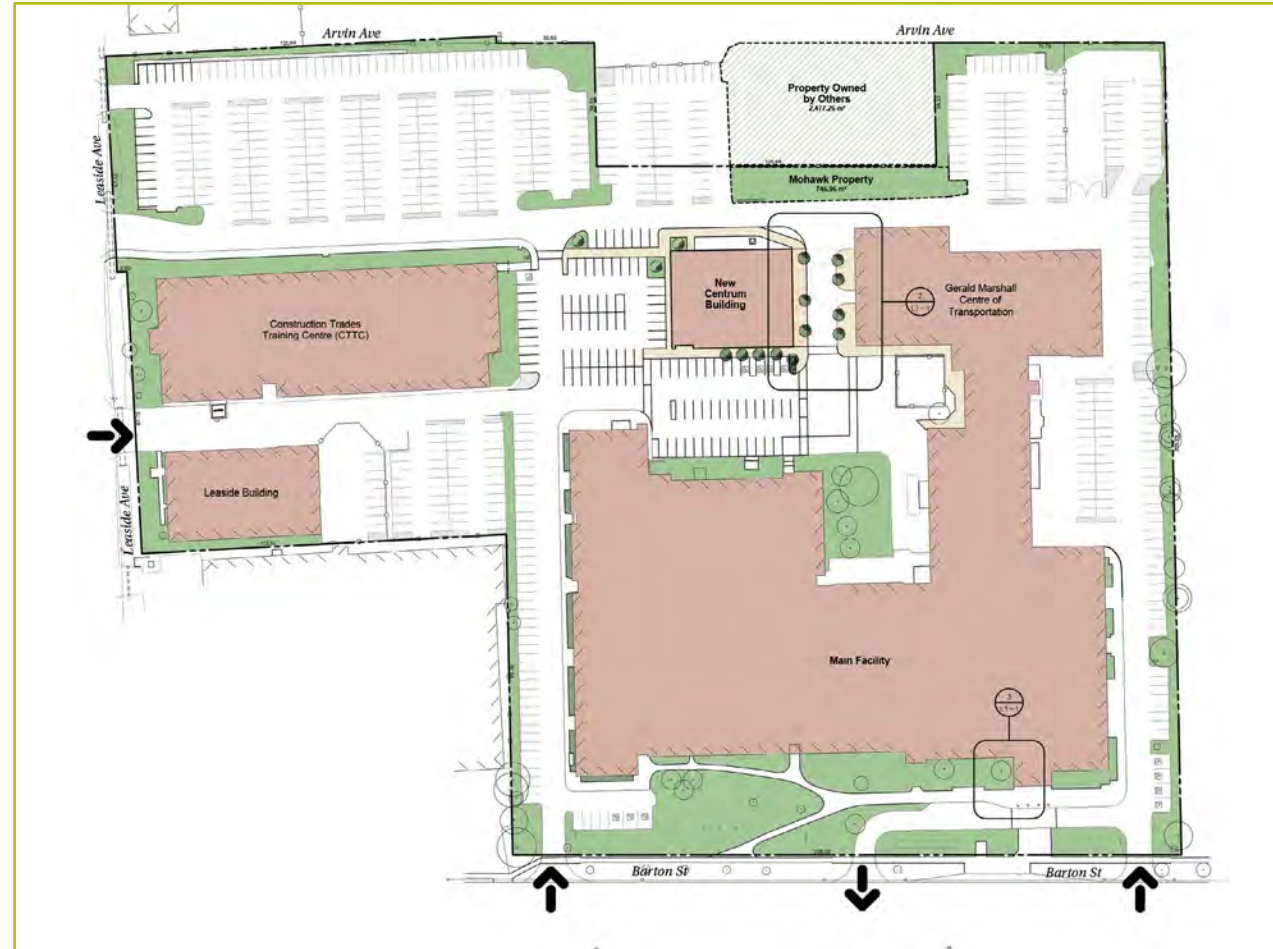
The campus experience is defined by journeys and the experience should be safe, comfortable and interesting.

Community Connectivity

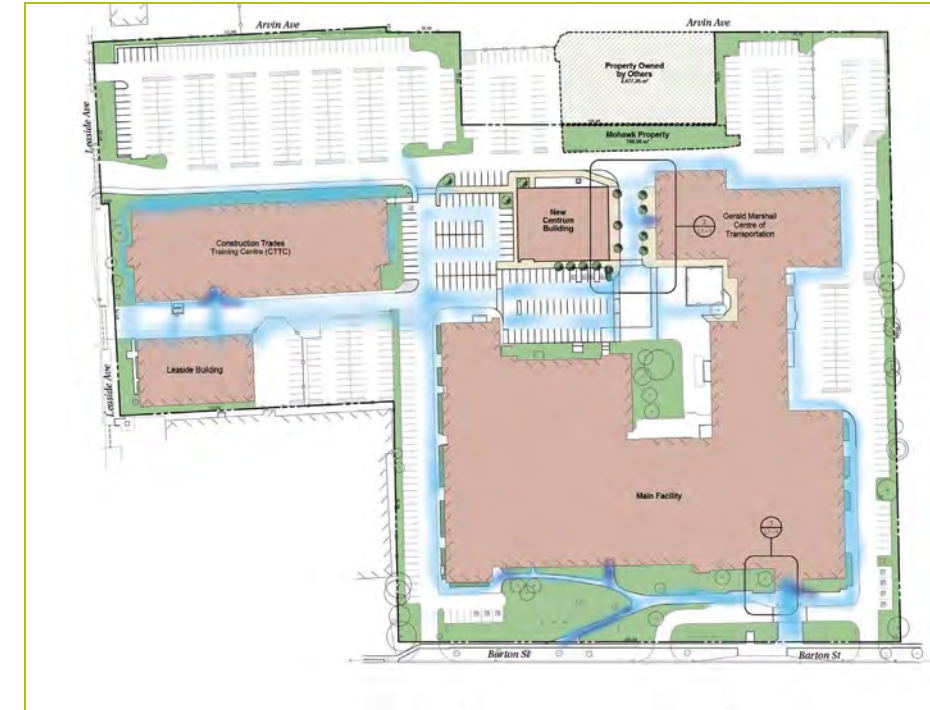
The Stoney Creek Campus is partly surrounded by industrial and commercial development, which limits community connectivity to an extent. The Community Connectivity map shows the main points of connection for Stoney Creek Campus.

Intra-campus Connectivity

Intra-campus connections are the outdoor journeys that occur between buildings or places on campus. The Intra-campus Connectivity map shows current intra-campus connections at Stoney Creek Campus.



Community Connectivity - connections from surrounding neighbourhoods.



Current intra-campus connectivity at Stoney Creek Campus.



Current active transportation at Stoney Creek Campus.

A photograph of an outdoor seating area. In the foreground, there is a long, light-colored metal bench with a slatted backrest. To the right of the bench, there are several matching metal chairs with armrests, arranged in a small group. The ground is paved with light-colored stone tiles. In the background, there are lush green trees and bushes with yellow flowers. A semi-transparent green banner is overlaid on the right side of the image, containing text.

4.0/ Campus Opportunities

Post-secondary campuses across Canada, and throughout North America, are transitioning to reflect changing demands in the way users learn and engage through increased connectivity and transient learning options. This has created increased demand for flexible, outdoor, and hands-on learning spaces.

4.1/ The Evolving Campus Landscape

Campuses are rapidly changing as technological advancements mobilize users, and institutions strive for social, economic, and environmental sustainability.

Mohawk College's Future Ready Facilities Plan identifies nine campus developments that represent industry-leading projects, including:

- Queen's Centre - Queen's University
- Claudette MacKay-Lassonde Pavilion - University of Western Ontario
- Blusson Hall - Simon Fraser University
- Duncan College - Rice University
- Integrated Learning Centre - Queen's University
- Centre for Sustainable Manufacturing (CSM) - Sheridan College
- Centre for Applied Science & Technology (CAST) - Holland College, Prince of Wales Campus
- VeloCity Residence - University of Waterloo
- Vale Living with Lakes Centre - Laurentian University

Key to these developments is a commitment to sustainable building strategies, fostering strong community partnerships and providing innovative spaces for learning labs, research, and incubation. Together, these developments represent an evolution in the way in which teaching, learning and day-to-day interaction are happening on university and college campuses.

This evolution is responding to two key drivers:

- **Technology** - Rapid advancements in technology (i.e. cell phones, portable computers, wireless Internet) has mobilized campus populations, allowing students and staff almost continuous connectivity, and the ability to work and collaborate almost anywhere.
- **Sustainability** - Traditionally, universities and colleges have been recognized leaders in innovation and progression. As the understanding and appreciation of sustainability increases across North American cities, universities, colleges, and other institutions (e.g. hospitals, libraries, etc.) are at the forefront of development that is socially, economically, and environmentally sustainable.

Together, the above drivers are resulting in campuses that are no longer internal enclaves. Instead, they are becoming community hubs, physically and virtually integrated with the constituencies they serve.

The interaction and collaboration between students, staff, and community members is the lifeblood of the contemporary campus. New developments, both indoor and outdoor, celebrate social inclusion, encourage collaboration, and instill a sense of investment and ownership over campus spaces.

They are contemporary, accessible and flexible, and reflect the variety of formal and informal ways in which students, faculty and staff interact.

Statistics from the Association of Universities and Colleges of Canada (AUCC) conclude that post-secondary institutions across Canada have experienced tremendous growth over the last 30 years, with the number of full-time students almost doubling since 1980.

Given the above, there is significant competition to attract new students, as well as pressure to retain existing students. To remain appealing, post-secondary institutions must be continuously evolving and responding to the needs of students, staff and faculty while promoting quality, innovation and sustainability.

Mohawk College's precedent setting ambition to develop an agricultural landscape as part of the Sustainable Landscape Plan will strengthen the school's position as a leader in education for a sustainable future. A contemporary plan extends the College's commitment to quality, innovation, and sustainability beyond the building walls and into the surrounding landscape - turning Mohawk College into a complete landscape for learning.



Students pledging to the sustainability fund at Fennell Campus

4.2/ Current & Future Opportunities

As Mohawk's campuses continue to evolve, a variety of short, medium, and long-term opportunities will facilitate the sustainable growth of the campus.

As Mohawk College aims to achieve the recommendations of the Sustainable Landscape Plan, a number of opportunities can be leveraged to support the plan.

Current Opportunities

Current opportunities include 'quick wins' that are already approved for funding, or can be implemented in the short to medium-term with minimal costs.

Buildings and Development

- Create a landmark development at Fennell Avenue and West 5th Street with the development of the transit terminal and improvements to the boulevard and public realm.
- Enhance the interface between existing buildings and open spaces at both sites.
- Define clear campus entrances through iconic signage and branding elements.

Open Spaces

- Reinforce a hierarchy of physically and functionally connected open spaces that respond to their context and support adjacent uses.
- Formalize the large green space at the west end of Fennell Campus as a productive landscape. Size, orientation, and soil conditions make this an ideal location for on-site food production.
- Design and program the central locations that make ideal locations for outdoor learning.
- Establish year-round programming within key

open spaces (i.e. MSA Plaza, Fennell Lawn, Stoney Creek Courtyard).

- Capitalize on small, irregular and/or 'leftover' spaces at building edges for small pocket parks that can facilitate stormwater management (i.e. rain barrels, landscaping, etc.) and associated educational signage.
- Plant infill trees across the campuses to strengthen the urban tree canopy.

Gardens and Food

- Increase on-site food production by expanding orchards on Fennell Campus.
- Expand community garden and other landscaped areas to accommodate growing campus demand and new community partnerships. Gardening partnerships with the City of Hamilton, adjacent neighbours, and local community groups strengthen Mohawk College's role as a sustainability steward.

Mobility and Circulation

- Ensure continuous pedestrian connections to, and throughout, the campuses that reflect 'desire lines' of travel.
- Ensure all pedestrian connections are barrier free, and accessible for people of all ages and abilities.

Parking

- Provide safe and direct connections within and across large surface parking areas.

- Integrate Low Impact Development design concepts into the design of new parking areas to increase on-campus storm water capture and filtration.

Teaching and Learning

- Develop iconic outdoor learning spaces (i.e. Indigenous Gathering Place, Landscape Lab).

Future Opportunities

Future opportunities will be implemented in the longer-term, and require additional studies, funding, etc. prior to their implementation.

Buildings and Development

- Locate new buildings, as identified in the Campus Renewal Plans, to define campus edges and frame new and existing open spaces.
- Define clear campus entrances through new infill buildings that frame streets.
- Strengthen the public realm along major streets (i.e. continuous boulevards, street trees, furniture) in concert with future infill development.
- Incorporate sustainable, low maintenance landscaping and furniture (i.e. benches, lighting, signage, etc.) to create manageable campus identities.

- Provide facilities (e.g. seating, BBQs) within the open space to the east of the student residence to enhance its current use as a space to socialize.

Gardens and Food

- Maximize on-site food production through further expansion of the community garden (if feasible), including opportunities for rooftop gardens at both sites.

Mobility and Circulation

- Increase the long-term modal split of alternative transportation through the development of a new multi-modal transit hub, priority parking areas, increased transit connectivity, and an education strategy.
- Work with the City of Hamilton to facilitate direct connections between campuses and the surrounding neighbourhoods, including mid-block crossings, trail connections, cycling enhancements, etc.

Parking

- Explore opportunities for, and viability of, structured parking through new infill buildings.
- Upgrade surface parking areas to minimize environmental impacts, including permeable paving, bioswales, and other Low Impact Development (LID) techniques.
- Break-up the large surface parking lot to facilitate safe pedestrian access, while providing opportunities for additional stormwater management treatments.



Top: Stoney Creek Campus Entry Plaza.
Bottom: Fennell Campus Entry Plaza.



5.0/ Vision

Mohawk College's outdoor campus spaces are dynamic, high quality landscapes that provide places for learning, research, social engagement and relaxation. They are inclusive and accessible environments that welcome the surrounding community as active participants in Mohawk's culture of sustainability.

5.1/ Objectives







A series of objectives guide the vision for the Sustainable Landscape Plan.

The vision statement for the Sustainable Landscape Plan aims to create a future for the College that is grounded in enhancing the campus experience and focusing on a holistic brand of sustainability. Building on this vision, a series of detailed objectives have been grouped into two themes: Campus Life, and Sustainability. These objectives will guide all future campus open space development. The objectives have been determined primarily in response to clear mandates established in the EMP 2.0, Fennell Campus Renewal Plan, and the Stoney Creek Campus Renewal Plan.





Mohawk College staff and students also provided valuable input that shaped the structure and content of the objectives.

Each campus space presented in this document includes an outline of the objectives it aims to fulfill. During detailed design of each place, the relevant objectives should be consulted frequently to ensure that clear links are being created between the design of the space and the objectives it aims to support.

Campus Life

-  GATHERING – Provide unique and comfortable spaces to gather, learn, and exchange cultures.
-  ACTIVITY – Create active spaces that facilitate a range of formal and informal activities.
-  LEARNING – Identify and program unique outdoor classrooms that support hands-on training.
-  INCLUSIVITY – Reinforce a campus that is welcoming and accessible for all users.
-  ARTISTIC – Implement public art that celebrates the unique cultural history, and the campus vision.
-  IDENTITY – Reinforces the unique identity of the Mohawk College community.

Sustainability

-  GREEN – Reinforce a commitment to sustainability in all aspects of campus design and programming.
-  MOBILITY – Prioritize alternative modes of transportation to, and throughout, the campus.
-  FOOD – Maximize food production to fulfill campus needs and provide educational opportunities.
-  WATER – Apply innovative approaches to reduce, collect and re-use stormwater on campus.

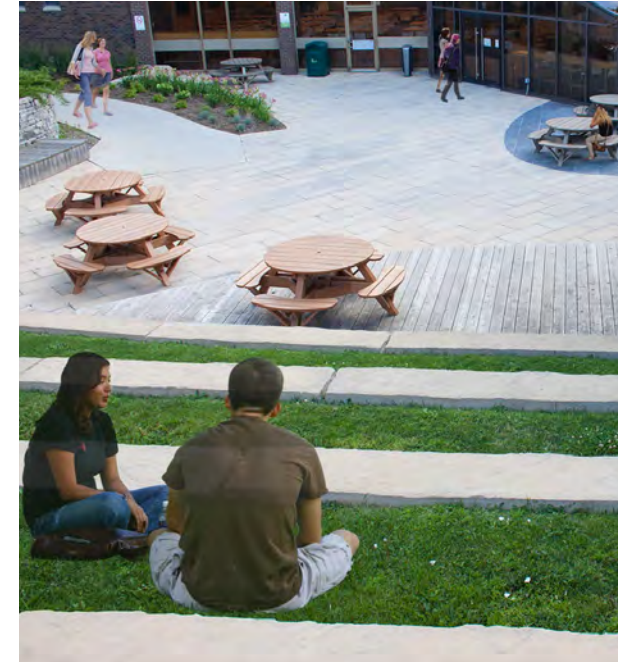
Objectives Alignment

CAMPUS LIFE

-  GATHERING
-  ACTIVITY
-  LEARNING
-  INCLUSIVITY
-  ARTISTIC
-  IDENTITY

SUSTAINABILITY

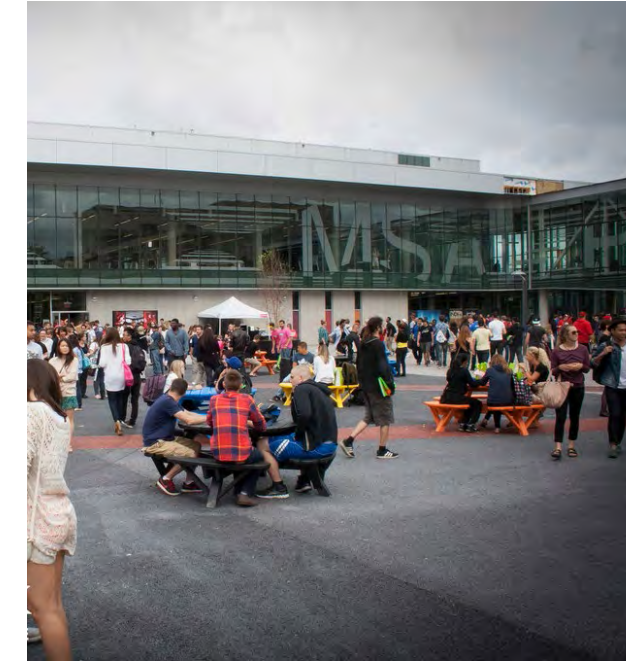
-  GREEN
-  MOBILITY
-  FOOD
-  WATER



Amphitheatre.



The Community Garden.

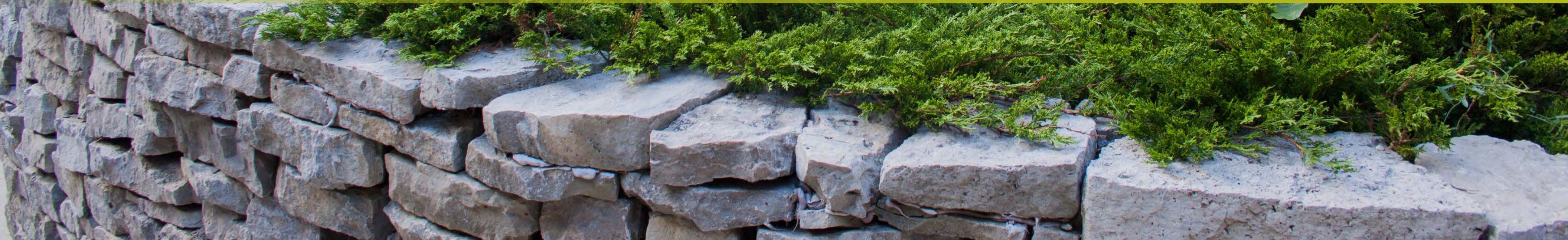


Mohawk Students' Association Plaza.



6.0/ Campus Places

The purpose of the Sustainable Landscape Plan is to create campuses that become exemplary educational and living laboratories for a sustainable culture. The Plan goes a step beyond reducing carbon footprint; it also serves to inspire students, staff and visitors to implement sustainable practices in all aspects of their lives.



6.1/ Campus Places - Fennell

The places on Fennell Campus enhance the outdoor experience for students, staff, faculty and the surrounding community.

The creation of a network of purposeful outdoor places across campus will enhance how students, staff, faculty and the community perceive and experience Mohawk College's public realm.

An enhanced and improved campus landscape achieves three primary goals: it will improve the campus outdoor experience, it supports the College's sustainability goals and it will create a common design language for all outdoor spaces.

For each existing and proposed place, there is a detailed profile outlining objectives and the steps required to achieve them. An overview of the character of each place provides the context

necessary to consider change. The proposed activities that can occur are summarized and a series of precedent images and ideas speak to what each place can become.

Individually, each place on campus is important as a destination but taken as a whole, the network of enhanced and new places will fundamentally improve campus life and support the goals of the College.

The places profiled include a series of existing places that are to be enhanced and a series of proposed places that are to be created.

Existing Places

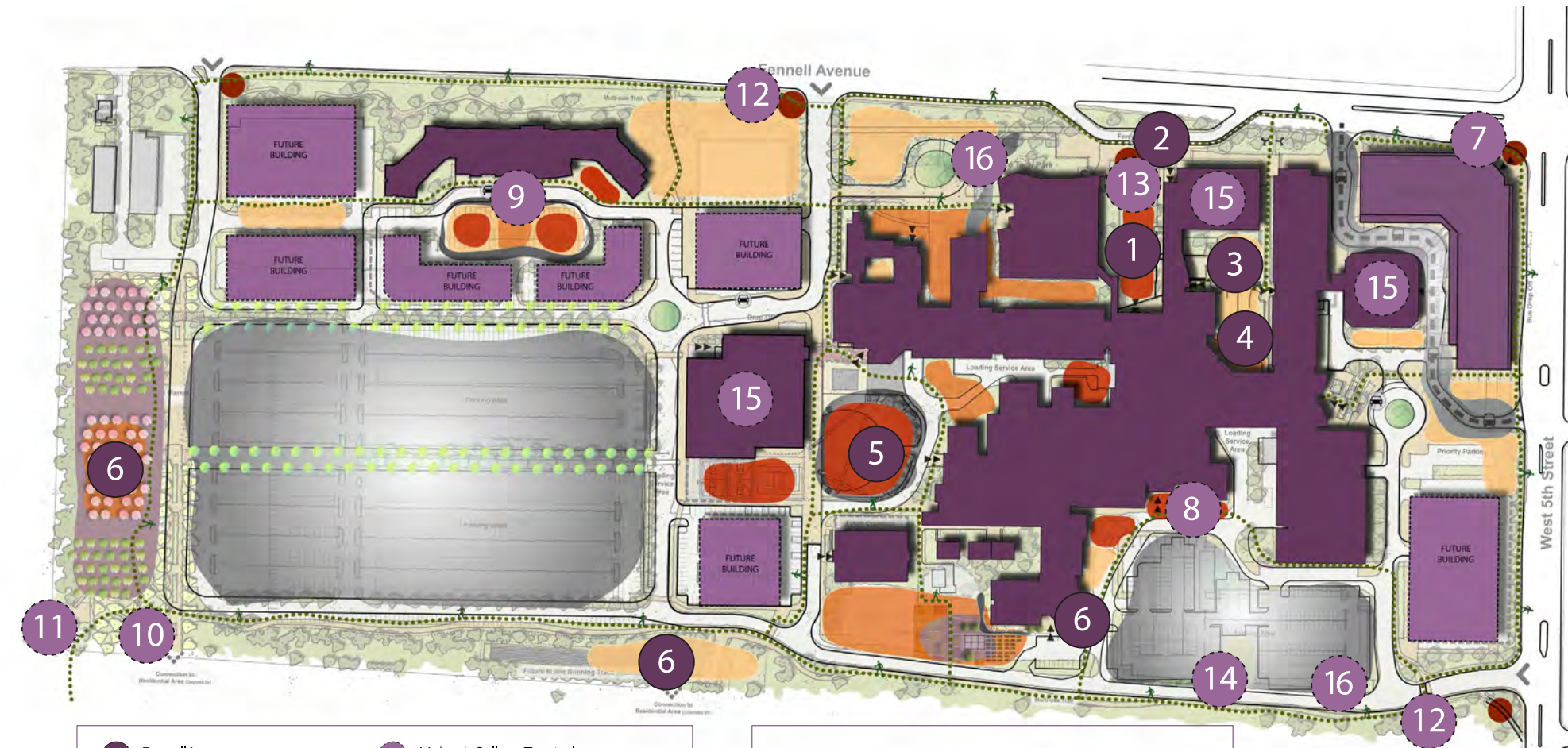
- MSA Plaza
- Fennell Lawn
- Fennell Entry Plaza
- Amphitheatre
- Community Garden

Proposed Places

- Indigenous Gathering Place Phase II
- Orchards Phase II
- Residence Quad
- South Entry Plaza
- Mohawk College Terminal (MCT)



Existing MSA Plaza supports the College's sustainability goals and improves the outdoor experience on campus.



- | | |
|------------------------------|-------------------------------------------|
| 1 Fennell Lawn | 7 Mohawk College Terminal |
| 2 Fennell Entry Plaza | 8 C-Wing Entry Plaza |
| 3 Indigenous Gathering Place | 9 Residence Quad |
| 4 Amphitheatre | 10 Mohawk Naturalized Interpretation Park |
| 5 MSA Plaza | 11 Mohawk and Hillfield Recreation Area |
| 6 Sustainable Food Systems | 12 Mohawk Trail System |
| | 13 Public Art |
| | 14 Sustainable Infrastructure |
| | 15 Rooftop Opportunities |
| | 16 Bioswale |

LEGEND

Existing building	Marks and Signs
Future building	Low Impact Development
Quiet	Trails and Pedestrian Pathways
Learning	Transit
Activity	Pick-up/Drop-off
Agriculture	
Current projects	
Future projects	

Existing places and new opportunities map, Fennell Campus.

6.1.1/ Fennell Lawn

Current - A flexible open space that serves as the campus front lawn.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

The Fennell Lawn is an elongated quad defined by a large area and masses of soft, flowing ornamental grasses. This comfortable outdoor space is intimately connected by a run of glazing and a circulation path to H-Wing on the east, I-Wing on the west and the Fennell Entry Plaza on the north side. The Lawn is a warm and inviting outdoor area that welcomes users to sit and linger. The Fennell Lawn has two primary functions: to host large formal events such as convocation and also to host informal gatherings.

ACTIVITIES

- Outdoor events
- Outdoor events with a temporary structure
- Outdoor lounge space
- Unorganized sports

PRIORITY ACTIONS

- Add elements to the space that reinforce Mohawk's identity, such as additional wind/solar units
- Maintain the highest standard of state-of-good-repair maintenance for this signature space
- Incorporate bioswale into traffic islands, as recommended in Stormwater Report
- Provide additional recycling and garbage stations



The Fennell Lawn hosts events and provides a sheltered, three-sided quad for students to enjoy a sunny day.



The Fennell Lawn - 2013 Special Olympics with Mohawk College's Mascot, Mo' the Hawk.

6.1.2/ Fennell Entry Plaza

Current - An iconic entry experience on Fennell Avenue that defines the Mohawk brand.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

An extension of the Fennell Lawn, the Fennell Entry Plaza is a functional signature space for the campus. The iconic “MOHAWK” sign along with the wind and solar pylons define an entry experience and Mohawk College brand. Beyond its branding role, this space is primarily functional, acting as a key intra-campus connection as well as a busy pick-up/drop-off point.

ACTIVITIES

- Sitting
- Gathering
- Studying
- Pick-up/drop-off

PRIORITY ACTIONS

- Incorporate materials and furnishings from palette as required to provide consistency across campus



The Fennell Entry Plaza - west view.



The Fennell Entry Plaza - right view.

6.1.3/ Indigenous Gathering Place

Current - The Indigenous Gathering Place is inspired by Aboriginal concepts of inclusiveness, the sun and moon calendars, the Medicine Wheel and the creation story.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

The Indigenous Gathering Place (the Hoop Dance) at Mohawk College honours Indigenous culture and traditions. It welcomes people of all backgrounds, beliefs and ages into an inclusive circle. The Gathering Place is comprised of 4 elements: an open-air pavilion, a fire circle, a water garden and a traditional garden.

ACTIVITIES

- Teaching
- Ceremony
- Music
- Story-telling
- Relaxation and contemplation

PRIORITY ACTIONS

- Implement phase 1 of the Hoop Dance in summer of 2015. Phase 1 includes ramp, stairs, retaining walls, a water feature and granular paving
- Implement phase 2 of the Hoop Dance in 2015/2016. Phase 2 includes foundations for structure
- Implement phase 3 of the Hoop Dance in 2016. Phase 3 includes foundations, wood structure, bench, lighting, fire pit & planting
- Develop community partnerships to utilize space



Rendering of the completed Indigenous Gathering Place (IGP).



An evening event held in the Indigenous Gathering Place (IGP).

6.1.4/ Amphitheatre

Current - An intimate venue for outdoor performances and lectures.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

The Amphitheatre is characterized by large tiered steps, a wood deck seating area and lower paved terrace. The amphitheatre is intended to function as a gathering, teaching and performance space as well as an informal resting place. The site is directly linked to a busy cafeteria area and is frequently used for eating outdoors.

ACTIVITIES

- Performances
- Lectures
- Events
- Sitting
- Studying

PRIORITY ACTIONS

- Provide additional shaded areas to support comfort and utilization
- Work with Mohawk Students' Association to develop regular programming to better utilize space
- Provide loose bistro tables and chairs to encourage use of space for eating and studying
- Provide a winter storage facility for furniture
- Re-level paved terrace
- Replace deteriorating wood deck with composite deck materials to increase longevity



The Amphitheatre.



Amphitheatre users can lounge under shade sails and enjoy the beautiful day without the harmful UV rays.

6.1.5/ MSA Plaza

Current - The signature plaza serves as the hub for student life on campus.

Objectives Alignment

CAMPUS LIFE

-  GATHERING
-  ACTIVITY
-  LEARNING
-  INCLUSIVITY
-  ARTISTIC
-  IDENTITY

SUSTAINABILITY

-  GREEN
-  MOBILITY
-  FOOD
-  WATER

CHARACTER

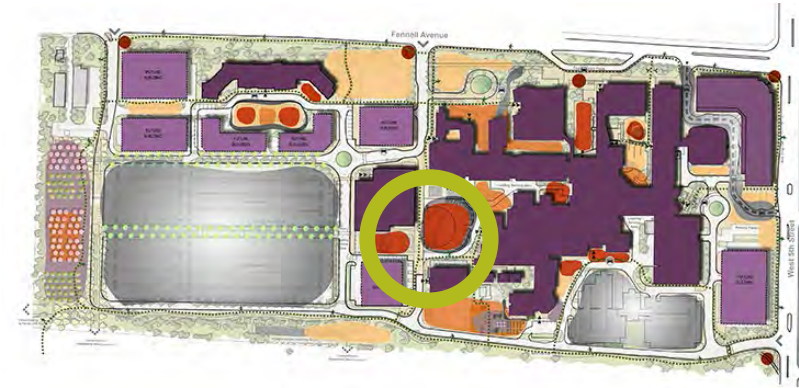
The MSA Plaza is a purpose built open space that exemplifies Mohawk's pedestrian-first priority. At the centre of the Student Life District, this pedestrian-only plaza hosts large outdoor events and concerts, and includes sustainable landscape features, furniture and enhanced campus gateways. The MSA Plaza also serves as a solar demonstration lab, encouraging a learning environment beyond the traditional classroom experience.

ACTIVITIES

- Outdoor events and gatherings
- Concerts
- Outdoor movies
- Farm Stand
- Skating
- Solar Demonstration Lab
- Recycling and Garbage Stations

PRIORITY ACTIONS

- Build a seasonal skating rink in MSA Plaza to provide a winter activity
- Maintain the highest standard of state-of-good-repair maintenance for this signature space



The plaza lacks a purpose in winter. A skating rink, which was originally contemplated during the design of the plaza but cut due to budget constraints, would create activity for this centrally located public plaza during cold weather months.



Movie nights in the plaza are very popular. They bring together the local community and encourage social engagement.



The Plaza is a logical home for the Farm Stand, seen here. As food production on campus increases, the Farm Stand program should be expanded in the MSA Plaza.



A skating rink that includes lighting, sound and a warming station would draw students and the community and bring new purpose the MSA Plaza in winter months.

6.1.6/ Sustainable Food Systems

Current & Future - provide an opportunity for students, staff and the local community to connect with local food production.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

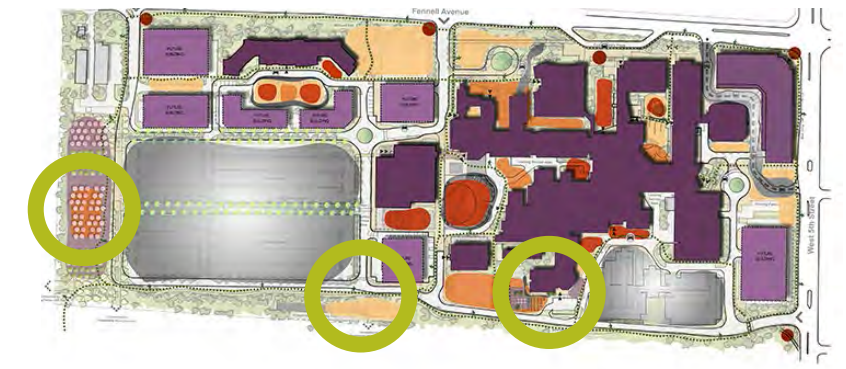
Sustainable Food Systems capitalize on Mohawk's commitment to sustainability, food independence and community connection. This initiative serves students, staff, faculty and the local community and is intended to be a warm, welcoming and educational space centred on food production. A central gathering place provides opportunity to exchange ideas and for teaching and learning.

ACTIVITIES

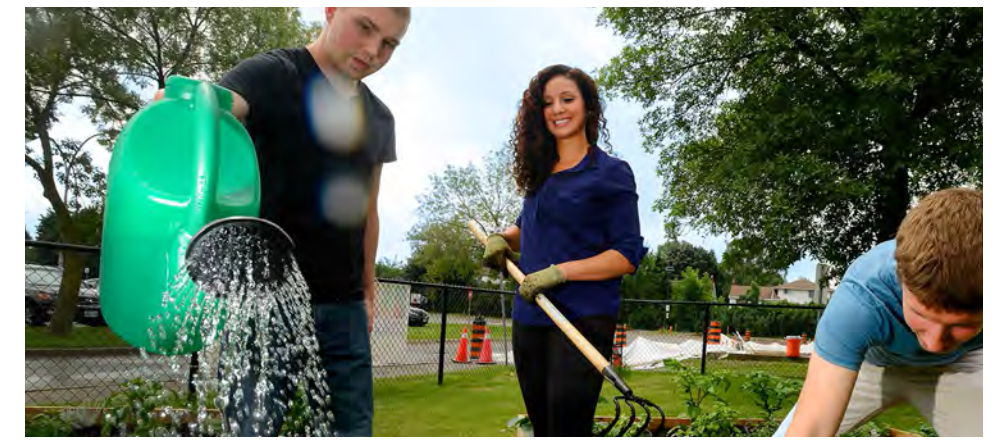
- Agriculture
- Food production
- Teaching
- Socializing
- Community gathering

PRIORITY ACTIONS

- Expand community garden/orchard and programming implementation
- Ensure continued financial support
- Develop community partnerships to expand Sustainable Food Systems
- Develop teaching and learning opportunities for students, staff and the community



Community Garden.



The Sustainable Food System initiatives encourage students, staff, faculty and the surrounding community to connect with local food production.

6.1.7/ Mohawk College Terminal

Future - The transit terminal will serve as a central place of connectivity.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

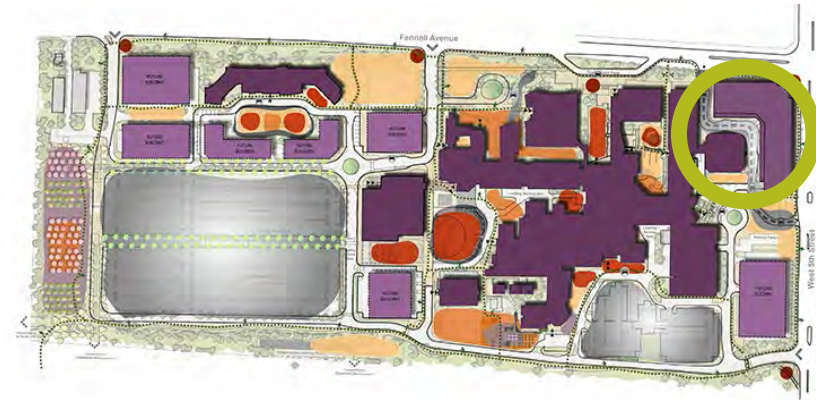
The Mohawk College Terminal (MCT) will integrate rider amenities with community services. The transportation interface will include bus bays and terminals serving multiple routes, shelters and real-time service information. The terminal's prominent location at the north-east corner of the campus has the opportunity to enhance the College's identity as a sustainable campus.

ACTIVITIES

- Healthy, active living
- Community connectivity
- Mobility

PRIORITY ACTIONS

- Develop a plan that allows a seamless connection between Mohawk College and the surrounding community
- Implement real-time service information to provide a positive experience for riders
- Design an effective inter-connectivity plan between all modes of transportation at Mohawk College



Mohawk College Terminal :: View from Fennell Ave. and West 5th St. intersection.




Left: Map of the Mohawk College Terminal. Right: Rendering of the Mohawk College Terminal.

6.1.8/ South Entry Plaza





Future - Softening and re-purposing an important entry plaza.

Objectives Alignment

CAMPUS LIFE

-  GATHERING
-  ACTIVITY
-  LEARNING
-  INCLUSIVITY
-  ARTISTIC
-  IDENTITY

SUSTAINABILITY

-  GREEN
-  MOBILITY
-  FOOD
-  WATER

CHARACTER

The entry plaza on the south side of C-Wing is an important outdoor experience for many students and visitors to campus. With the relocation of transit functions to the new Mohawk College Terminal, the plaza can transition to become pedestrian focused. It should incorporate high quality amenities that encourage lingering. Several large planting beds with native, drought-tolerant plant material will help to offset the large areas of hard surface paving to the south.

ACTIVITIES

- Studying
- Resting
- Pick-up/drop-off

PRIORITY ACTIONS

- Develop a design for the outdoor plaza with the redevelopment of the adjacent parking lot
- Enliven the space with colour, outdoor activities and public art
- Incorporate several large planting beds to soften the space
- Embed Low Impact Development initiatives in the design
- Ensure best practice maintenance and snow clearing activities so plaza is inviting and accessible in all seasons



South Entry Plaza.



Define the entry as a soft, inviting and functional area. Possible options are bold planting, linear benches and comfortable seating.

6.1.9/ Residence Quad





Future - A comfortable, intimate quad for residents to relax and enjoy.

Objectives Alignment

CAMPUS LIFE

-  GATHERING
-  ACTIVITY
-  LEARNING
-  INCLUSIVITY
-  ARTISTIC
-  IDENTITY

SUSTAINABILITY

-  GREEN
-  MOBILITY
-  FOOD
-  WATER

CHARACTER

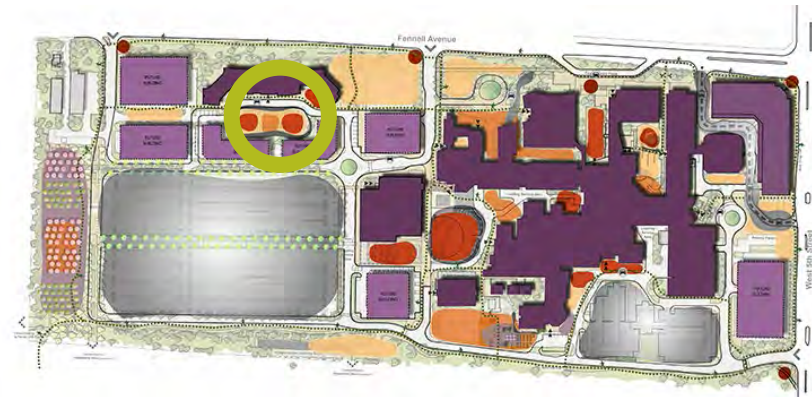
The Fennell Campus Renewal Plan envisions a quad between existing and planned residence buildings. This quad will be primarily for the use of residents and should be a green, comfortable and flexible outdoor space. Space dedicated to vehicles - including drop-off, servicing and fire routes - should be minimized through the quad and located at the exterior perimeter wherever possible.

ACTIVITIES

- Studying
- Resting
- Pick-up/drop-off
- Informal sports
- Student gathering

PRIORITY ACTIONS

- Develop a plan for the residence quad that prioritizes the pedestrian and recreational experience
- Incorporate Low Impact Development (LID) initiatives, such as bioswales and permeable paving into the quad
- Consider student safety in all phases of planning and design



Current Mohawk College Residence.



The Residence Quad should be an all-season comfortable place to relax and enjoy the outdoors. Left: Relaxing in summer (Photo Credit: sea turtle via flickr) Right: The quad should be comfortable to use in winter (Photo Credit: Steve McFarland via flickr).

6.1.10/ Mohawk Trail System

Current & Future - A comprehensive trail network will enhance community connectivity while supporting the College's 'pedestrian-first' priority and ensuring safe intra-campus mobility.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

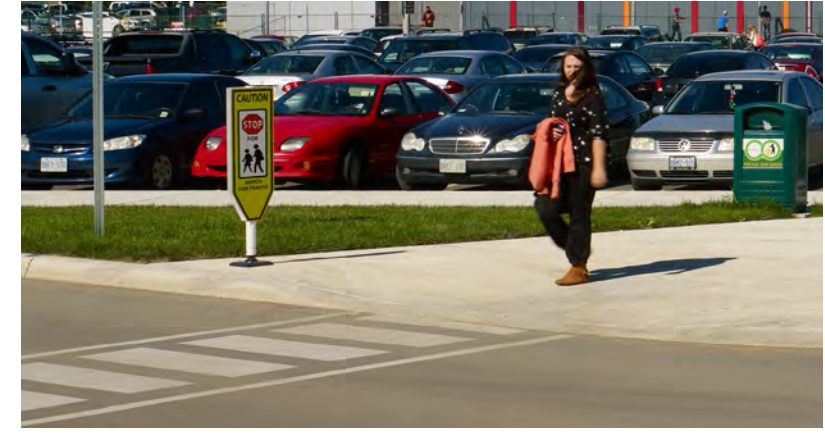
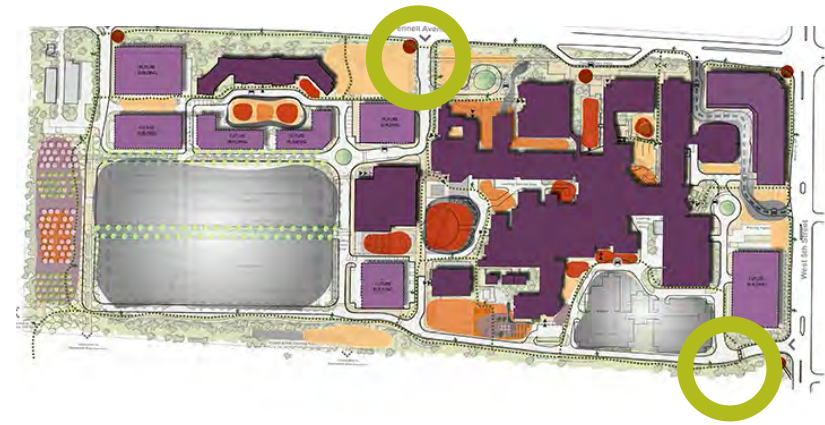
The Mohawk Trail System is a pedestrian-first recreation and mobility network that links all parts of the campus. The system provides opportunities to enhance student, staff and faculty wellness by augmenting outdoor areas for recreation, socializing, and fitness. The Mohawk Trail System provides a safe and efficient route for intra-campus mobility, while supporting community connectivity by offering community-accessible facilities. The trail system also serves as space for academic programming.

ACTIVITIES

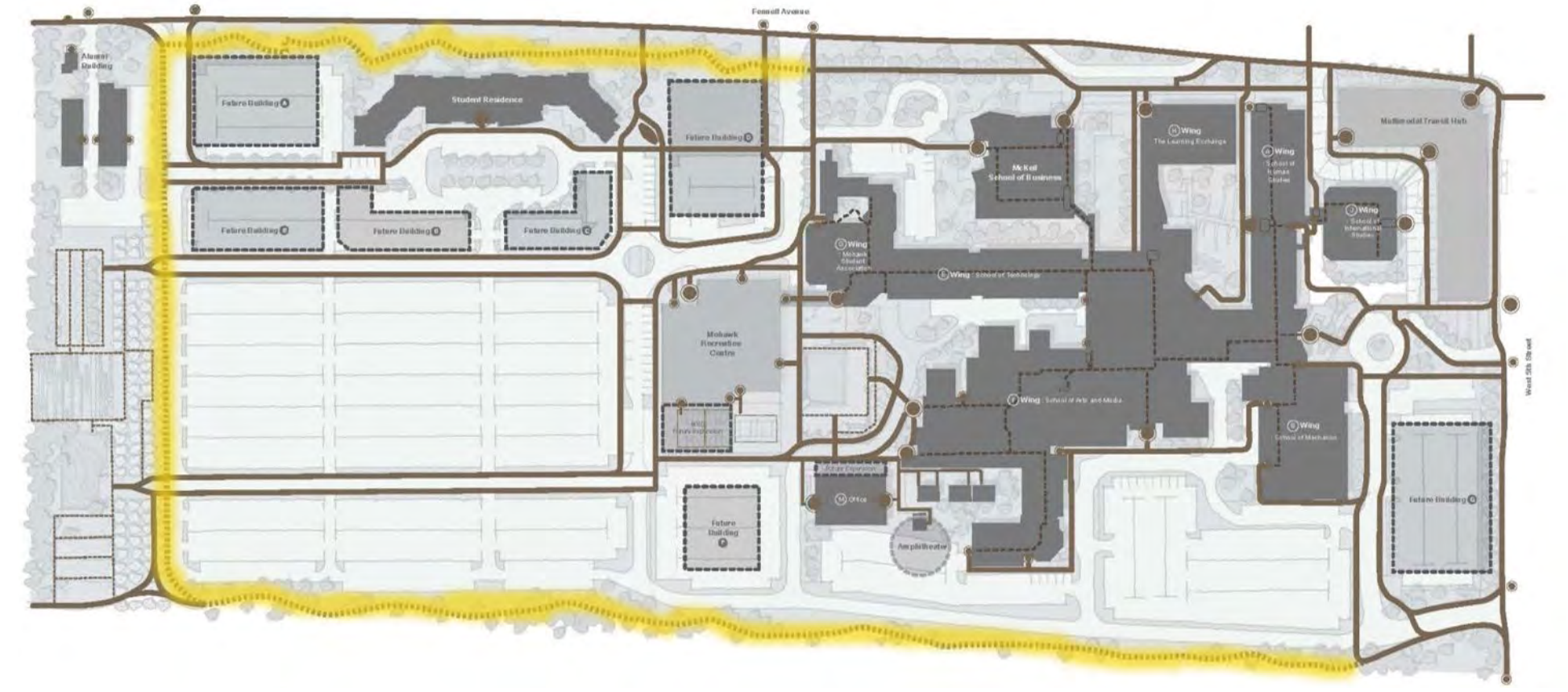
- Walking and running
- Community connectivity
- Mobility
- Healthy, active living
- Naturalization

PRIORITY ACTIONS

- Complete Phase 2 of trail development, linking to the existing exterior trail system



The Mohawk Trail System.




The Mohawk Trail System Map.

6.1.11/ Mohawk Naturalized Interpretation Park




Future - A unique space that encourages students, staff and the community to experience nature in an urban environment.

Objectives Alignment

CAMPUS LIFE

-  GATHERING
-  ACTIVITY
-  LEARNING
-  INCLUSIVITY
-  ARTISTIC
-  IDENTITY

SUSTAINABILITY

-  GREEN
-  MOBILITY
-  FOOD
-  WATER

CHARACTER

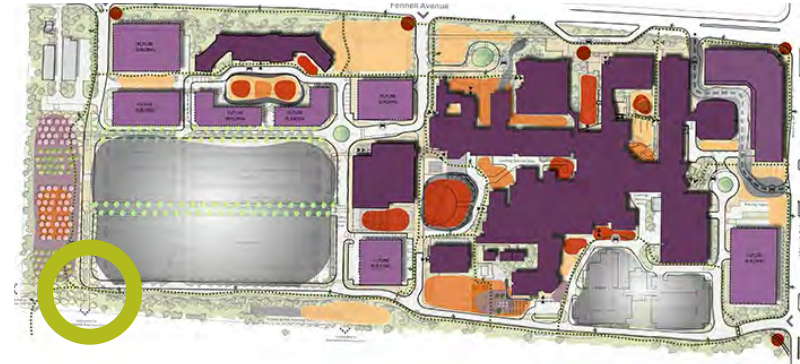
An extension of the Mohawk Trail System, the Naturalized Interpretation Park is a purpose-built open space that celebrates the interconnection between naturalized and urban spaces. This space offers the opportunity for students, staff, faculty and the community to connect directly with various elements of our natural environment, including plant and wildlife systems. As a place to experience nature in the city, the Naturalized Interpretation Park will provide an educational experience that shows how natural and built environments can work together.

ACTIVITIES

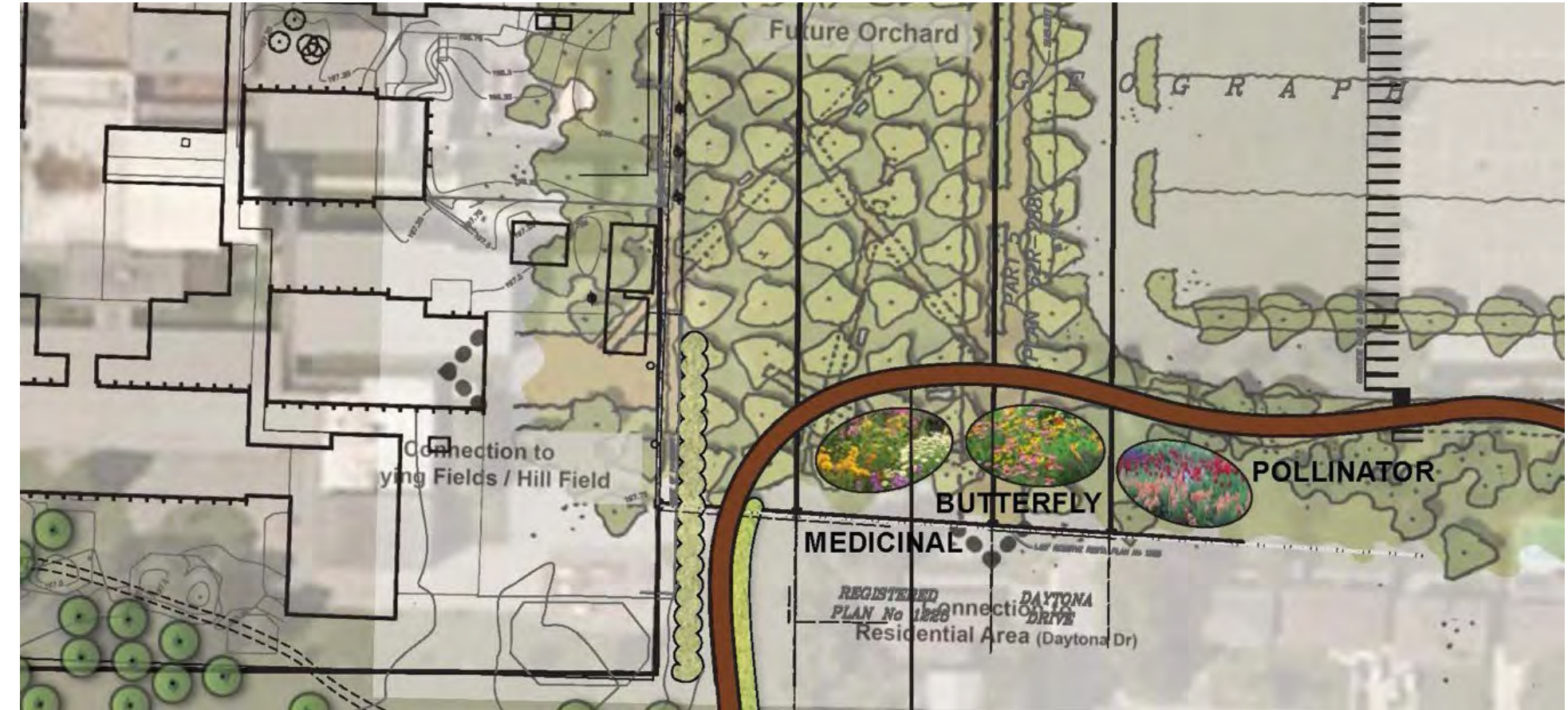
- Teaching and learning
- Relaxation and contemplation
- Community gathering
- Socializing

PRIORITY ACTIONS

- Complete a development plan



The Mohawk Naturalized Interpretation Park will allow visitors to observe the environment and seasonal trends. Photo Credit A. Miller-Rushing. Source www.usgs.gov



The Mohawk Naturalized Interpretation Park site plan.

6.1.12/ Mohawk and Hillfield Recreational Area

Future - A recreational space that encourages healthy lifestyles among students, staff and members of the broader community.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

The Mohawk & Hillfield Recreation Area is an extension of the Mohawk Trail System that incorporates the shared Mohawk-Hillfield lands on the west side of campus, bordered by Garth Street, the Buchanan Neighbourhood and the Hillfield Campus. This co-development focuses on naturalization and fitness areas that include different types of natural vegetation and workout pods placed along the trail system. The southwest portion of these lands provides opportunity for the future development of track and field or field house facilities.

ACTIVITIES

- Healthy, active living
- Teaching and learning
- Community connectivity

PRIORITY ACTIONS

- Complete development concepts in partnership with Hillfield



Mohawk and Hillfield promote healthy living in the community.



Examples of fitness training circuit pods. Source: TREKFIT inc.

6.1.13/ Public Art

Future - Creating a vibrant, cultured and stimulating campus that enhances learning, working and community places.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

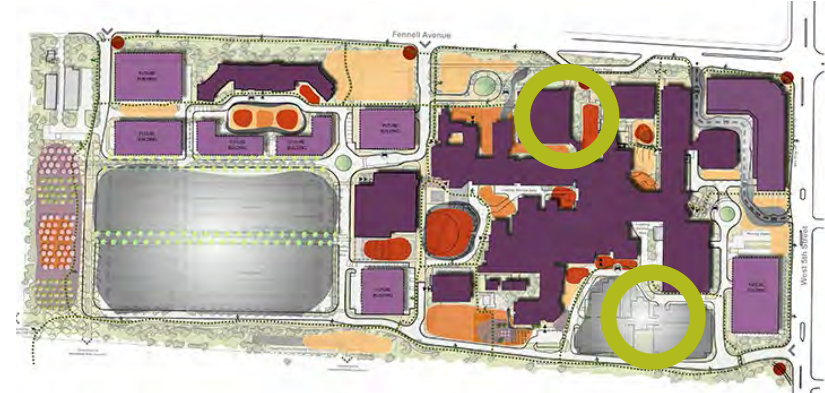
Prioritizing Public Art will support an enhanced Mohawk brand and identity while providing opportunities to animate campus spaces throughout the year. Public Art installations should aim to create a sense of place by celebrating student talents and diversity, community, and local history, providing a visual and contextual connection to Hamilton and the GTHA.

ACTIVITIES

- Teaching and learning
- Promoting culture
- Encouraging creativity

PRIORITY ACTIONS

- Develop a campus public art framework/policy
- Identify potential locations for art installation
- Identify funding opportunities/secure funding
- Utilize cooling towers for public art installations



Current - public art installation at the Fennell Campus.



Examples and concepts of public art. Source: www.hamilton.ca/attractions/culture/public-art

6.1.14/ Sustainable Infrastructure

Current & Future - Planning future development with the aim of adaptation for long-term resiliency and environmental risk avoidance.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

A focus on sustainable infrastructure will support incorporating sustainability-focused enhancements into all future development. Creating sustainable infrastructure includes identifying stormwater management and low-impact development opportunities aimed at reducing the environmental impact of exterior built environments, while serving as living lab facilities for students.

ACTIVITIES

- Stormwater management
- Teaching and learning
- Water conservation and reuse

PRIORITY ACTIONS

- Develop sustainable infrastructure guidelines for all exterior building projects
- Set stormwater management and water conservation targets



Current - bioswale located off of Governors Boulevard, Fennell Campus.








Examples of potential Stormwater Management options such as Rainwater Harvesting, Permeable Pavement, Green Roofs and Bioswales.

6.1.15/ Rooftop Opportunities





Future - Utilize rooftops as functional, social and recreational spaces.

Objectives Alignment

CAMPUS LIFE

-  GATHERING
-  ACTIVITY
-  LEARNING
-  INCLUSIVITY
-  ARTISTIC
-  IDENTITY

SUSTAINABILITY

-  GREEN
-  MOBILITY
-  FOOD
-  WATER

CHARACTER

Rooftop spaces tend to be underutilized, and present an opportunity to create attractive, functional spaces on campus. More effective use of roof top spaces can incorporate increased production of alternative energy, enhance space for outdoor gathering and public art, and can provide opportunities for agriculture and food production.

ACTIVITIES

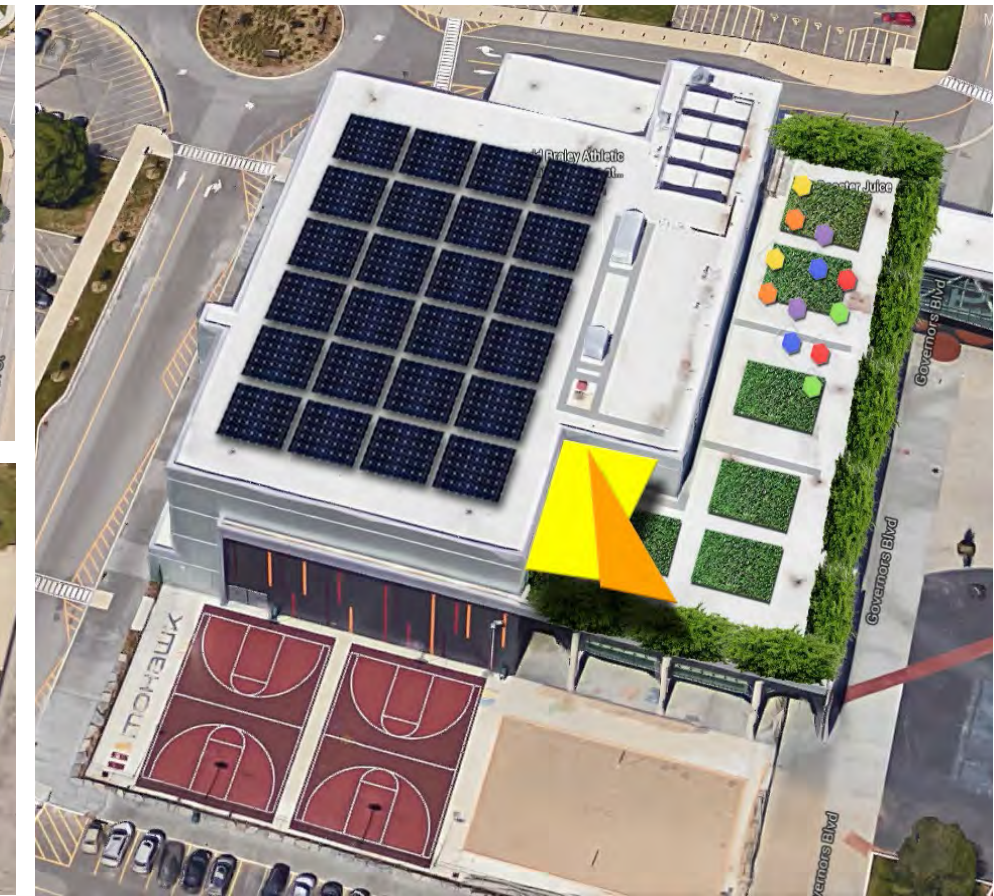
- Social Gathering
- Studying/relaxing
- Teaching/learning
- Energy Production
- Relaxation & Contemplation
- Agriculture

PRIORITY ACTIONS

- Develop an inventory of underutilized rooftop spaces
- Investigate feasibility of increased renewable energy production
- Create opportunities for rooftop planting
- Identify possible locations for rooftop gathering spaces



Example of a Green Rooftop - George Brown College (image courtesy of KPMB, Tom Arban).



Solar and Green Rooftop proposed sites: A-Wing, H-wing and the DBARC at Fennell Campus.

6.1.16/ Bioswale

Future - Implement landscape features to prevent stormwater run-off as an alternative to conventional storm sewers.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

Located outside of the McKeil School of Business in an area that is highly visible from Fennell Avenue, the bioswale will create an iconic sustainable development at Fennell Campus. This project strongly communicates Mohawk's strategic prioritization of sustainability in all aspects of operation, while contributing to stormwater management.

ACTIVITIES

- Naturalization
- Teaching and Learning
- Stormwater Management
- Water Conservation and Reuse

PRIORITY ACTIONS

- Complete construction drawings



Current site of proposed I-Wing Pond.



Mohawk I-Wing Pond Concept Plan.

6.2/ Campus Places - Stoney Creek

Outdoor spaces at the Stoney Creek Campus enhance the outdoor experience for students, staff, faculty and the surrounding community.

The creation of a comprehensive series of purposeful outdoor places across campus will enhance the experience and perception of students, staff, faculty and the community.

An enhanced and improved campus landscape achieves three primary goals: it will improve the campus outdoor experience, it supports the College's sustainability goals and it will create a common design language for all outdoor spaces.

For each existing and proposed place at Stoney Creek Campus, there is a detailed profile outlining objectives and the steps required to achieve them.

An overview of the character of each place provides the context necessary to propose key changes. The proposed activities that can occur in each space are summarized and a series of precedent images and ideas speak to what each place can become.

Individually, each place on campus is important as a destination but taken as a whole, the network of enhanced and new places will fundamentally improve campus life and support the goals of the College.

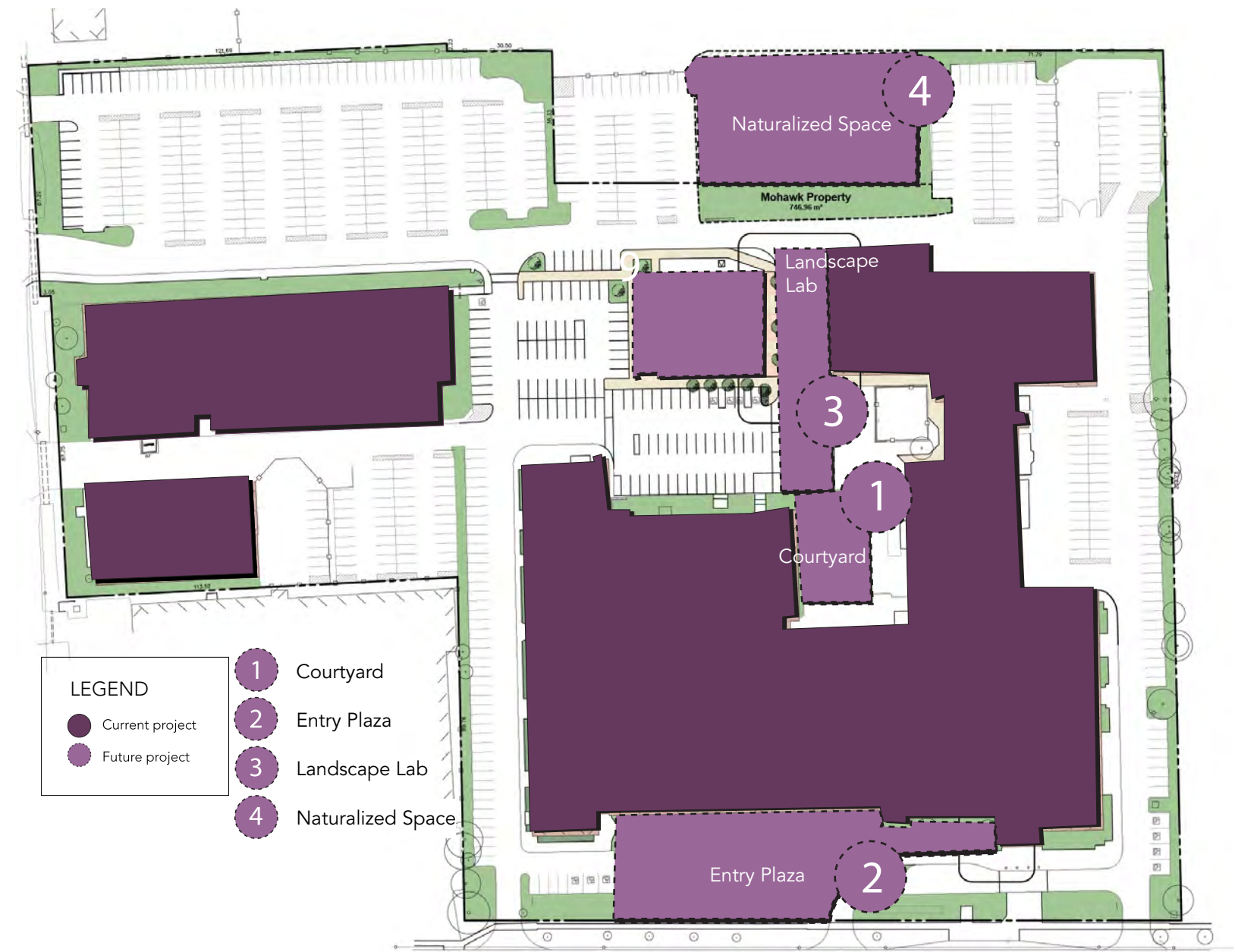
The places profiled include existing places that are to be enhanced and proposed places that are to be created.

Proposed Places

- The Courtyard (Phase I complete)
- Entry Plaza (Phase I complete)
- Landscape Lab
- Naturalized Interpretation Park



Phase I of the Stoney Creek Courtyard supports the College's sustainability goals and improves the outdoor experience on campus.



LEGEND

- Current project
- Future project

- 1 Courtyard
- 2 Entry Plaza
- 3 Landscape Lab
- 4 Naturalized Space

Existing places and new opportunities map, Stoney Creek Campus.

6.2.1/ The Courtyard

Current - A pocket park for outdoor recreation and gathering.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

The Courtyard is an example of a ‘pocket park’ that includes an inviting outdoor seating area complemented by shade trees and grassy areas. The space also includes a basketball court to provide students and staff with opportunities for outdoor recreation.

Phase 1 of this project was completed in the summer of 2015, with plans to complete Phase 2 in the summer of 2017.

ACTIVITIES

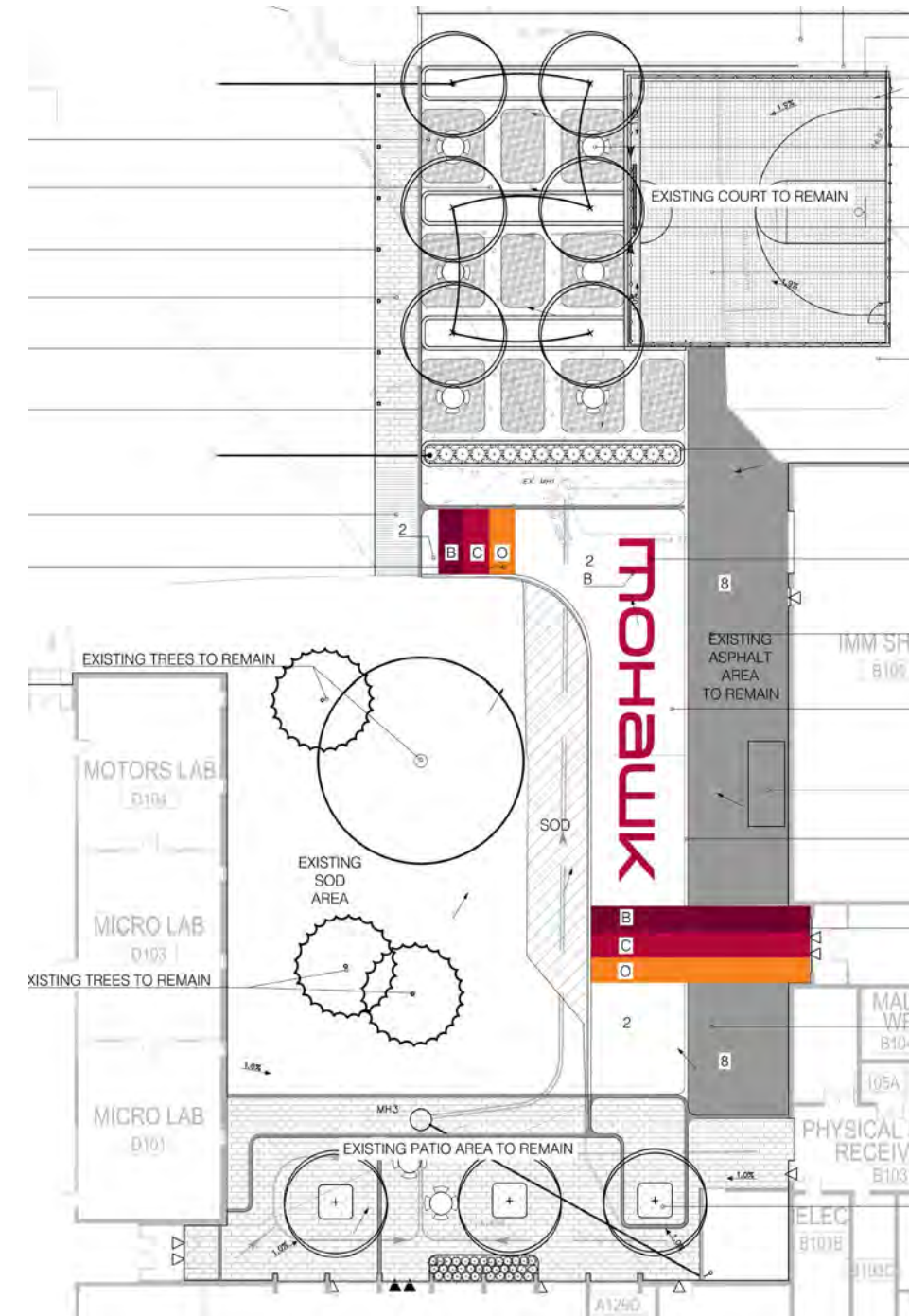
- Gathering
- Studying
- Outdoor lounge space
- Informal Sports
- Arts and events
- Relaxation and contemplation

PRIORITY ACTIONS

- Incorporate landscaped areas
- Provide additional seating areas
- Construct paved area with branded graphic elements



The current state of the Courtyard.



Construction drawing of the Courtyard at Stoney Creek Campus.

6.2.2/ Entry Plaza

Current - A dynamic entry space that enhances Mohawk's identity.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

The Entry Plaza is a functional signature space for the campus, providing an attractive space that facilitates mobility as a key pick-up and drop-off location. With elements of the Mohawk College brand, the plaza will define an entry experience for campus users. There is an opportunity to expand this space for gatherings and events.

ACTIVITIES

- Mobility
- Gathering
- Studying
- Sitting
- Arts and events

PRIORITY ACTIONS

- Expand space with paving tiles
- Provide additional seating areas
- Incorporate landscaping
- Enhance wayfinding with iconic brand elements



An iconic Entry Plaza filled with natural light creates a positive user experience.



The existing entrance to campus provides opportunities for enhancement.

6.2.3/ Landscape Lab

Future - An outdoor living lab and social space for students.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

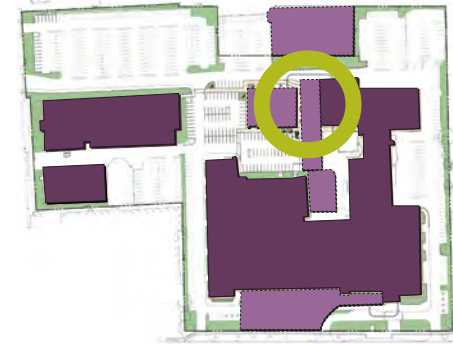
The Landscape Lab is a purpose-built space that offers an outdoor hands-on learning experience. By using a combination of landscaping and building techniques, the Landscape Lab will provide experiential learning opportunities for students studying trades at the Stoney Creek Campus. The area will also provide additional gathering and study space for students.

ACTIVITIES

- Teaching and learning
- Gathering
- Relaxation and contemplation

PRIORITY ACTIONS

- Complete design development and construction drawings
- Identify funding sources



Special projects like logo gardens can provide unique living lab opportunities for students.



Students learning about the installation of stylized gardens on campus.

6.2.4/ Naturalized Space

Future - An oasis of nature in an industrial setting that welcomes students, staff and community.

Objectives Alignment

CAMPUS LIFE

- GATHERING
- ACTIVITY
- LEARNING
- INCLUSIVITY
- ARTISTIC
- IDENTITY

SUSTAINABILITY

- GREEN
- MOBILITY
- FOOD
- WATER

CHARACTER

The Naturalized Interpretation Park is a purpose-built open space that celebrates the interconnection between naturalized and urban spaces, while supporting nature conservation. This space offers the opportunity for students, staff and faculty to connect directly with various elements of our natural environment.

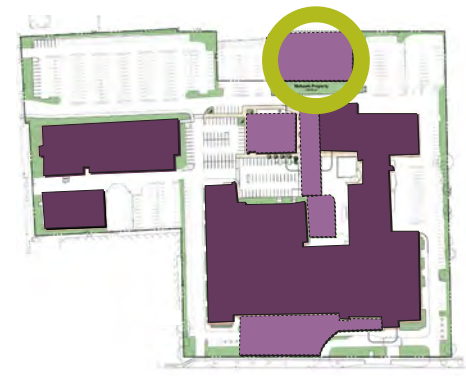
The park is partially on land owned by Mohawk and partly on land owned by Taylor Steel, and includes multiple protected species of plants and trees.

ACTIVITIES

- Teaching and learning
- Relaxation and contemplation
- Community gathering
- Socializing

PRIORITY ACTIONS

- Execute agreement with Taylor Steel
- Complete schematic design and working drawings
- Obtain municipal and other approvals as required
- Identify funding sources



Students value outdoor space that allows for studying, socializing and relaxing.



*The Naturalized Interpretation Park will allow visitors to observe the environment and seasonal trends.
Photo Credit A. Miller-Rushing
Source www.usgs.gov*



7.0/ Urban Design Principles

The following section introduces the overarching principles that will help support the vision of the Sustainable Landscape Plan, and create consistency between campuses across Mohawk's campuses to enhance the College identity.

7.1/ Materials, Furnishings & Planting Palette

A coordinated system of campus materials and furnishings will establish a public realm identity for Mohawk College.

Materials

Establishing a consistent public realm identity across campuses is an important objective of the Sustainable Landscape Plan. To date, each outdoor project has been treated as an independent piece of design and lacks consistency in materials. The materials and site furnishings palette presented in this section are intended to be used consistently across campuses for all new and refurbished spaces.



Permeable Unit Pavers

Manufacturer: Unilock.
Product: Thornbury Permeable.
Colour: Almond.
Notes: Pattern can be modified based on application.



Unit Pavers

Manufacturer: Unilock.
Product: Thornbury.
Colour: Almond.
Notes: Use colour-matched polymeric sand for joints.
Match patterns in other areas of campus for consistency.



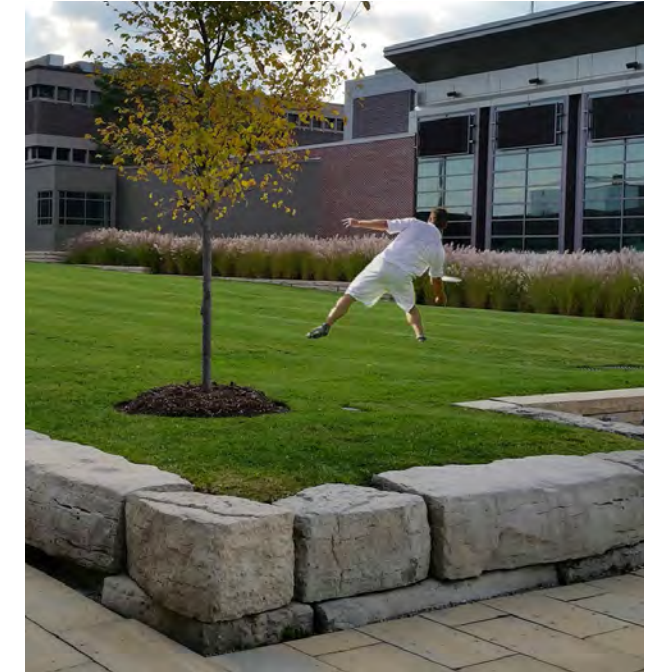
Concrete Paving

Finish: Light broom finish
(perpendicular to direction of travel).
Notes: Saw cut control joints; snap-cap expansion joints with colour matched-caulking; no tooled edges.



Retaining Wall

Product Cast-in-Place Concrete.
Colour: Uncoloured.
Notes: Light sandblast finish; chamfered edges.



Armourstone Retaining Wall

Product: Natural, local limestone blocks.
Notes: Large block armourstone retaining walls are the first choice for retaining wall structures on campus.
Natural edges with open joints or (as shown) or sawn with tight joints.

Site Furnishings

Site furnishings add distinction to outdoor public spaces and support brand identity at Mohawk College. Site furnishings include benches, litter receptacles, picnic tables and bike racks. The selection of furnishings decorate the landscape while adding a functional value to underutilized areas. By creating an inviting space for students, staff and faculty, we extend their positive experience at Mohawk College beyond the classroom.



Bench

*Manufacturer: Landscapeforms.
Product: Rest.
Colour & Finish: grey with wood slats.
Notes: With back and arms.*



Lounge Chair & Picnic Table

*Manufacturer: CR Plastics.
Product: #C01 (chair) & #T50 (picnic table).
Colour: Mixed.
Notes: Commercial or trade grade, if available (currently not available).*



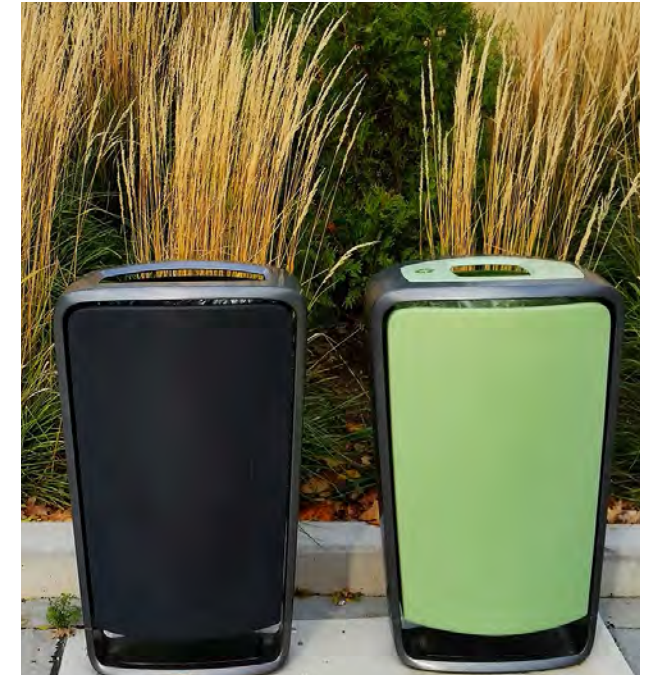
Bollard

*Manufacturer: Landscapeforms.
Product: Stop.
Colour: Grey.
Notes: Surface mount, direct bury or removable options; optional LED light.*



Bike Ring

*Manufacturer: Landscapeforms.
Product: Ride.
Colour: Grey.
Notes: Surface mount.*



Litter Receptacle

*Manufacturer: Rubbermaid.
Product: Collect.
Colour: Grey frame, green & black bins.
Notes: 30-gallon unit only; surface mount.*

Lighting and Wayfinding

Mohawk College's wayfinding signs have been custom designed and fabricated. They are intended to assist people with convenient navigation around the campus along with safety and accessibility. These signs are composed of bare aluminum and painted metal panels and align with the overall consistency of the campus. All new signs should integrate with the material and colour palette of existing signs.



Wayfinding Signage
 Manufacturer: Custom Design.
 Product: Direction.
 Colour & Finish: Grey.
 Notes: Aluminum and painted metal posts.



Pedestrian Light Standard
 Manufacturer: Landscapeforms.
 Product: 12' Hi-Glo LED.
 Colour: Grey.
 Notes: N/A.



Street Light
 Manufacturer: Cree.
 Product: Hi-Glo-LED.
 Colour: Silver.
 Notes: 4000k; specify additional options as required for application.
 Pole: Cree round tapered aluminum pole; satin ground finish, single member arm.



Parking Lot Area Light
 Manufacturer: Philips.
 Product: EcoForm LED.
 Colour: Natural Paint (NP).
 Pole: Fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish.



Wind and Solar
 Manufacturer: Stresscrete Group.
 Product: Gemini Lighting.
 Colour: Textured off white.
 Notes: N/A.

Planting

The identity of outdoor space on campus can be unified through the consistent use of low maintenance, drought tolerant species mass planted in large groupings to create bold and recognizable blocks of colour, texture and movement. Several new spaces at Fennell Campus have created large beds of ornamental grasses that are beginning to form a soft landscape identity. Building on the nascent identity, all new planting interventions (new development and replanting efforts) should be primarily composed of ornamental grasses planted in large massing. A mix of tree species on campus is desirable to provide a range of colours, textures and forms. Variety in species also provides educational opportunity for relevant programs. New trees planted on Mohawk campuses should not be limited to a small palette, but should be selected from the City of Hamilton's Tree Species list.



Utilize mass plantings of ornamental grasses in all new developments and replanting efforts across campuses.



Specify only low maintenance, drought tolerant shrubs and perennials beyond ornamental grasses. Species to be determined by Landscape Architect on a project by-project basis.



Eliminate all annual planting beds in favour of ornamental grass mass plantings.



A mix of plant species provide colour, texture and form on campus.



Select tree species from the most current version of the City of Hamilton's Tree Species List.

7.2/ A 'Pedestrian-first' Approach

Mohawk has established a pedestrian priority in designing campuses as a means of creating a safe user experience while underscoring the College's environmental mission.

A Safe, Healthy Campus

Pedestrian-first design creates a safe environment by giving priority to pedestrians over vehicles, including walkers, cyclists, and other forms of non-motorized transportation. This is achieved through the design and location of safe, accessible and continuous pedestrian-connections that reflect 'desire lines' or the most direct path of travel. Design features, including distinct paving, weather-protection, lighting, and seating support mobility and ensure a comfortable pedestrian experience.

Putting pedestrians first minimizes potential conflicts between pedestrians and vehicles, enhances the overall campus experience for students and staff, and is integral in achieving the College's sustainability objectives. Providing safe and convenient access to, and through, the campus will support and encourage users who wish to access the campus by alternative modes of transportation, and will play a significant role in the College achieving its targeted 50% modal split for sustainable transportation options.

In the long-term, as walking, cycling, and transit become the primary modes of accessing the campus, parking reductions may be possible to facilitate new campus buildings and open spaces, as identified in the Renewal Plans for each respective campus.

Building on Existing Projects

To date, Mohawk College has made significant efforts to increase safety and prioritize pedestrian circulation on campus. For example, at Fennell Campus, Governors Boulevard loops around the edges of the primary campus, providing direct access to the main south entrance and the west parking lots. This generally ensures that once staff and students are in the 'internal' campus, they are safe from potential vehicle conflicts.

Other recent examples of efforts to promote safety and pedestrian-first design at Fennell Campus include:

- Multi-Use Pedestrian Trail - A multi-use trail at the southern edge of Fennell Campus provides a safe, direct connection across the campus. The trail facilitates continuous connections to/from the broader City, connecting to sharrows on West 5th Street, and safe local neighbourhood streets to the south (Daytona Drive and Columbia Drive).
- Columbia Drive Connection - In 2013, a direct connection was provided from Columbia Drive to the multi-use trail at the south end of campus, providing direct connections to adjacent neighbourhoods.

- MSA Plaza - Centrally located within Fennell Campus, MSA Plaza facilitates direct connections between F-Wing, M-Wing, G-Wing, the David Braley Athletic and Recreation Centre, and future buildings identified in the Fennell Campus Renewal Plan. The Sustainable Landscape Plan builds on these projects, and the recommendations of the Fennell Campus Renewal Plan, to create continuous connections between key campus destinations.

The standards aim to ensure that public spaces are planned and designed with accessibility in mind from the beginning. Mohawk College is committed to these standards in all elements of the Sustainable Landscape Plan.

Improving Road Crossings

Wherever intra-campus connections cross vehicle routes, dedicated pedestrian-crossings should be provided. Treatments should include:

- A raised crossing surface
- On-demand crossing signals (lights) to warn drivers
- Bump-outs to minimize crossing distance and provide additional opportunities for tree planting
- Special paving and materials to delineate pedestrian priority



*Left: Public First Approach | Mohawk College.
Photo credit: Falco - Pixabay.com
Right: Photo credit: Oliver Gouldthorpe via filckr.*

7.3/ Public Art Strategy

Public art supports and enhances the College brand, while providing opportunities to animate campus open spaces throughout the year.

Public Art Overview

Public art includes any art project commissioned by the College for the enjoyment of staff and students. Public art can take a variety of forms, including murals, sculptures, and embedded art (i.e. in benches, paving). Public art can also include temporary experiences, including public performances.

Public art reinforces a strong sense of place on campus, while serving a variety of other purposes, including:

- Enhancing the Mohawk brand through consistent and/or complementary pieces
- Celebrating cultural and historic people, events, etc.
- Identifying key campus locations, including access points, formal spaces, etc.
- Providing a visual and contextual connection to the surrounding city context

Building on Existing Projects

Through recent development and renovations, as well as existing pieces, Mohawk College has begun to establish a strong palette of public art, including:

Mohawk Entry Sign

Associated with the Learning Exchange, a large Mohawk sign establishes the ‘front door’ of the campus and reinforces the College brand through the use of colours. More subtly, the large steel structure reflects the industrial heritage of Hamilton.

Decorative Benches

In close proximity to the entry sign, three decorative benches further reinforce the College brand through coloured banding, while integrated text identifies the College’s ideals: Quality, Innovation, and Sustainability.

MSA Plaza

The MSA Plaza itself can be considered a public art piece, with colourful seating, and stylish paving creating a unique environment. In addition, this space can be regularly used for public performances.

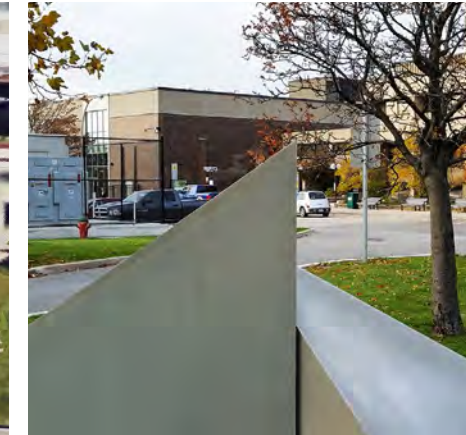
Sculptures

A few sculptures exist at Fennell Campus, including the pillar within the Peace Park, and The Cube.

The Sustainable Landscape Plan encourages investment, promoting the inclusion of new and unique public art elements and performance spaces within high-volume pedestrian areas, such as:

- Fennell Entry Plaza
- Fennell Lawn
- MSA Plaza
- Indigenous Gathering Place
- Amphitheatre
- Stoney Creek Courtyard
- Stoney Creek Entry Plaza
- Strategic locations along pedestrian connections

In addition, the Sustainable Landscape Plan proposes iconic features at key locations on campus, including major campus entrances and areas with high community visibility. These features will serve a dual purpose as both wayfinding and public art elements.



Public Art at Mohawk College.

Tactical Urbanism

Tactical urbanism is the implementation of quick, inexpensive, and often temporary design interventions that will make the campus more attractive and enjoyable for students and staff. Tactical urbanism can take a variety of forms, including the temporary conversion of parking spaces into open spaces, 'guerrilla' gardening within 'leftover' spaces, food trucks and carts, temporary or non-commissioned public art.

Key to the tactical urbanism movement is experimentation and the ability to improve the public realm with minimal risk and regulation (i.e. unsuccessful interventions can be easily reversed). While projects are generally grass-roots or community-led at the outset, successful projects are often adopted and formalized by municipalities and institutions.

Specific opportunities may include:

- The conversion of corner spaces, and other 'leftover' spaces into small, landscaped, stormwater management areas, with educational signage.
 - The conversion of car parking spaces into bicycle parking, parking for priority vehicles, and/or small parkettes.
 - Film projections on the west side of the M-Wing at Fennell Campus to show outdoor movies in off-peak times.
 - 'Pop-up' stands to provide additional goods and services on campus, similar to the Farm Stand. Possibilities could include BBQ, lemonade stand, etc.
- Providing public art and temporary murals on fenced areas, temporary construction staging, trailers, etc.
 - Painting murals on underutilized spaces such as parking lots, vacant sites, or blank walls.
 - Delineating desire lines through the placement of pylons to identify the most direct paths to campus destinations.

Mohawk College should foster an environment that welcomes and encourages students to participate in the definition and beautification of the campus through organized class or student group projects in partnership with Mohawk staff.



Tactical urbanism reclaims space for people with a "lighter, quicker, cheaper" approach. (Photo courtesy of Raise the Hammer)

7.4/ Indoor-Outdoor Continuity

Continuity of indoor and outdoor spaces results in a comfortable environment with natural light and open air.

Overview

Creating a sense of connectivity between indoor and outdoor spaces enhances the cohesiveness of campus design and maximizes space. By incorporating outdoor features inside, and indoor features outside, Mohawk can enhance the synergy between interior and exterior spaces.

As a design principle, indoor-outdoor continuity aims to make exterior space as appealing and comfortable as interior space, while bringing elements of nature indoors. The most dynamic spaces are created when landscape design and interior design are integrated, allowing spaces to flow into one another.

This can be achieved using a variety of tactics, for example:

- Separating indoor and outdoor space with only glass to allow for visual continuity
- Carrying indoor furniture to outdoor spaces and vice versa
- Maintaining the character of design (ie. shapes, colours, materials) from indoor to outdoor and vice versa, including furnishings and lighting
- The use of bi-fold or pocket doors that can be moved to eliminate entire walls
- Blur the line between indoor and outdoor areas by using the same flooring material
- Opting for flush, level transitions without steps where possible

Overall, fluid access from one space to another can make indoor spaces feel more open, and encourages the use of outdoor space for activities that often occur inside, like studying and social gathering.

Principles of landscape design and interior design overlap in some key areas that contribute to successful continuity of spaces:

- Using natural and artificial light in ways that are sensitive to how light impacts color, defines objects and affects mood of occupants
- Refining and balancing the vast palette of color and textures available in the materials used
- Framing views and planning movement that naturally leads from one environment to another

Examples and Opportunities

There are some current examples of planned indoor-outdoor continuity at the Fennell Campus.

H-Wing Living Wall

The two-storey living wall is located in a central area of the H-Wing, and is made up of more than 2,000 plants. This addition is not only visually appealing but also helps to improve air quality and regulate building temperature while providing a more natural environment.

I-Wing Koi Pond

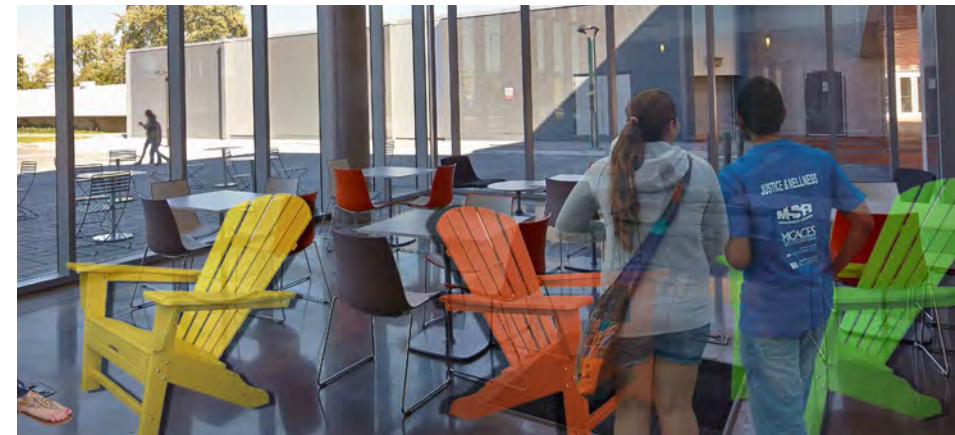
The pond is located just inside the main exterior entrance to the i-Wing, carrying the principles of the proposed bioswale into the building. The pond contributes to a sense of naturalization through auditory and visual components of flowing water and the incorporation of wildlife with fish and live plants.

C-Wing Atrium & Fennell Lawn

The C-Wing Atrium frames the Fennell Lawn, with the two spaces separated only by glass to help frame views. This provides opportunities for activities to flow from one space to another with ease, and serves to better animate both spaces.

In addition to these examples, there are some opportunities to enhance continuity in existing spaces:

- Scotiabank Café and associated outdoor patio
- Booster Juice seating area and nearby outdoor seating area
- C-Wing Cafeteria and Amphitheatre
- Development of indoor courtyards and atriums



Examples of Indoor-Outdoor options.



8.0/ Stormwater Management

This section provides an overview of the opportunities and options for sustainable stormwater management addressing flooding, water quality, stream morphology, groundwater protection and aquatic habitat. While a complete stormwater management report was completed for Fennell Campus, many of the principles and practices can be easily applied at the Stoney Creek Campus.

8.1/ Stormwater Management

An important focus of the Sustainable Landscape Plan is to capture and treat as much stormwater on-site as possible.

The College has adopted a sustainable approach to its strategic plan that recognizes the interconnection between the economy, society and the environment. The EMP 2.0 contains 8 pillars ranging from participation and engagement to alternative energy.

To provide specific direction on a stormwater management approach, a concurrent study was commissioned by the College entitled Stormwater Management Options and Opportunities (Aquifer Beech - 2015). The report addresses the key concepts of EMP Strategy 5.2 (Facility Operations) including, but not limited to water conservation, creating efficiencies in space and infrastructure upgrades. The College's goal is to become water independent from a potable and stormwater perspective which includes no-use or net-zero consumption of municipal potable water supplies and reductions to the municipal stormwater system.

Objectives

- Support Mohawk's multi-faceted definition of sustainability which recognizes the interconnection between the economy, society and environment.
- Improve Facility Operations in regards to water conservation, efficiency and as part of future infrastructure upgrades.
- Contribute to Mohawk's goal of becoming Water Independent from a potable water and stormwater perspective.

Background

In the past three decades there has been an evolution in stormwater management (SWM) in Ontario from focusing mainly on controlling quantity and flood reduction to a broader watershed focus including stream morphology, groundwater protection, and terrestrial and aquatic habitats, including wetlands.

Low Impact Development (LID) is a stormwater management strategy that uses distributed small-scale SWM controls to more closely mimic the natural movement of water. Used together with traditional Best Management Practices (BMP's) it can be applied to achieve an overall SWM system that provides better performance, cost-effectiveness, lower maintenance and protects better during extreme storms than traditional practices alone.

Benefits of Improved SWM & LID Implementation

Implementation of LID practices can provide benefits such as:

- Reduction of flood risk
- Improved regulatory compliance and financial savings
- Reduced operations and maintenance costs
- Safety enhancements
- On-campus health and wellness (landscape aesthetics)
- Sustainability reporting (environmental, social, economic)

- Marketing opportunities and sustainability initiatives
- Access to government green funding incentive programs

Existing Conditions SWM

The Fennell Campus currently has some areas of improved SWM controls in newer developments, but based on the general age of the development, it has mostly traditional catch basin and subsurface piping systems that do not currently provide flood, water quality and/or erosion control. The findings of a site assessment are summarized below. A visual assessment is provided in the full report.

Areas of high value landscaping/vegetative plantings are present throughout the campus site and represent areas which could be replaced with LID.

An existing dry pond facility with a small central wetland exists as part of new building construction at G-Wing.

The Fennell Campus includes existing permeable surfaces including interlocking concrete pavers, sidewalks, and concrete within the MSA Plaza.

The Fennell Campus currently includes sub-surface storage systems, constructed as part of the H-Wing in the form of a Cultec V8HD SWM Tank, and as part of the DBARC in the form of a Brentwood Stormtank located north of the MSA Plaza.

Large expanses of asphalt parking areas are present and have varying asphalt conditions and therefore



*Left: Stormwater management, I-Wing.
Right: Bioswale, Governors Boulevard.*

useful life. It is understood that several surface parking lots have reached the end of their service life and are scheduled for rehabilitation/reconstruction and/or expansion in the near-term. These parking areas currently do not have stormwater controls beyond standard catch basin and subsurface piping systems.

Areas of nuisance flooding or extended ponding due to localized grading issues and discharges from adjacent residential homes was identified along the western pedestrian trail.

A large turf area exists to the west of the Fennell Campus site. This area has been planned for minor parking expansion of the western most parking lot and for the establishment of a future orchard and Farmer's Market.

Existing Geotechnical Conditions

Existing geotechnical conditions at Fennell Campus (bedrock depth, depth to high water table) appear to not be prohibitive for the implementation of infiltration based systems.

Capital Planning

Capital projects, including major infrastructure renewal and or upgrades, were identified and mapped in context with the Fennell Campus Master Plan. Capital projects were grouped according to the associated planning horizon, year and priority of:

Immediate Term (2015)..... Priority 1
 Near Term (2015-2017)..... Priority 2
 Medium Term (2018-2020) Priority 3
 Extended Term (2021-2025)..... Priority 4
 Long Term (beyond 2025) Priority 5

SWM Opportunities

A total of ten stormwater management LID opportunities were identified for Fennell Campus that are in the immediate to near-term planning horizon, have potential for greater SWM impacts, are low-risk and can be implemented with minimal effort while addressing problem areas.

- Opportunity No. 1 | The Western Parking Lot
- Opportunity No. 2 | SWM Facility Retrofit
- Opportunity No. 3 | Island Bioretention
- Opportunity No. 4 | Traffic Circle Bioretention Retrofit (Pilot Project)
- Opportunity No. 5 | Rain Garden/Bioswale (Pilot Project)
- Opportunity No. 6 | LID Bus Lay-bys
- Opportunity No. 7 | Sub-asphalt Storage
- Opportunity No. 8 | Rain Garden (Wet Area Solution; Pilot Project)
- Opportunity No. 9 | P2 Lot Opportunities
- Opportunity No. 10 | Minor Grading Improvements

Three opportunities were selected as being a potential pilot project area based on being low-risk, minimal

effort undertakings which can be implemented immediately and would allow the College to showcase examples of successful implementation of LID practices.

Next Steps

The following are the key next steps in the implementation of the stormwater management options and opportunities presented:

- Hydrogeological and geotechnical studies
- Focus of resources on immediate and near-term projects
- Focus allocated on a priority basis to the identified Pilot Projects (Opportunities No. 4, 5 & 8)
- To most appropriately achieve the goals and objectives outlined in EMP 2.0, the College should undertake a Comprehensive Stormwater Management Plan study for the Fennell Campus



Left: Street Bioswale
 Photo credit: Kevin Perry
 Right: Curb Bioswale
 Photo credit: NYC Water Flickr



9.0/ Consultation

The following section provides an overview of the consultation process that was undertaken as part of the Sustainable Landscape Plan. It outlines the discussions that guide future developments at Mohawk College.



9.1/ Overview - Fennell Consultation

A series of fun, engaging and hands-on workshops to engage students, staff, faculty and the community.

The Sustainable Landscape Plan was prepared in collaboration with key stakeholders, as well as the campus community, through a number of working sessions, including:

Internal Stakeholder Visioning Workshop and Community Garden/Orchard Visioning

On January 19, 2015, architects from Brook McIlroy and key stakeholders from Mohawk College undertook a day-long collaborative workshop focusing on Sustainable Landscape Initiatives in the morning, and the Indigenous Gathering Place and Orchards/Community Garden in the afternoon. A series of key directions were identified for each element.

Indigenous Gathering Place Workshop

On January 31, 2015 Mohawk College and Brook McIlroy hosted an interactive workshop in the Scotiabank Café to discuss the design of the

Indigenous Gathering Place. Attendees were given a short presentation which outlined the project goals and objectives, a site analysis and a series of design precedents. The participants were then asked a series of questions about their perspective and priorities for the Indigenous Gathering Place.

Visioning Workshop

On February 25, 2015 Mohawk College and Brook McIlroy hosted an intimate discussion with students, and representatives from the Mohawk Sustainability Office, to discuss their experience on campus and vision for the long-term development of campus open spaces and landscaping. Attendees were given a short presentation which outlined the project goals and objectives, a site analysis and a series of design precedents. The participants then engaged in a round-table discussion using a worksheet to direct the conversation.

Community Garden Stakeholder Round-table Discussion

On February 25, 2015, Mohawk College, Victoria Taylor and Brook McIlroy hosted a round-table discussion with local community gardening groups and City officials to discuss potential partnerships for the forthcoming Community Garden space. The discussion was varied and fruitful and all participants left feeling that there was interest on both the community and Mohawk's part to forge new relationships and share Mohawk's garden space.

A significant amount of feedback was received at each session and subsequently incorporated into the Sustainable Landscape Plan.

Visioning

Collaborate with key internal stakeholders

Community Engagement

Invite feedback from community

Concept Review

Evaluate the final phase

Mohawk College Consultation Methodology



9.2/ Consultation Summary - Fennell

Mohawk College collaborated with students, staff and the community to recognize needs and preferences.

On January 19, 2015 Brook McIlroy and key stakeholders from Mohawk College undertook a day-long collaborative workshop focusing on Sustainable Landscape Initiatives in the morning, and the Indigenous Gathering Place and Orchards/Community Garden in the afternoon.

Internal Stakeholder Visioning Workshop and Community Garden/Orchard Visioning (January 19, 2015)

The key design directions that emerged from these sessions included:

Campus and Sustainability Initiatives

1. Sustainability will be a pillar of the Sustainable Landscape Plan, with the goal of achieving carbon neutrality.
2. Mohawk College will be a leader, and an agent for change within the city of Hamilton, in the adoption of new techniques and strategies for sustainable site design (i.e. Low-Impact Development, Stormwater Re-use, etc.).
3. Health and activity should be reflected throughout the Sustainable Landscape Plan.
4. The Sustainable Landscape Plan will provide a seamless transition between campus buildings and open spaces.

5. The Sustainable Landscape Plan should focus on secondary open spaces, ensuring all excess space is appropriately programmed (i.e. small water gardens, agricultural space, etc.).
6. Where large surface parking areas exist, innovative solutions should be explored to minimize their impact, including permeable paving, underground storage, etc.
7. Branding and identity will be a key focus of the Sustainable Landscape Plan, including public art and iconic features.
8. Additional features should be considered within the MSA Plaza, including landscaping, furniture, etc. to enhance the pedestrian experience. Features that extend the use of the Plaza year-round such as a skating rink, should be explored.

Indigenous Gathering Place

1. Should be multi-functional, providing spaces for ceremonies, performances, working groups, and knowledge-sharing between students.
2. Should be for everyone, but designed using Indigenous building techniques and to reflect an Indigenous character.
3. Should provide enough seating to accommodate a classroom-size gathering, as well as standing room for large events. However, when not in use for groups should provide a comfortable atmosphere for a single person or small groups.

4. Story-telling, art and iconography, including reflection of the four elements (i.e. fire, water, earth, air), should be integrated into the Indigenous Gathering Place.
5. Provide complementary features, such as areas to grow medicines, in close proximity to the Indigenous Gathering Place.

Orchards/Community Garden

1. The Orchard and Community Garden should be large enough to supply a significant amount of the on-site food demand.
2. A permanent location for a Farmer's Market should be identified within the Sustainable Landscape Plan.
3. The design of the Orchard should focus on functionality over aesthetics, including durable construction materials, a minimal-style storage shed, and small areas for cleaning and prepping fruits.
4. Provide a social gathering space to support cultural and educational events, and to celebrate the seasonal harvest.
5. The Orchard should include multiple bed types, including raised beds that are accessible to all users.
6. Provide a mix of fruit trees and vegetables to maximize variation while minimizing pests.

Indigenous Gathering Place Workshop (January 31, 2015)

On January 31, 2015 Mohawk College and Brook McIlroy hosted an interactive workshop in the Scotiabank Café to discuss the design of the Indigenous Gathering Place. Attendees were given a short presentation which outlined the project goals and objectives, a site analysis and a series of design precedents. The participants were then asked a series of questions about their perspective and priorities for the Indigenous Gathering Place. The following is a summary of the discussion:

What values should the Indigenous Gathering Place communicate?

- The Indigenous Gathering Place should be inclusive, accommodating all students, faculty and staff. The aim should be to create an attractive space that draws public attention and fosters respectful exchange between different cultures.
- The Indigenous Gathering Place will educate visitors with information related to Indigenous traditions, heritage and cultures, including poem, wampum belts, lights, form and fire.

How should this place feel?

- A blend of traditional form and modern design should bring together natural materials and

traditional symbolism to support a relaxing environment.

- There should be a strong connection, physical and spiritual, to features of natural significance such as gardens, water and wood.
- A dynamic and active space should be created with the use of sacred fire enclosed in artwork and poetry engravings while areas of stillness create a sense of strength and solidarity.

What activities should the Gathering Place accommodate?

- As an inviting educational space, the Gathering Place has many applications. It should serve as a safe and comfortable area for students to work, read and relax either as individuals or in small study groups. It should allow for formal teaching activities surrounded by features of natural beauty. Visitors should be able to engage with one another in dance and drum circles. Larger crowds should be welcomed for Pow Wows and other important cultural activities.

What materials, plants, or water elements should the space incorporate?

- The selection of materials is paramount in creating a space one can easily identify with.
- Sacred plants and herbs such as sage, sweet-grass, cedar and tobacco should be used.

- Steel accents should be used to honour Hamilton's more recent history.
- Flowing water should be used to bring life and movement into the space.
- Bean, corn and squash - the three sisters, should thrive in garden spaces tended by the community.
- Fire should be incorporated as a means to bring warmth and light to those that gather here.
- Text should be used to express the cultural history and to create visitor interest.
- Technology should be used carefully, with proper lighting from flame and electrical lighting. No recording devices should be used at this area.

Where in the quad should the Gathering Place be located?

- The space should be located so that it forms the first point of contact for the community. The Mohawk traditionally occupied the East Coast, and thus were the first point of contact for the West. This history should be reflected in the placement and orientation of the Gathering Place.

Visioning Workshop (February 25, 2015)

On February 25, 2015 Mohawk College and Brook McIlroy hosted a discussion with students, and representatives from the Mohawk Sustainability Office, to discuss their experience on campus and vision for the long-term development of campus open spaces and landscaping. Attendees were given a short presentation which outlined the project goals and objectives, a site analysis and a series of design precedents. The participants then engaged in a roundtable discussion using a worksheet to guide the conversation. The following is a summary of the Priority Directions from the meeting, organized by discussion topics:

A Vibrant Campus Experience

1. A variety of programming elements should be provided in MSA Plaza, including movie screenings, video game events, and food trucks. Additional winter programming should also be explored, including skating, warming huts, snow cone vendors, etc.

2. Regular programming and events should be provided within the Fennell Lawn, including events, food trucks, outdoor lawn sports (i.e. bocce), etc.
3. The Orchard space should provide opportunities for partnerships and exchange with the local neighbourhoods, as well as complementary activities (i.e. workshops, gardening lessons, etc.).
4. The large surface parking area to the west should be reconfigured to provide more efficient and safe pedestrian connections. Additional landscaping should be provided to beautify the lots and create smaller parking courts.
5. The open space surrounding the Student Residence should not see significant change, but could be improved to support more casual student enjoyment, including BBQs, picnic areas, seating, and other elements that take advantage of the strong tree canopy.

6. The area in front of the Student Residence should be formalized as a social gathering area.
7. The space adjacent to the School of Technology is underutilized and could provide opportunities for outdoor classrooms.
8. Streetscape enhancements should be made along the edge of West 5th Street to create a more attractive campus experience. Sidewalks should be incorporated as part of any new development to create a safe, continuous pedestrian connection.

A Culture of Sustainability

1. Elements of the campus that support sustainability (i.e. solar panels, wind-generators, etc.) should be celebrated and highly visible, and should support the College's education efforts.
2. Opportunities to collect rain water and run-off should be explored and used to irrigate campus gardens.

3. Stormwater management opportunities should be explored at the western edge of the parking area (near the Orchard) to minimize the run-off that results from the parking area.

Learning Opportunities

1. Outdoor lecture spaces should be provided throughout the campus, including formal spaces such as the Indigenous Gathering Place.
2. Power stations and Wi-Fi should be provided within outdoor learning spaces.

Campus Safety and Accessibility

1. Explore opportunities to minimize pedestrian/vehicle conflicts between the Governors Boulevard entrance and the primary entrance at the School of Justice and Wellness. Potential solutions include clear, direct paths through parking areas, cross-walks across access routes, etc.

2. Provide continuous sidewalks along West 5th Street to facilitate safe pedestrian circulation at the edge of campus.
3. Opportunities to improve access/egress from the westernmost entrance on Fennell Avenue should be explored.
4. Traffic calming measures (i.e. speed bumps) should be provided along Governors Boulevard to slow traffic accessing the parking areas. Specifically, a stop sign should be considered where the multi-use trail connects to Columbia Drive.
5. Efficient and clearly defined pedestrian routes should be provided throughout parking areas, and across Governors Boulevard, to minimize pedestrian/vehicle conflicts.
6. Parking areas, and outdoor spaces, should be well-lit whenever they are being used. Opportunities for timed or motion-sensored lights should be explored.

Signage and Branding

1. Campus entry points should be defined using large signage similar to that proposed at the corner of Fennell Avenue and West 5th Street.
2. Signage on campus should be more high-tech, providing information to students and visitors. Ads should be limited.
3. The Mohawk brand on campus should highlight the significance of sustainability to the campus and the curriculum, and should provide a clear connection to the broader city of Hamilton.

9.3/ Stoney Creek Consultation

Students and staff were consulted about campus development as part of the process for creating the Stoney Creek Campus Renewal Plan.

All campus renewal projects are inspired by consultation with staff, students and faculty which allows the College to create the best spaces and services possible.

Using qualitative and quantitative data collected as part of creating the Stoney Creek Campus Renewal Plan, student and staff input can be applied to projects that are included in the Sustainable Landscape Plan:

Stoney Creek Campus Renewal Feedback

In November 2014, an online survey was issued to staff and students who are users of the Stoney Creek Campus, following the completion of Phase I Renewal. The purpose of collecting this feedback was to inform future changes to buildings, technologies and outdoor spaces at the campus.

The survey was designed to help Mohawk plan upgrades that will provide quality campus

environments that are tailored to meet the needs of the diverse group of learners and instructors at Stoney Creek Campus.

Frequent topics of discussion included:

- Overall satisfaction levels with current campus spaces and amenities
- Quality of wayfinding and signage on campus
- Perceived importance of different types of spaces including outdoor space, study space, and social or collaborative spaces
- Value of opportunities for recreation
- Naturalized areas for outdoor relaxation

Summary of Feedback

The most common applicable themes that came out of the survey included recommendations to:

- Beautify the college with improved exterior and interior spaces and comfortable furnishings
- Improve campus amenities including retail, food and services
- Incorporate student-centred and connected study and social spaces
- Allow flexibility to respond to future learning requirements





10.0/ Implementation

The following section summarizes strategies to implement the recommendations of the Sustainable Landscape Plan including programs, partnerships, and capital planning.

10.1/ Operations and Maintenance

Implementation of the Plan will require investment in both landscape and infrastructure projects and requires a new progressive approach in how Mohawk's campuses are operated and maintained.

The projects presented in the Sustainable Landscape Plan will elevate Mohawk College's outdoor campus environment into a cohesive series of high-quality places. These places will require a new set of shared values between operations and planning staff to ensure appropriate, high-level care. In many ways the recommendations contained in this report - such as the shift to a drought tolerant, low maintenance planting approach - will reduce the maintenance burden.

In other areas, Mohawk College will need to adopt a new approach and philosophy to campus maintenance. Iconic open spaces as well as improvements to parking areas (i.e. permeable paving) will use higher-quality materials than other campus spaces, and will require increased maintenance activities to keep them in a good state of repair, and ensure their continued use. This will require Mohawk College to develop a detailed monitoring process and maintenance regime to track life cycle, state of repair, funding, and capital and operational budget requirements.

Priority areas for increased operations and maintenance include:

Snow Removal, Clearing and Storage

Key to the success of the Sustainable Landscape Plan, and the broader Campus Renewal Plans, will be the realization of a safe, vibrant and accessible campus at all times of the year. In the winter months, this will require a maintenance program that ensures that all key places and intra-campus connections identified in the

plan are regularly cleared of snow and ice. Additional labour, construction and funding will be required to ensure key places can be utilized year-round.

In particular, spaces that are shared with the community should be maintained in winter months with the same high priority as common pedestrian routes.

In order to keep these spaces accessible all year, alternative locations for snow storage should be strategically planned within designated parking areas designed to reflect the opportunities identified in the Stormwater Management Options & Opportunities Report (Aquifer Beech).

Landscaping

The plant and tree species recommended in this document are low maintenance and drought resistant, and will require limited ongoing maintenance once established.

With the elimination of annual planting beds, grounds maintenance staff should focus efforts towards monitoring and maintenance regimes for shrub and perennial beds and trees.

Cycling and Transit

Both the Sustainable Landscape Plan and the broader Campus Renewal Plans focus on increasing cycling and transit access to, and through, the campuses. To facilitate this, additional efforts will be required to prioritize repairs and maintenance to cycling and transit facilities, including bus stops, bicycle locks and storage areas, and the multi-use trail.

Accessibility Considerations

Mohawk College is committed to ensuring that all destinations at its campuses can be experienced and enjoyed by users of all ages and abilities. On an ongoing basis, Mohawk maintenance staff will be required to monitor and ensure that campus spaces and connections remain clear of obstacles (e.g. fallen branches, shifting pavers), and that facilities remain in working order.

Special Events and Community Programs

A number of special events and community collaboration opportunities are identified in the Sustainable Landscape Plan, including a skating rink within the MSA Plaza, the Community Garden, and on-campus public performances within the Indigenous Gathering Place and other outdoor open spaces. During special events (and throughout the winter at MSA Plaza), an additional investment will be required for event set-up and operation, garbage removal, etc.



10.2/ Future Programs and Studies

As the Sustainable Landscape Plan is implemented, a number of future studies and strategies will be required to ensure success.

Programming Strategy

A dedication to programming and event organization is recommended to enhance the utilization of outdoor spaces like the MSA Plaza, the Indigenous Gathering Place and the Stoney Creek Courtyard. Staff resources and expertise should be devoted to working with event planners, community groups, businesses, local institutions, etc. to organize and advertise regular festivals, activities and events that meet the needs of staff, students, and the broader community throughout all the seasons.

Education and Awareness Strategy

The purpose of this strategy is to educate staff, students, and the community on how to utilize the campus efficiently and effectively. Changes will impact long-term parking reductions, permeable paving and rain gardens. Opportunities may include informational signage, campus advocacy groups, public tours, and a strong and on-going online and social media education campaign.

Public Art Strategy

The Sustainable Landscape Plan encourages public art in all major campus open spaces, as well as along the intra-campus connections. Public art enhances the sense of place on campus, and plays a significant role in reinforcing a strong College brand and identity. To ensure that new public art is implemented strategically, and represents a cohesive (as

appropriate) and complementary vision, the College should create a comprehensive Public Art Strategy. The strategy should identify locations for art elements, as well as specific locations for key pieces. Where key pieces are required, a general vision and goals can be outlined, but the final design should be determined by the artist. As part of the strategy, potential funding mechanisms should be explored (i.e. donations, commemoration, crowdfunding, etc.).

Community Outreach Program

A key goal of the College is to strengthen connections to its surrounding communities, and the broader Hamilton region. The College currently participates in and promotes a number of campus and community initiatives (i.e. the Bounty Bag program, community workshops, local sustainability events). The Sustainable Landscape Plan provides an opportunity to forge long-term partnerships as the campus evolves, and new and exciting uses have the potential to draw new visitors to the campus.

To augment the Programming Strategy, the College should create a formal Community Outreach Program that identifies opportunities for exchange between the College and the surrounding city. This should identify regular events, such as the existing Farm Stand, sustainability tours, inviting groups to use the Indigenous Gathering Place, and performances at the various outdoor locations.

The program should include dynamic elements that are updated yearly (i.e. event schedules, locations, partners, etc.), as well as best practices for advertising, invitations, etc.

Farm Program

The proposed Orchard at the west edge of the Fennell Campus is intended to be a professional working farm, producing a proportion of the food that will be provided on campus. To establish this, a comprehensive Farm Program will be required to ensure optimal growth. The program should be prepared by an orchard specialist (8 month full-time position), and should include (at a minimum):

- A site preparation process
- The recommended tree species and fruit selection for the climate, soil conditions, and market
- A detailed plan showing the location and spacing of trees, landscaping, tool sheds, pathways, etc.
- A schedule for planting and harvesting
- Ongoing maintenance requirements (and assigned staff/student/volunteer)

Those in charge of the Orchard should undertake a comprehensive training course to ensure they are properly equipped to care for the trees, undertake pest control, etc.



10.3/ Capital Planning

Mohawk College aims to create dynamic outdoor spaces that encourage learning and community engagement.

The Sustainable Landscape Plan outlines Mohawk College's strategy to create an attractive and sustainable exterior environment. It is intended to be a long-range plan implemented as priorities arise and funding sources are identified.

The following planning principles will generate funding for these improvements:

- Existing and new government programs
- Naming, sponsorship and fundraising
- Alternative funding/delivery programs
- Apply financing/delivery programs
- Apply operating cost reductions to support capital
- New revenues from programming related to exterior spaces
- Partnerships



Student orientation week at the MSA Plaza.

10.4/ Partnerships

A variety of partnerships will be required to facilitate the full implementation of the Sustainable Landscape Plan.

Full implementation of the Sustainable Landscape Plan will require a significant time and capital investment from Mohawk College. However, many of the recommendations will require additional partnerships as well.

Funding Partnerships

Staff assigned to the implementation of the plan should explore all opportunities for funding partnerships. This may include corporate sponsorships, private donations, fundraisers and events, as well as more unique approaches, such as crowdfunding. Where funding is provided, credit should be subtle and should not compromise the overall vision of the plan.

Student Groups

Mohawk College has a number of student groups currently registered, representing a wide range of interests. Some of these groups may wish to be directly involved in the implementation of the plan (i.e. garden and orchard groups), while others may provide great partnerships for using finished spaces (i.e. drumming performances at the MSA Plaza or the Indigenous Gathering Place). In addition, new student groups may be specifically formed to assist with various aspects of the plan.

Mohawk College should explore and encourage all student groups who wish to participate in the evolution of the campus, as it will help to instill a sense of ownership and a stronger investment in the campuses.

Community Groups

Community groups, including Environment Hamilton and Hamilton Victory Gardens, have already been involved in sustainability efforts at Mohawk College and have expressed an interest in continuing this investment. With a clear Sustainable Landscape Plan in place, these groups could be valuable partners as the College undertakes new projects and programs.

The City of Hamilton

A key focus of the Sustainable Landscape Plan and the Campus Renewal Plans, is a long-term shift in the modal split to 50% sustainable modes of transportation. This will require partnerships with the City in order to improve transit access and frequency, as well as an improved network of safe cycling facilities on nearby streets. Mohawk College, as appropriate, can advocate for year-round cycling access through clearing of all on-street facilities.



Bike for Mike at the Bayfront, Hamilton.

10.5/ Monitoring and Updating

The Sustainable Landscape Plan should be flexible, and able to adapt to changing priorities, processes and trends.

Monitoring Process

As the Sustainable Landscape Plan is implemented, it is recommended that regular campus and community information sessions be held to keep the community up-to-date on the process, and also to receive feedback on projects to-date. This can generally take the form of social media and online updates (in which the College is currently very active), but should occasionally (i.e. every two years) involve a public meeting at a convenient on-campus location.

At the same time, College staff should meet regularly to discuss recurring issues and challenges with the implementation of the plan.

Once feedback is received, relevant College staff (and stakeholders/partners as necessary) should convene to discuss and determine appropriate next

steps. These meetings should consider all feedback, but should generally focus on the issues that are expressed by large numbers of participants.

Issues that put public safety at risk, or can jeopardize the overall vision for the campus, should be addressed immediately. Other issues can be identified, and continually monitored, until the plan is up for review.

Five Year Review and Update

The Sustainable Landscape Plan represents a vision for the design and programming of outdoor spaces at Mohawk College that augments the directions of the Campus Renewal Plans, while achieving the College's broader sustainability objectives. Adherence to this plan will ensure a healthy, attractive and vital campus

throughout the year, and for people of all ages and abilities.

As this is a long-term plan, it is important that the recommendations continue to respond to the evolving realities and, where appropriate, changing priorities. It is recommended that the College undergo a periodic review (i.e. 5-years) of the document to ensure that the vision is being achieved as new development occurs, and that the recommendations still reflect the evolving neighbourhood context.



Stakeholder consultation session for the Indigenous Gathering Place.



A drum circle presentation during the consultation.



The consultation attendees gather in a circle to learn and give feedback about the Indigenous Gathering Place.



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Mohawk College
Fennell Ave. & West 5th St.
P.O Box 2034
Hamilton, ON L8N 3T2

