CITIFY PRESENTS

COMMUNITY STRUCTURE PLAN

SOUTHWEST KITCHENER, ON

citify
planning + design

Citify Planning and Design
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citify
planning + design

verb (used with object), citified, citifying. 1. to make into a city; urbanize.

CITIFY PLANNING + DESIGN is a land use planning and urban design firm based in Waterloo, Ontario. The firm has been committed to delivering a full range of planning and urban design services since 2013. The varying scope and geographical extent of our previous planning projects provide us with the experience and skillset required to apply unique and creative planning and design solutions to each new project. As consultants based in the Waterloo Region, we have a deep understanding and appreciation of the local context and history of the Region. We are familiar with relevant local policies, and will ensure our final concepts are contextually feasible for the local, regional and provincial policies. Citify has diverse experience in land development, housing, community planning, urban design and public policy, which give us the necessary depth of knowledge to undertake this project with excellence. In addition, we emphasize sustainability and environmental stewardship in all our work. We are confident the concepts and density modelling that we produce will be to Activa's standards.

The team that has been selected to carry out this project has completed relevant precedent projects such as the design of greenfield communities in the Region of Waterloo, development of affordable housing and Passive House multi-residential buildings, traffic volume analysis for greenfield lands and complete active transportation research to facilitate aging in place.

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April 9, 2018

Larry Masseo, MCIP, RPP
Planning and Development, VP
Activa
55 Columbia Street East, Suite 2
Waterloo ON, N2J 4N7

Dear Mr. Masseo,

Re: Southwest Kitchener Community Structure Plan Report

Citify Planning and Design is pleased to have been retained by Activa for the development of a Community Structure Plan in Southwest Kitchener. The enclosed comprehensive report provides a summary of the research and methodology used in the completion of this project.

Through the expectations indicated in the RFP and correspondence with your planning team, Citify was able to successfully complete all three phases of the project. It is our hope that Citify's conceptualization of this community will be of assistance to your future planning and development of these lands. As per the details of your revised submission request, the following has been included in addition to the enclosed:

3 bound copies of the final report (size 8.5 x 11") and;
1 USB drive containing a copy of the report, presentation and 3D block plan (SketchUp file)

Thank you for this opportunity to expand our portfolio and collaborate with Activa, we are looking forward to the future development of these lands. Should you have further questions or concerns, please do not hesitate to contact the undersigned directly at **519 873 0935 or michelle.baya@citifyplanning.com.**

Sincerely,

Citify Planning and Design

Michelle Baya
Project Manager

Acknowledgement

This report and project was prepared by a team of planners within the Citify Planning and Design consulting firm. The consulting team would like to acknowledge and thank Larry Masseo and Jason Malfara for retaining Citify for the research and land use planning services required for the completion of this project. Citify also acknowledges and thanks Professor John Lewis, at the University of Waterloo School of Planning, for providing his time and insight throughout various phases of this project.

Contents

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SOUTHWEST KITCHENER
Community Structure Plan
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Project Team

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Transportation Planner

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Site Introduction

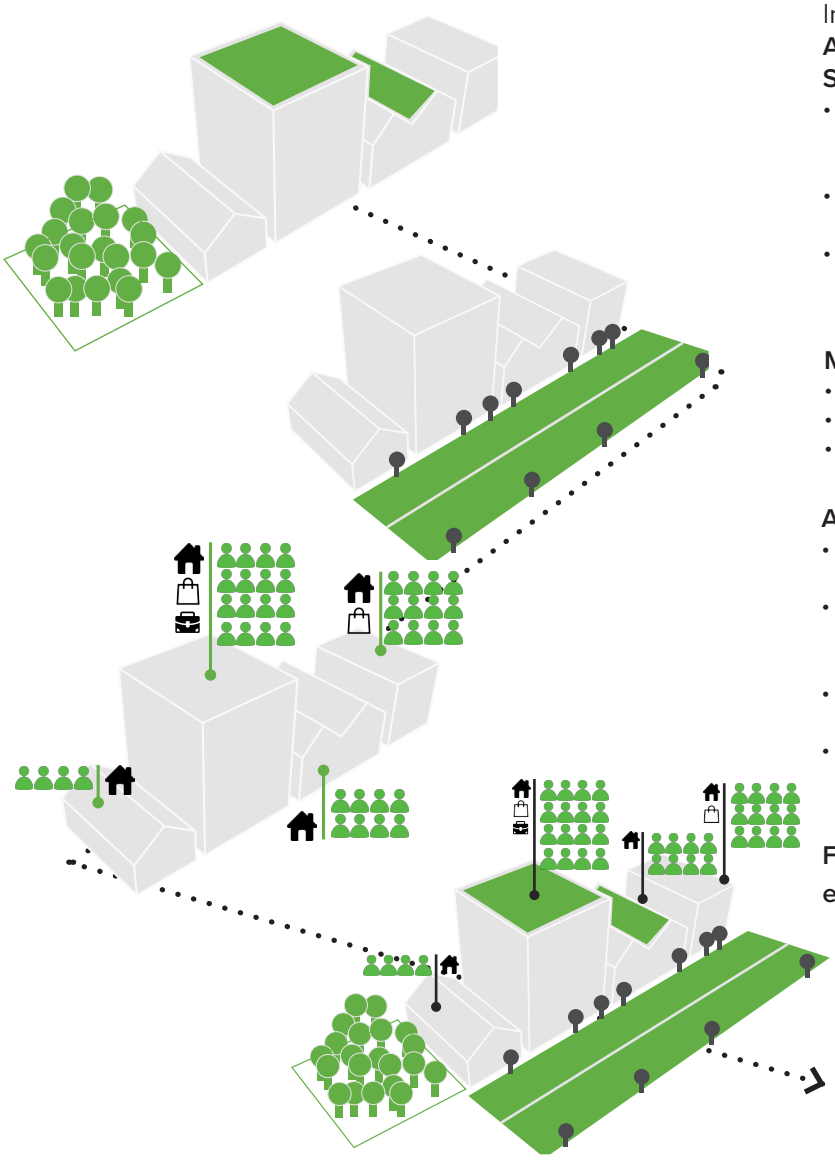
The site is located in Southwest Kitchener and is one of the last remaining Greenfield lands in the area. The total size of the land is 235 ha. It is bound by Huron Road to the north, Fischer-Hallman Road to the west and New Dundee Road to the south.

Site Location

Project Introduction

As indicated in the RFP, the purpose of this project is to conceptualize what a complete community would look like in three different density scenarios; 60, 70 and 80 people and jobs per hectare, in Southwest Kitchener. The subject lands encompass 235 hectares of Greenfield lands, and as such, are to be planned with the Greenfield area specific policies in mind. In addition, it is a Provincial policy directive to aim for a minimum of 80 people and jobs per hectare within the Region of Waterloo. However, the different scenarios provide an idea of the alternative density values that could be achieved if the Region of Waterloo were to reallocate densities to different areas. Through a comprehensive spatial analysis of the subject lands, a multi-modal mobility study, an achievable density study and massing study, Citify has been able to conceptualize the potential built form patterns into the three densities. For each of these studies, guiding design principles were used to ensure that the different components of a complete community were included. With Activa's intent to be involved with the future community/secondary plan process, a life-cycle approach to planning was used in the planning and design of the different land uses. In addition, Citify used this approach as one of six indicators of a complete community, which assisted in the final density scenario recommendation of 80 PPJ/ha.

Project Process + RFP Deliverables



In our plan we include:

An Environmental Assessment and Sustainable Design Summary

- Features that can be subtracted from the overall developable land, and features that count towards the total density;
- Sustainable development practices with research on how to include the Passive House standard; and
- Ideal locations for Stormwater and Low Impact Development (LID) systems that reduce negative environmental impacts of the development

Multi-Modal Mobility Study

- TTS study of the existing roads and traffic counts;
- Opportunities for major transit nodes;
- Existing road conditions

Achievable Density Study

- Potential land use configurations for each of the three density scenarios;
- Three 2D Concept Plans which will be based on our evaluation criteria of the best case scenario for each density;
- Inventory of surrounding amenities and amenity services proposed on site; and
- 3D SketchUp models of a sample block plan and/or community node expressing types of massing

Final recommendation based on a comprehensive evaluation criteria.

Section A

EXISTING CONDITIONS + POLICY REVIEW

Site Context

The subject lands are located east of Fischer-Hallman Road, south of Huron Road, and north of New Dundee Road. The surrounding area of the subject lands is primarily farmland with existing residential development north of Huron Road and to the east of the subject lands. In addition, there are two proposed residential subdivisions located immediately to the north of the site being developed by Freure Homes and Becker Estates.

To the northwest of the subject lands is the proposed Southwest Kitchener District Park, located at the corner of Huron Road and Fischer-Hallman Road. The park's development will be broken down into three phases with construction from 2017-2025 (with the first phase currently in progress). The park will include an indoor recreational center, 2 multi-purpose fields, park amenities, open space areas, stormwater features and 2 parking lots. The Southwest Kitchener District Park is seen as an excellent connection opportunity with the future community plan. A trail connection, site entry access and transit stop area to the eastern portion of the subject lands, are seen as imperative in creating connections from the site to the District Park.

The subject lands are a total of 235 ha in area and contain three natural heritage features that total 21.83 ha, leaving a remaining developable area of 213.17 ha. The natural features within the subject lands have been fully incorporated into the concept plan for the site. Furthermore, the Strasburg sanitary trunk sewer connection to the north end of the site has been incorporated into the concept plan design as a road connection to the proposed subdivision.

Policy Context

The Growth Plan for the Golden Horseshoe identifies the subject lands as a Designated Greenfield Area, and thus identifies the following minimum density target under section 2.2.7.2:

*"The designated greenfield area of each upper- or single-tier municipality will be planned to achieve within the horizon of this Plan a minimum density target that is **not less than 80 residents** and jobs combined per hectare."*

While the policy indicates a desired target of 80 residents and jobs per hectare, based on our debriefing meeting with Activa, the 80 residents and jobs per hectare value is a combined target for all the greenfield lands within the Region of Waterloo (upper tier municipality). As such, the development of the subject land may require an increased or decreased density in order to make up for the potentially reduced or increased densities of other approved greenfield development projects across the Region. Based on our development of the three density scenarios for 60, 70, and 80 residents and jobs per hectare, we believe it is reasonable to increase the density from the 80 residents and jobs per hectare scenario we developed to meet the minimum density target for the Region.

Growth Plan for the Greater Golden Horseshoe

Growth Plan for the Greater Golden Horseshoe
In the context of the Southwest Kitchener lands, the Growth Plan policies concerning the Designated Greenfield Areas are most applicable as they provide better guidance towards the desired density and composition of the future development of these lands.

Policy 2.2.7.2 indicates a minimum density target of 80 residents and jobs combined per hectare for greenfield areas of upper or single-tier municipalities.

Region of Waterloo Official Plan

The subject lands are designated Urban Designated Greenfield Area within the Regional Official Plan (ROP). The ROP direct developments within Urban Designated Greenfield Areas to be planned in a manner that contributes to the creation of complete communities. Within Urban Designated Greenfield Areas, the Region identifies the importance of establishing networks of continuous sidewalks, pedestrian trails, bike trails that provide convenient linkages to transit stops, employment areas, school sites and community facilities within neighbourhoods and to external neighbourhoods.

City of Kitchener Official Plan

Natural Heritage and Environmental Management

Section 7.1.2 - Reduce negative quantity and quality impacts of groundwater.
Section 7.C.1.2 - Where wetlands and other significant natural features are identified, they will be maintained, and wherever possible, enhance the natural environmental features of the site.
Section 7.C.4.1 - Development and redevelopment strives to be increasingly sustainable by encouraging, supporting and, where appropriate, requiring:
Environmentally responsible design (from community design to building design) and construction practices;
The integration, protection and enhancement of natural features and landscapes into building and site design and;
Transit-supportive development and redevelopment and the greater use of other active modes of transportation such as cycling and walking.

Parks, Open Space, Urban Forests and Community Facilities

Section 8.1.1 - the City of Kitchener strives to have “balanced distribution and sufficient supply of accessible and inclusive parks, open space and community facilities for both active and passive recreational uses to satisfy the needs of all residents of Kitchener.”
Section 8.C.1.21 - Regard for usable green space areas for supportive amenity features.

City of Kitchener Urban Design Guidelines

Suburban Neighbourhoods

-Conserve existing site features in a sensitive manner, and incorporate a neighbourhood focal point where possible or appropriate.

-Encourage a variety of focal points that contribute to neighbourhood identity and walkability.

-Design interesting park spaces that contribute to neighbourhood identity or character.

-Create attractive streetscapes through housing variety, articulated building facades and consistent street tree planting.

-Encourage enhanced and coordinated streetscape elements that contribute to a neighbourhood theme or character.

-Establish a street hierarchy that is well-connected to the surrounding neighbourhoods and to arterial streets.

City of Kitchener Transportation Master Plan

The Kitchener Transportation Master Plan outlines the goals for the road, transit and active transportation network within the City of Kitchener.

This plan provides specific guidance for healthy modal splits within the City of Kitchener, transit network expansion and future road expansions (including the Strasburg Road extension on site).

In terms of active transportation the TMP sets out the following directives:

-Connections through neighbourhoods, to neighbouring municipalities, and to other modes of travel;

-Active transportation facilities that are highly visible and appeal to a wide range of users;

-Safe, accessible and convenient pathways that provide easy and safe travel for all users;

-Routes that are well-designed, sustainable and sensitive to natural and cultural amenities; and,

-Cost-effective implementation and maintenance

Rosenberg Secondary Plan

The Rosenberg Community Secondary Plan encompasses a similar scope to the intended secondary plan for the potential future Southwest Kitchener subject lands. Located north of Huron Road and east of Fischer-Hallman Road, this community area will be complementary to the future Southwest Kitchener Community Plan. Section 2.2.1 Node and Corridor, of the Rosenberg Secondary plan identifies Fischer-Hallman Road and Huron Road intersection area, as a primary node which will “primarily serve the Rosenberg Community and surrounding planning communities and ultimately supported by medium and high density residential uses within an adjacent to the node”.

Surrounding Land Use

Becker Estates Development
Becker Estates Development is a proposed subdivision of townhouses and single and semi-detached homes to the north of the subject lands. In addition to the residential blocks, the Becker Estates plans contain an elementary school, large neighbourhood park, and smaller parkettes. The site also proposes open space areas, stormwater management ponds, trails, walkways, transit routes, natural heritage conservation areas, and multiple access locations to the arterial street system.

Freure Development
Adjacent to Becker Estates Development, is additional residential neighbourhood development owned by Freure Development which contains townhouses and single-family homes. The site proposes to have 32 units with a projected completion of 2018.

Southwest Kitchener District Park
The Region values connection capabilities between existing networks and potential future networks, within complete communities. In meeting this Regional objective and positively contributing to the site's potential, the Southwest Kitchener District Park, to the northeast of the subject lands is seen as an excellent connection opportunity with the future community plan A trail connection, site entry access and transit stop area to the eastern portion of the subject lands, are seen as imperative in creating connections from the site to the District Park.

School Boundaries
There are two school boards within the Region of Waterloo that have jurisdiction over the subject lands: the Waterloo Region District School Board and the Waterloo Catholic District School board.

Existing Transit Conditions

There are no existing transit routes on-site. The most proximate route is the "11" route which stops at Woodbine/ Huron at the Northern end of the site. Identified via Google mapping tools, travelling to Downtown Kitchener from the site takes approximately one hour and 25 minutes with the 11 bus route.

The closest planned LRT station is the Blockline Station in Kitchener, which is within Phase 1 of the LRT.

Existing Active Transportation Conditions

There are no active transportation paths or walkways on site. However, as noted to the north there is a multi-use path which runs parallel to Huron Road. If new active transportation connections are implemented, the Multi-Use Path and Trail Master Plan outlines design requirements that will account for width and amenities within the proposed design concept.

Existing Road Conditions

Currently there are no existing streets that run through the proposed site. The surrounding roads include: Fischer Hallman Road, Plains Road, New Dundee Road and Huron Road

New Dundee Road is a two-lane Regional Arterial Road under the jurisdiction of the Region of Waterloo. It has a rural cross section with an unpaved shoulder and a posted speed limit of 70 Km/hr through the site. There are no cycling or active transportation facilities designated within the ROW.

Plains Road is a two-lane local road. It has a rural cross-section with no shoulder and a posted speed limit of 60 Km/hr through the site. At the intersection with Fischer Hallman, there is a stop sign. There are no cycling or active transportation facilities designated within the ROW.

Huron Road is a four-lane City Arterial Road. It has an urban cross section with a sidewalk on the north side and a multi-use path on the south. It has a posted speed limit of 80 Km/hr. At the intersection of Fischer Hallman, the right-of-way expands to accommodate a two-lane roundabout. At the intersection with Plains Road there is a stop sign for the Plains Road intersection which requires the Plains Road traffic to cross over the multi-use path.

In addition to the existing roadways, there is also a planned Strasburg Road extension which is identified as a City Arterial Street:

“Generally, City Arterial Streets distribute large volumes of traffic (people and goods) between other Regional Arterial Streets and City Arterial Streets and Major Community Collector Streets. Examples in Kitchener include Huron Road, Strasburg Road and Block Line Road. The primary purpose of these streets is to provide mobility for people and goods through and within the City.”

Design Opportunities:	
ROW Width:	30m – 35m
Pavement Width:	10.6m – 18 m
Vehicle Types:	All Vehicle Types, Truck Route
Streetscaping:	Opportunities for Basic and Enhanced Streetscape Features Involving Sidewalks, Furniture, Lighting, Trees & Landscaping
Speed	60 – 80 km/h

In addition, there are a series of Major Community Collector Streets proposed to the north of the site area. The city defines these requirements for Community Collector Streets:

“Generally, the function of Major Community Collectors Streets is to balance the provision of mobility in the City with land access. They do this by collecting and distributing people and goods between communities from Local Streets and Minor Neighbourhood Collector Streets to City Arterial Streets and Regional Arterial Streets. Direct access to property may be permitted. Kitchener examples include Stirling Avenue, Glasgow Street and Trillium Drive.”

Design Opportunities	
ROW width:	20m – 26m
Pavement Width:	13.4m – 15.4m
Vehicle Types:	Residential: Passenger & Service Vehicles Industrial/Commercial: All Types
Streetscaping:	Opportunities for Basic and Enhanced Streetscape Features Involving Sidewalks, Furniture, Lighting, Trees & Landscaping
Speed	50 – 60 km/h

Region of Waterloo Traffic Data shows that as of 2011 the traffic count of Fischer Hallman/Plains Road is 12016 daily trips. The Transportation Tomorrow Survey further showed that the majority of traffic comes from locations to the north, as such entrances to the site will be prioritized at Fischer Hallman/ Plains Road and the Strasburg Road entrance.

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Future Land Use Patterns

South-West Kitchener is an area in development. The Community Master Plan identifies the area directly north of the site as future high-rise, mixed use and mid-rise development, with the following specifications:

Medium Rise Residential 2 (60-200 upha): permits townhouse and multiple dwellings with building heights ranging from 3-8 storeys and a Floor Space Ratio range of 0.6 to 2.0. This category shall have special provisions to permit purpose-built Live/Work units.

High Rise Residential (100-400 upha): permits townhouse and multiple dwellings with no maximum building height and a Floor Space Ratio range of 1.0 to 4.0. This category also permits convenience commercial uses.
Mixed Use: permits a range of neighbourhood and corridor-oriented retail/commercial uses, office and residential. There will be different categories or scales of mixed use to be further defined in the Secondary Plan and subsequent development phases. Lower scale mixed use sites, such as those along Bleams Road and at Seabrook may include a residential dwelling density range of 26-200 upha and a minimum non-residential building height of 2 storeys. Higher-order mixed use sites along the Fischer Hallman corridor and within any nodes may have a residential density range of 100-400 upha and a minimum nonresidential building height of 2 storeys.

Fischer-Hallman/ Plains Road

Future Transit Expansions

In addition to the existing transit lines that near the site, there is also plans to incorporate a future transit hub at the intersection of Fischer-Hallman Road and Huron Road. This transit hub will be a 15 minute walk to the intersection of Fischer-Hallman and Plains Road.

Section B

SPATIAL ANALYSIS

Methodology

The Spatial Analysis was completed through a comprehensive inventory of existing natural and infrastructure features and conditions, via ArcGIS. This analysis was separated into two sub-phases, as follows.

Developable land study:
Three natural heritage features were located on site, to address the required buffers, the Kitchener Natural Heritage Guide was consulted, and the 15m buffer was established. These buffers were applied to the three natural heritage features and are shown on the Developable Land Map (p. B2).

Sensitive land study:
Three analyses were completed: Waste and Wastewater, Agriculture and Soil, and Land Use. The findings of these analyses were then processed through feature layering which allowed for an environmental screen of the site, showing potentially sensitive areas on the site. This analysis guided the concept of the land use on site. The spatial analysis is shown on page B3.

Developable Land Study

The City of Kitchener requires a 15m buffer around key natural heritage features. As such, this was applied to the three woodlands on site. There are additional hedgerows and plantations on site as well, however these are not considered significant by the City of Kitchener.

All wetlands are contained within the 15m buffers of the woodlands and therefore do not require additional buffering.

The woodlands result in 21.83 ha of non-developable land.

Woodland	*Size*
Woodland 1	18.42 ha
Woodland 2	14.72 ha
Woodland 3	8.36 ha

Developable Area - 213 ha

Photo of existing site condition

Woodland

- Hedgerow
- Plantation
- Treed
- buffer
- wetland

1 0.5 0 1 Kilometers

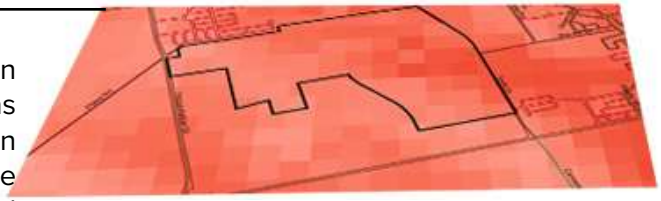
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Feature Layering

OMAFRA Land Cover (Farmland Classification):
The site is primarily continuous row crops, however the south end has corn system and the north-east is idle agriculture with grain system.

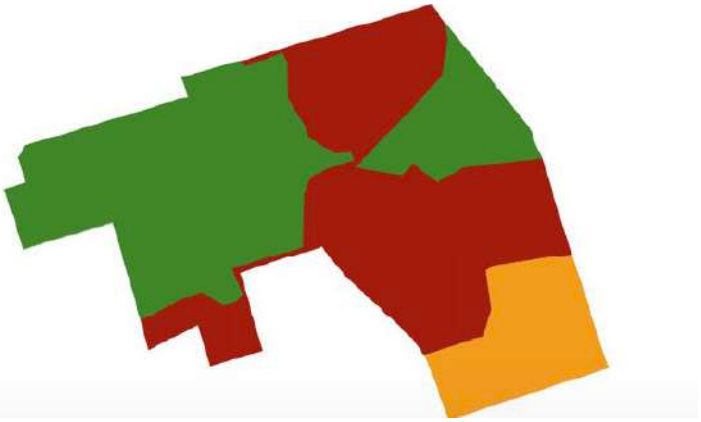
Sand Gravel Thickness:
More sensitive soil types were located at the south end of the site where there is a higher soil thickness resulting in greater susceptibility to runoff

Discharge Distribution:
The site was found to have a discharge distribution between 88 and -134. The higher discharge areas were located where the soil was classified as lisbon sandy loam. These areas would be more sensitive to intrusive development since the run-off would already be more significant than other areas on site. As such, the south would be ideal for Low-Imapct Development solutions.



Sensitive Land Study

Based on the feature layering, a sensitive land study was completed which distinguished the non-developable land to the developable land. As shown, the ideal areas for development are located on the north-west end of the site. The middle of the site is largely untouchable due to the natural heritage features and their buffers. The south area of the site is categorized as sensitive, this area should also be considered for LID.



- Developable land
- Non-developable land
- Sensitive land

Spatial Analysis Guiding Principles

1. Locate low-density residential and LID on sensitive soil areas

2. Be spatially and contextually sensitive to the natural heritages on site

Section C

DENSITY ASSUMPTIONS

Housing Typologies

"High-Rise" (6 storeys)

High rise units are proposed to be a maximum of 6 storeys and will be primarily located along Proposed Street A.



Image sources:
First Island Financial Services Ltd.;
Strik Baldinelli Moniz;
blog.newinhomes.com

"Mid-Rise" (3-5 storeys)

Mid-rise units are proposed to be stack townhomes between 3-5 storeys, these units are located along Proposed Street A.



Image sources:
primomechanical.com;
Minto;
YP NextHome

"Low-Rise" (1-2 storeys)

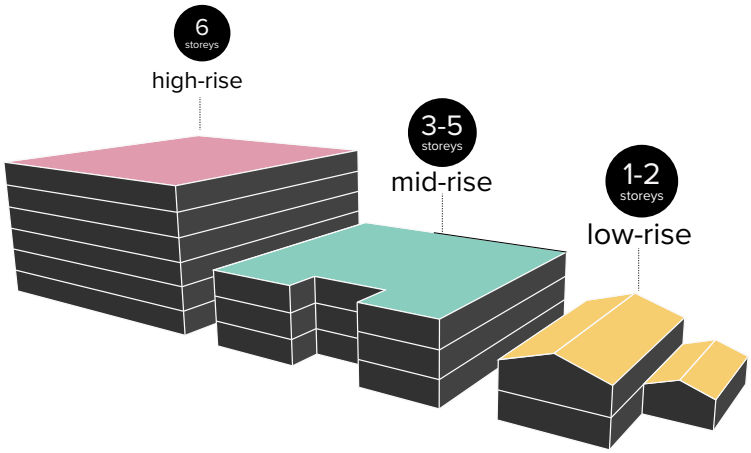
Low-rise density will support 1-2 storey single family homes. These homes will be located in throughout the site behind major streets.



Image sources:
Ryan Homes;
Marrano Homes;
Marz Homes

Massing/Land Use Guiding Principles

1. Create a community that is contextually sensitive to its surrounding neighbourhood
2. Locate mid-rise and high-rise along a main street
3. Establish a community node
4. Ensure connectivity of low-rise communities through local streets
5. Ensure a gradient of housing type throughout the site
6. Protect views and vistas of natural heritage through locating low-rise near sensitive features



Site Assumptions

Design Principles and Guidelines

The approach used to achieve the desired density scenario for each concept plan was different based on the context of each density scenario, however design guidelines were used to outline a desired vision for the site. These guidelines focused on creating an overall vision for the site that remained consistent throughout each concept plan even through each plan varied in terms of its housing type, land use and layout. The following guidelines were used to create a base layout for the site;

The size and location of the site presented an opportunity to allow for a central node within the site. The central node is designed as the main corridor through the site where high density and mix-used development would be placed.

Subdivisions would be placed around the border of the site to create pockets of low density development. These pockets would act as their own community or neighbourhood but would still be connected to other uses in the site through the road network layout.

The design and placement of land uses would take into consideration the surrounding area outside of the site. Land uses outside or adjacent to the site will influence placement of uses within the site. For example, low density development would be placed adjacent to other subdivisions outside the site.

A subtle and gradual transition of land uses, and height is desired and achieved by placing high density adjacent to mid-rise which could transition to low density developments.

Maximizing the developable area of the site was given the most consideration to ensure profitability. This was done through achieving all land use allocation percentages accordingly and placing low density development in irregular areas of the site that would not be suitable for mid-rise or high-rise blocks.

Design Considerations

Design considerations were developed to ensure consistency between each concept plan when calculating densities. These considerations include;

Low density development lot depths of 30m
Mid-rise and high-rise blocks all greater than 1 acre

Land allocation

Natural Features: 9%
Developable Area: 91%
10% SWM Ponds
5% Parkland
15% Road Coverage Target
2.5% Commercial / Mixed-Use / Institutional
58.5% Residential
Woodlands and natural features used a buffer of 15m
Road Width Standards
Small Roads 15m (within subdivisions)
Main Streets 20m (around mid and high-density development)
Mid-Rise: 2 to 4 storeys
High-Rise: 4 to 6 storeys

10% SWM Ponds

5% Parkland

Target: 15% Road Coverage
15m ROW local roads
20m ROW main streets

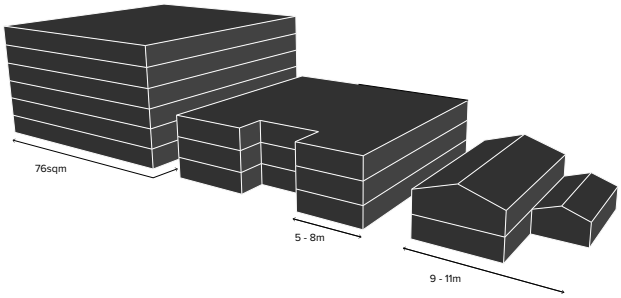
2.5% Commercial/ Mixed Use/ Institutional

15m Woodland/natural feature buffer

Calculating Lot Size

As per Activa's recommendation, **3.2 people and jobs per housing unit was assumed when calculating the density for each scenario**. The designs include single homes, regular townhomes and back to back townhomes in low rise areas, and multi-residential units in mixed use, mid rise and high rise areas. The following sizes were assumed for each type of housing unit based on existing comparables:

Single homes: 9-11m frontage with 30m depth
Townhomes: 5-8m frontage with 30m depth
Back-to-back townhomes:
5-8m frontage with 15 depth



Calculating FSR

For mixed use, mid rise, high rise buildings, an appropriate Floor Space Ratio (FSR) was determined through the zoning of existing comparables in Kitchener.

The area at Huron and Fischer-Hallman is medium intensity mixed use corridor (MU2); it would be more appropriate for the mixed use node for our design to be a low intensity mixed use corridor (MU1) with an FSR of 0.6-2.0.

A 3-4 storey residential building at 301 Traynor Drive with an R7 zoning (max. FSR 1.0) can be compared to our mid rise residential, and a 12 storey residential building at 136 Fallowfield Drive with an R8 zoning (0.6-2.0 FSR) can be compared to our high rise residential.

The following FSR was used in the density calculations:

60 p+j/hec
- Mid rise 0.6-1.0
- Mixed use 0.6

70 p+j/hec
- High rise 1.5
- Mid rise 0.6-1.0
- Mixed use 0.6

80 p+j/hec
- High rise 1.5
- Mid rise 0.6
- Mixed use 0.6

		60 P+J/hectare	70 P+J/hectare	80 P+J/hectare
Total Density		60.1 P+J/hec	70.0 P+J/hec	80.5 P+J/hec
Residential Stats	Total Units	4410 units	5141 units	5910 units
	High Rise	0 units	442 units	865 units
	Mid Rise	1267 units	1667 units	1850 units
	Low Rise (Singles)	1995 units	2248 units	1994 units
	Low Rise (Towns)	1072 units	686 units	1104 units
	Mixed Use (Residential)	76 units	98 units	98 units
Other Stats	Total Area	6.6 ha	6.6 ha	6.6 ha
	Commercial	2.0 ha	2.0 ha	2.0 ha
	Mixed Use (Other)	2.6 ha	2.6 ha	2.6 ha
	Institutional	2.0 ha	2.0 ha	2.0 ha
Site Overview	Total Area	235 ha	235 ha	235 ha
	Natural Features	21.83 ha	21.83 ha	21.83 ha
	Developable Area	213.17 ha	213.17 ha	213.17 ha
	SWM Dedication	8.8% (18.8 ha)	8.8% (18.8 ha)	8.8% (18.8 ha)
	Parkland Dedication	5.0% (10.7 ha)	5.0% (10.6 ha)	6.7% (14.2 ha)
	Road Network	24.6% (52.5 ha)	23.3% (49.6 ha)	22.6% (48.3 ha)

Although the number of units per housing type and the density of each scenario have been calculated, these values can be altered without affecting any land use patterns or road networks.

The number of single homes can be adjusted to create more townhomes and vice versa. Furthermore, there are no by-laws established for the site to regulate the proposed multi unit residential buildings, allowing for flexibility in adjusting each FSR to meet new targets.

Section D

EVALUATION CRITERIA

Evaluation Criteria

In determining the most suitable density scenario and plan, the Citify planning team developed an evaluation criteria that meets Activa's values in the development of complete communities. This evaluation is based on six indicators, a few of which also encompass Citify values and goals; Neighbourhood Compatibility, Consistency with Policy Directives, Traffic and Transportation Adherence, Impact to Natural Heritage, Constructability and the Life-Cycling Approach.

Neighbourhood Compatibility

We believe that the physical form of the community must encompass uses that are in harmony with each other and the existing surrounding context. With Activa's intention to potentially facilitate a future secondary plan for the Southwest Kitchener area, which encompass the subject lands, it is necessary that the community plan be compatible with the existing surrounding land uses and amenities. The recommended plan must be at a nature and scale that is appropriate for the area, as well as provide an appropriate transition to and from the existing surrounding uses. In addition, the uses within the boundaries of the subject lands must be compatible with one another, in order to meet the requirements of a complete community.

Consistency with Policy Directives

We believe that the land uses and plan configuration proposed must be in line with Provincial, Regional and Municipal policies in order to ensure that the recommended plan is realistic and developable in the context of the area. Within the Research Analysis phase of the project, the basis of Citify's policy analysis included policies directing the development of Greenfield areas. Within the Kitchener Official Plan and the Region of Waterloo Official Plan, there are existing policies that require and encourage the inclusion of specific components of a complete community within a Greenfield area. The recommended plan should be one that meets the specific policies that are both required and encouraged.

Traffic and Transportation Adherence

We believe that the physical form of a community is as important as its function, and see great importance in the connections provided both within and outside of the subject lands. These connections encompass movements throughout the site that are made by personal auto vehicles, buses and pedestrians. As such, the infrastructure provided in the proposed plan must be at a scale and nature appropriate for these movements. Within the Research and Analysis phase of the project, Citify conducted a traffic and transportation analysis of the subject area. The recommended plan should be one that appropriately incorporates connections within and around the subject lands, based on the movements determined.

Constructability

We believe that the eventual construction of these lands should be feasible and, encompass building materials and massing that are appropriate for the context of the Southwest Kitchener area. With the intent of conceptualizing a community plan that includes a rage and mix of housing typologies, as well as an incorporation of a high rise development, Citify looked to various housing typologies and massing scenarios. The recommended plan should be one that provides for appropriate and feasible massing and building design components.

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Impact to Natural Heritage

We believe that development at this scale should be responsible for the potential negative impacts imposed on natural heritage features. In keeping with this, Citify looked to various policies that outlined appropriate natural heritage mitigation measures for developments at this scale, as well as the target values, produced by Activa, for reducing development impact. In addition, through the conducted spatial analysis of the subject lands, citify was able to determine areas of sensitivity. The recommended plan should be one that greatly aims to reduce the impact of development, especially within the areas of greater sensitivity.

Life-Cycling Approach

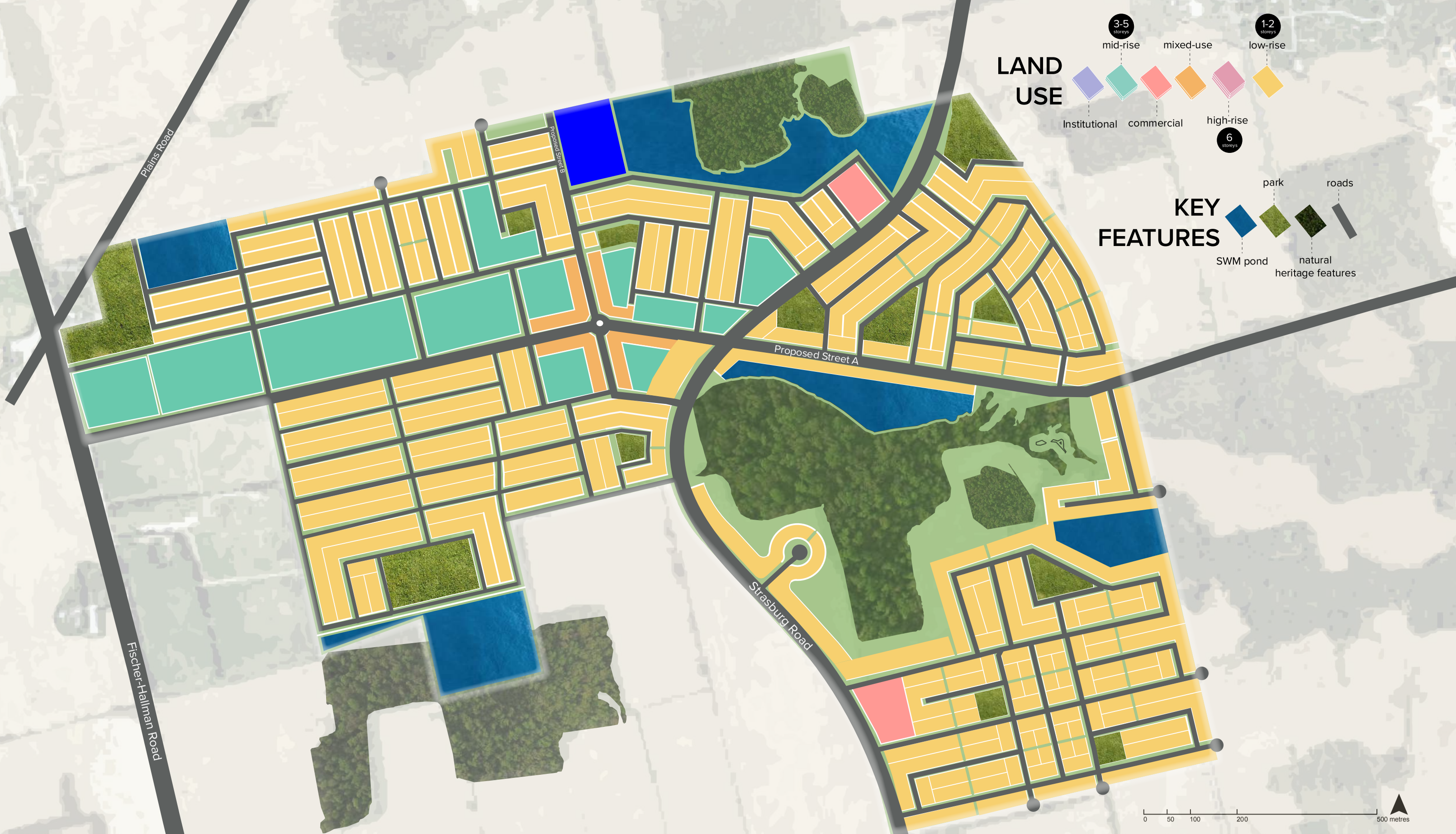
We believe in the inclusive nature of developments and their ability to provide options that are affordable and appropriate for a range of demographics. In keeping with the requirements for a complete community, and one of Activa's values, a life-cycle planning approach was used as a goal to meet when determining the various land uses that are to be included. In addition, an affordable housing and equity feasibility research analysis was conducted during the final phase of the project. The recommended plan should be one that supports a demographically complete community.

Sample Checklist

Policy Direction	
Meets the Regional Density Target	
Meets the GRT target for new transit service	
Neighbourhood Compatibility	
Locates High-Rise/Mid-Rise near existing/planned high rise	
Transportation and Traffic	
Approaches target road cover of 15%	
Facilitates multiple entrances into the site that promote both east-west and north-south connection	
Incorporates future transit lines	
Low Impact Development/ Natural Heritage	
Supports areas for LID	
Incorporates a 15m buffer around natural heritage	
Incorporates 10% SWM ponds	
Constructability	
Maximum development height is below 6 storeys to permit wood construction	
Life Cycling Approach	
Incorporates a full mix of housing typologies that would allow for a life-cycling through the site	
Incorporates a school site	

Section E

60 PPJ/HA



60 PPJ/HA Land Use Plan

Site Statistics

High Rise = 0

Mid-Rise = 1267

Low-Rise (Singles**)** = 1995

Low-Rise (Towns**)** = 1072

Mixed-Use Res = 76

SWM Dedication = 8.8%

Parkland Dedication = 5%

Road = 24.6%

Evaluation Scoring

Policy Direction	
Meets the Regional Density Target	No
Meets the GRT target for new transit service	Yes
Neighbourhood Compatibility	
Locates High-Rise/Mid-Rise near existing/planned high rise	Yes
Transportation and Traffic	
Approaches target road cover of 15%	No
Facilitates multiple entrances into the site that promote both east-west and north-south connection	Yes
Incorporates future transit lines	Yes
Low Impact Development/ Natural Heritage	
Supports areas for LID	Yes
Incorporates a 15m buffer around natural heritage	Yes
Incorporates 10% SWM ponds	Yes
Constructability	
Maximum development height is below 6 storeys to permit wood construction	Yes
Life Cycling Approach	
Incorporates a full mix of housing typologies that would allow for a life-cycling through the site	No
Incorporates a school site	Yes

Section F

70 PPJ/HA

Plains Road

Proposed Street B

Proposed Street A

Strasburg Road

Fischer-Hallman Road

LAND USE

- 3-5 storeys mid-rise
- mixed-use
- 1-2 storeys low-rise
- Institutional
- commercial
- high-rise 6 storeys

KEY FEATURES

- park
- roads
- SWM pond
- natural heritage features

0 50 100 200 500 metres

70 PPJ/HA Land Use Plan

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Site Statistics

High Rise = 442

Mid-Rise = 1667

Low-Rise (Singles**)** = 2248

Low-Rise (Towns**)** = 686

Mixed-Use Res = 96

SWM Dedication = 8.8%

Parkland Dedication = 5%

Road = 23.3%

Evaluation Scoring

Policy Direction	
Meets the Regional Density Target	No
Meets the GRT target for new transit service	Yes
Neighbourhood Compatibility	
Locates High-Rise/Mid-Rise near existing/planned high rise	Yes
Transportation and Traffic	
Approaches target road cover of 15%	No
Facilitates multiple entrances into the site that promote both east-west and north-south connection	Yes
Incorporates future transit lines	Yes
Low Impact Development/ Natural Heritage	
Supports areas for LID	Yes
Incorporates a 15m buffer around natural heritage	Yes
Incorporates 10% SWM ponds	Yes
Constructability	
Maximum development height is below 6 storeys to permit wood construction	Yes
Life Cycling Approach	
Incorporates a full mix of housing typologies that would allow for a life-cycling through the site	Yes
Incorporates a school site	Yes

Section G

80 PPJ/HA

Plains Road

Proposed Street B

Proposed Street A

Strasburg Road

Fischer-Hallman Road

LAND USE

- 3-5 storeys mid-rise
- mixed-use
- 1-2 storeys low-rise
- Institutional
- commercial
- high-rise 6 storeys

KEY FEATURES

- park
- SWM pond
- natural heritage features
- roads

0 50 100 200 500 metres

80 PPJ/HA Land Use Plan

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Site Statistics

High Rise = 865

Mid-Rise = 1850

Low-Rise (Singles**)** = 1994

Low-Rise (Towns**)** = 1104

Mixed-Use Res = 98

SWM Dedication = 8.8%

Parkland Dedication = 6.7%

Road = 22.6%

Evaluation Scoring

Policy Direction	
Meets the Regional Density Target	Yes
Meets the GRT target for new transit service	Yes
Neighbourhood Compatibility	
Locates High-Rise/Mid-Rise near existing/planned high rise	Yes
Transportation and Traffic	
Approaches target road cover of 15%	Yes
Facilitates multiple entrances into the site that promote both east-west and north-south connection	Yes
Incorporates future transit lines	Yes
Low Impact Development/ Natural Heritage	
Supports areas for LID	Yes
Incorporates a 15m buffer around natural heritage	Yes
Incorporates 10% SWM ponds	Yes
Constructability	
Maximum development height is below 6 storeys to permit wood construction	Yes
Life Cycling Approach	
Incorporates a full mix of housing typologies that would allow for a life-cycling through the site	Yes
Incorporates a school site	Yes

Section H

RECOMMENDED DENSITY

Recommendation

Density Scenario	Targets met (out of 12)
60 PPJ/HA	9
70 PPJ/HA	10
80 PPJ/HA	***12***

Based on the evaluation criteria, Citify recommends the 80 people and jobs per hectare density scenario for the community plan. This scenario provides a variety and mix of housing typologies that are in line with policy directives for complete communities. While the road networks and pedestrian connections are consistent throughout the three density scenarios, supporting various types of movements (i.e. vehicle, bus, bicycle and pedestrian), the 80 people and jobs per hectare scenario provides a greater parkland dedication value to reduce the negative impact of development. Through the provision of a commercial node along the main proposed east-west corridor, the appropriate range of land uses necessary for a complete community are provided for while meeting the intended density goal set by the Province.

Further, District E includes an additional community commercial development to support the low rise residential blocks that are located at a greater distance from the commercial node. In addition, this scenario has the ability of meeting 10% of the Region of Waterloo's affordability target through the provision of 35 affordable housing units within the low rise development blocks of District C. The demonstrated massing and design for this scenario does not exceed 6 storeys to ensure that the materials used for this development are realistic and feasible for the context of the area and Activa. It should be noted that while the Growth Plan sets a regional goal of 80 people and jobs per hectare, the density requirement for this community could be greater or lower than 80 depending on the density distribution within the Region of Waterloo.

Final Concept Plan

To visualize the massing, community node, mobility, and natural feature integration of the proposed 80PPJ/HA of the site, a final concept plan was prepared which combines open space, transportation and pedestrian mobility. Mid-block walkways, bus stops, and trail networks are shown in addition to depicting land use, SWM ponds, parks and natural features. Further, this plan also conceptually masses the mid rise and high rise blocks to convey the change in massing through the site.

Recommended Density (80 PPJ/HA) Concept Map

LAND USE

- 3-5 storeys — mid-rise
- 1-2 storeys — low-rise
- mixed-use
- Institutional
- commercial
- high-rise
- 6 storeys

KEY FEATURES

- park
- walkway
- bus stop
- group of trees
- SWM pond
- natural heritage features
- trail
- single tree
- roads

Plains Road
Proposed Street B
Proposed Street A
Strasburg Road
Fischer-Hallman Road
BUS STOP

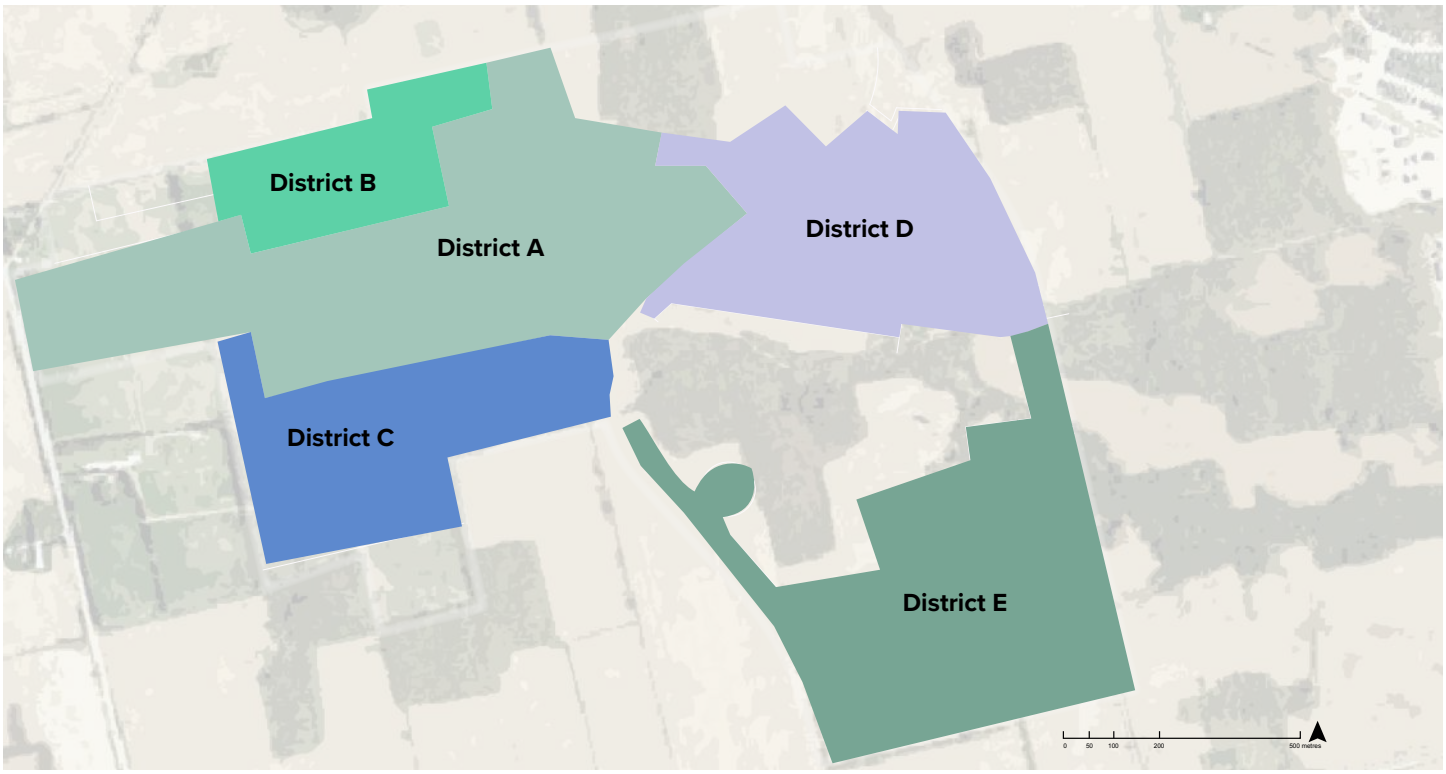
0 50 100 200 500 metres

Section I

KEY COMMUNITY FEATURES

RECOMMENDED DENSITY 80PP+J/HA

District Map



District A
Community Node/Mixed Use/Mid-Rise/High Rise

This area forms the central spine of the community plan, as the key entrance, which will also draw from the adjacent high rise development, (see Section A: Future Land Use). This area also aligns along Proposed Street A, which is the main street of the development planned to carry the majority of local traffic as well as create an essential east-west connection.

District B
Low-Rise

District B is tucked behind the mid-rise development of District A, and is also the closest community to the proposed school site, this area will have two community parks that also provide shortened pedestrian trips to the node. There is also one storm-water management pond

District C
Low-Rise

This district is located directly below District A, it is primarily low rise development and features two community parks and one storm-water management pond. It is also adjacent to a significant woodland to the south so the development will be contextually sensitive to its natural heritage.

District D
Low Rise/Community Commercial

District D is located along the east end of Proposed Street A, since it is beyond the 800m pedestrian buffer of District A, community commercial is also proposed in this district

District E
Low-Rise/Community Commercial

Located around and below the main natural heritage feature on the site, this area allows for density to be maximized through low-density development, further since it is outside the 800m pedestrian buffer, it also includes community commercial.

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Transportation and mobility network

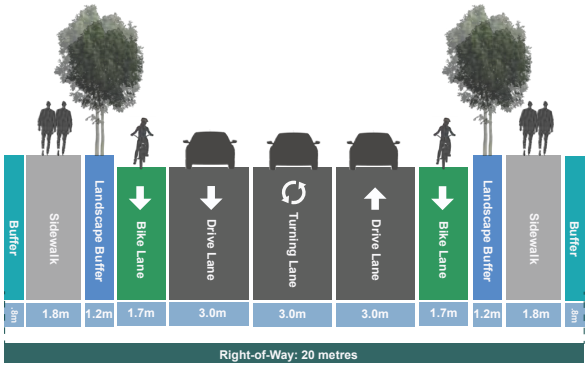
Creating a sustainable and multi-modal community was at the forefront of the planning guidance for this plan. Key elements of the transportation network are as follows:

1. Transit First Strategy: transit is integral to the development of the community to ensure that people can move conveniently and that sustainable development is supported.

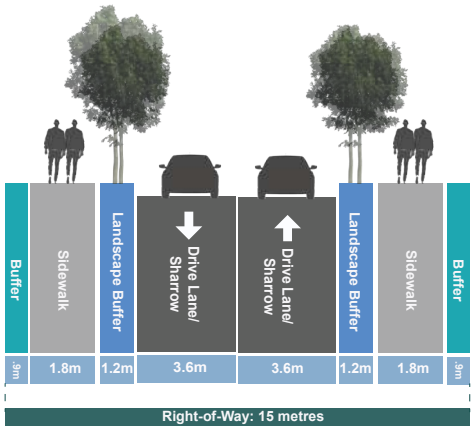
2. Prioritize pedestrian movement: To facilitate residents the proposed plan will have an extensive trail network which will provide connections for pedestrians through the woodlands and the community parks.

3. Ensure a thoughtful local street pattern: ensuring connection throughout the site is hinged to the mobility of the community.

4. Promote complete street design: to facilitate a true multi-modal split each new proposed road should prioritize complete street elements (see adjacent cross sections).



Proposed Street A



Local Street

Transit-First Strategy

In order to support sustainable development, life-cycling and higher densities within this new community; transit will be at the fore-front of development. The adjacent image shows the 2021 GRT plan for the area, including the Transit Hub located at Huron Road and Fischer-Hallman Road. Currently, there are no planned transit routes that extend to the site, however by reaching an 80ppj/ha target, the site exceeds the minimum GRT density requirement for transit by 160%.

As such, it is reasonable to assume that new transit routes will be considered throughout the area. The following map shows the potential transit route extensions along Fischer-Hallman and Strasburg Road. Due to the population projections for the site, additional local routes are expected, however their routes will be subject to the GRT's jurisdiction.

Trunk Sewer Connection

Main Site Entrance

Plains Road

Proposed Street B

Proposed Street A

Strasburg Road

Fischer-Hallman Road

101

16

BUS STOP

0 50 100 200 500 metres

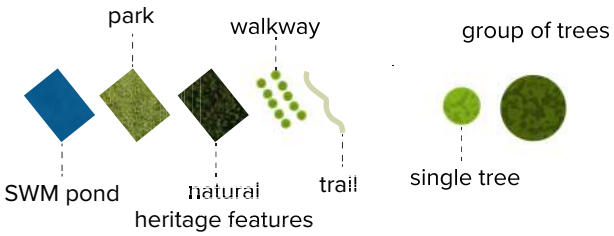
Transportation and Mobility Network

Open space network

The open space network consists of key natural heritage features, trails, community parks and storm water management (SWM) ponds. Community parks were strategically located in the low-rise districts of the site to contribute to walkability and livability of those areas. The largest community park is located at the North-West corner of the site.

Storm water management ponds were strategically located around the existing natural heritage to capitalize on the existing protection and encourage minimum urban-runoff into the natural heritage areas.

The woodlands on-site were found to be significant during the Spatial Analysis phase of this project, as such only passive recreation is permited through the woodlands for pedestrian connection.



Storm water management

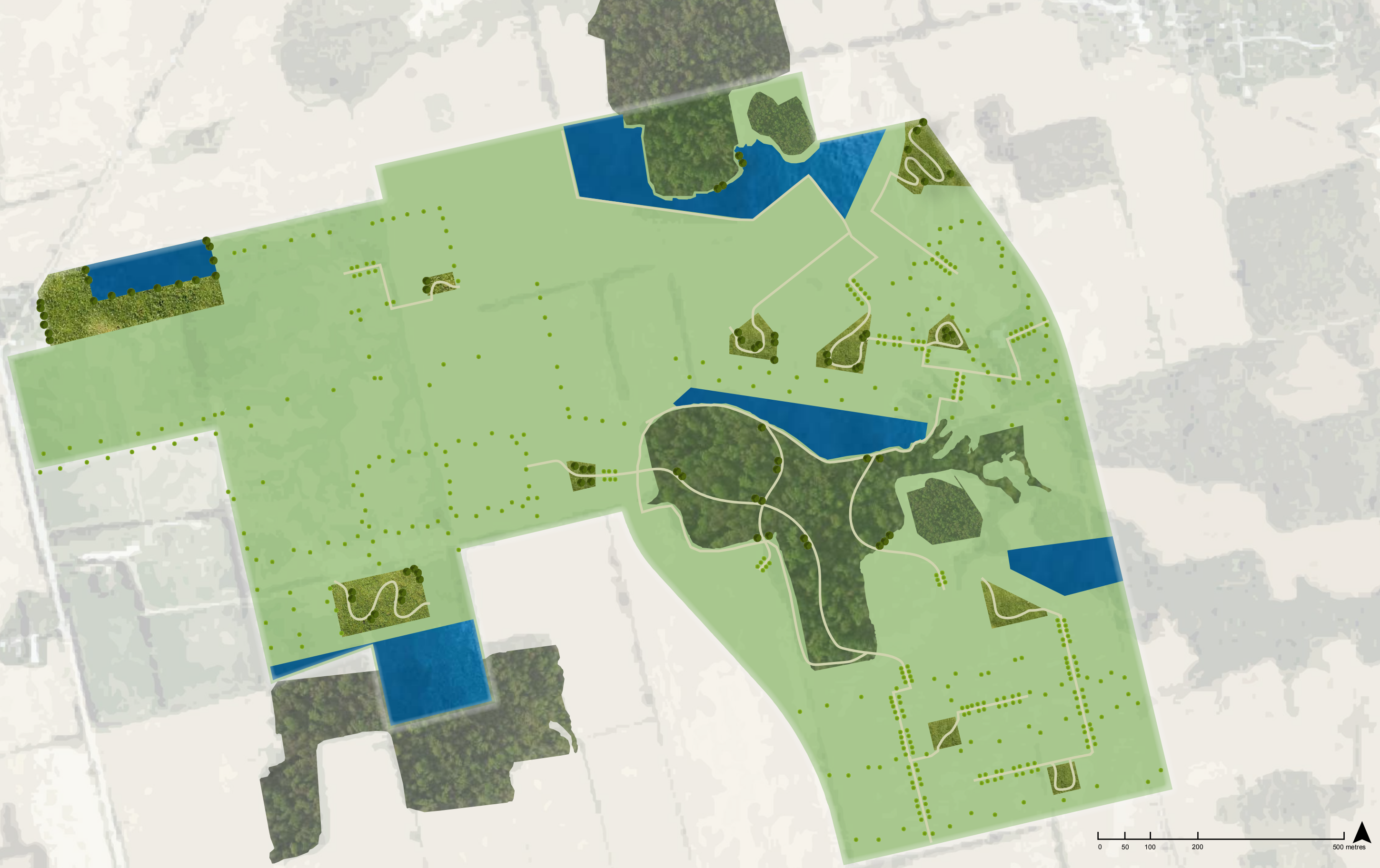
Storm water management is an important consideration for the site especially with the context of protecting the adjacent natural features. To address this, SWM ponds are proposed throughout the site and are reflective of existing infrastructure (as end of pipe) as well as proximity to existing natural features. In addition to the SWM ponds proposed, LID could be implemented through rain gardens on residential lots. This would be particularly recommended and incentivized for District E, where soil considerations could increase urban-runoff.

precedent of a storm water management pond
Source: PMA Landscape Architects

precedent of a rain garden
Source: chatham.ces.ncsu.edu

Open Space Guiding Principles

1. Encourage community parks throughout the site
2. Utilize street trees and park trees to gradient natural features throughout the site
3. Protect natural heritage areas with a 15m buffer and only allow passive recreation through the areas
4. Encourage storm water management ponds and LID around natural heritage areas to protect from excess storm water runoff



Open Space Network

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Inventory of Surrounding Amenities and Essential Amenities

Doctor/Walk-in	9 minute drive
Library	7 minute drive
Museum	7 minute drive
Pharmacy	7 minute drive
Coffee Shop	2 minute drive
Grocery Store	7 minute drive
Commercial Shopping	12 minute drive
Community Centre	11 minute drive
Bank	8 minute drive

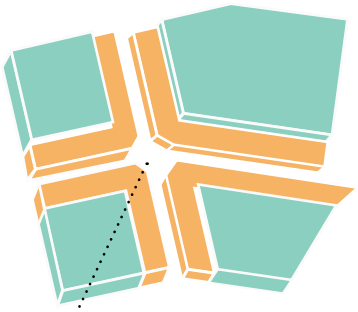
Defining Essential Amenities

Having medical, grocery and schooling within a community connects the residents to essential amenities and support the ideals of complete communities. In addition to providing essential amenities, non-essential amenities also provide for employment possibilities within the community, making it an area to live, work and play.

Within this community structure plan, there are two land use categories which permit for essential amenities within walking distances of the residential: mixed use, and community commercial. With the strategic placing of the mixed use hub (community node) and community commercial, amenity services are never more than 800m from a district

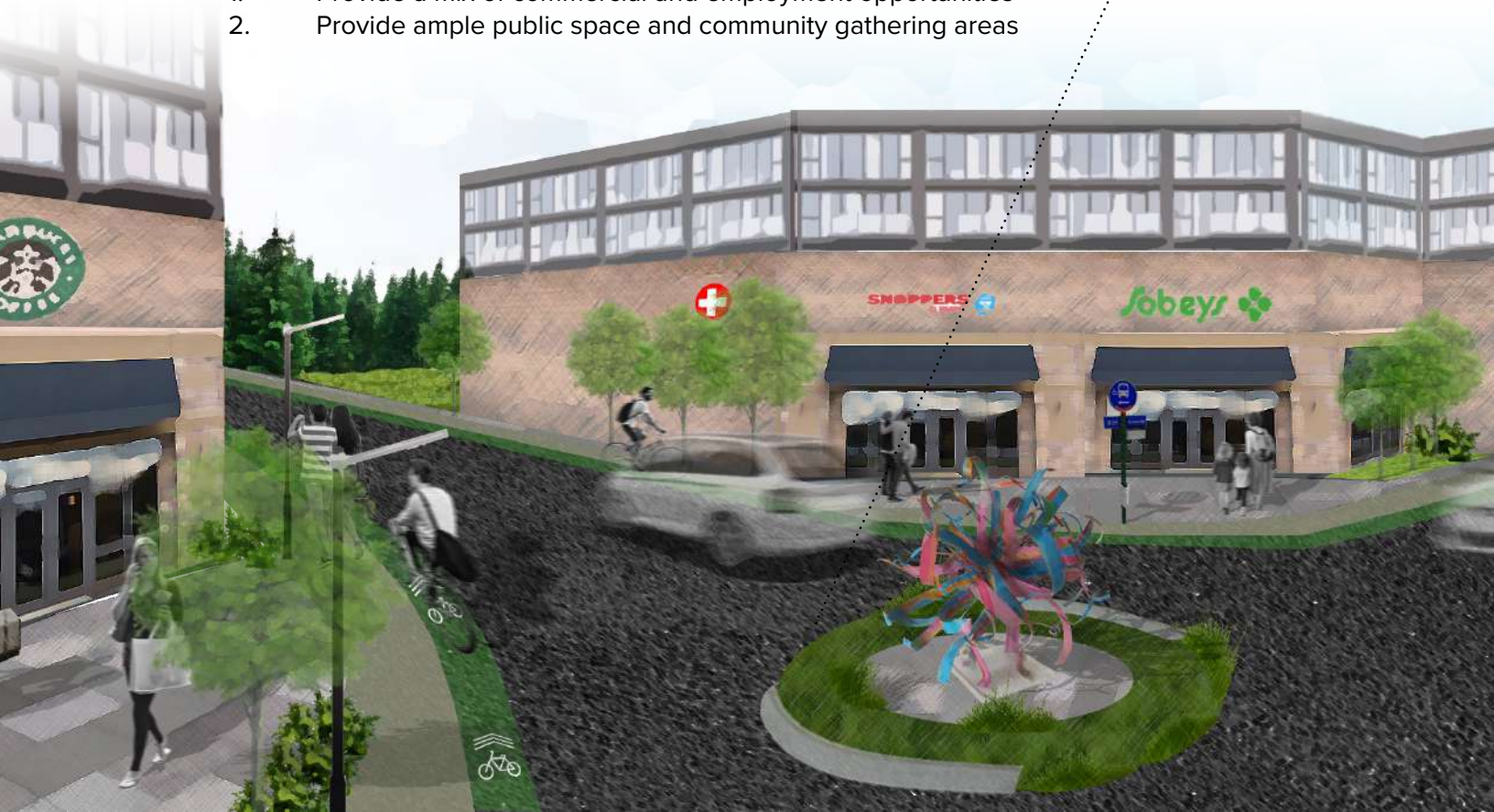
Proposed Amenities

Although the exact commercial use will be subject to market availability, the following are recommended within this community:
Grocery; Bank; Pharmacy; Walk-In; Cafe; Restaurant



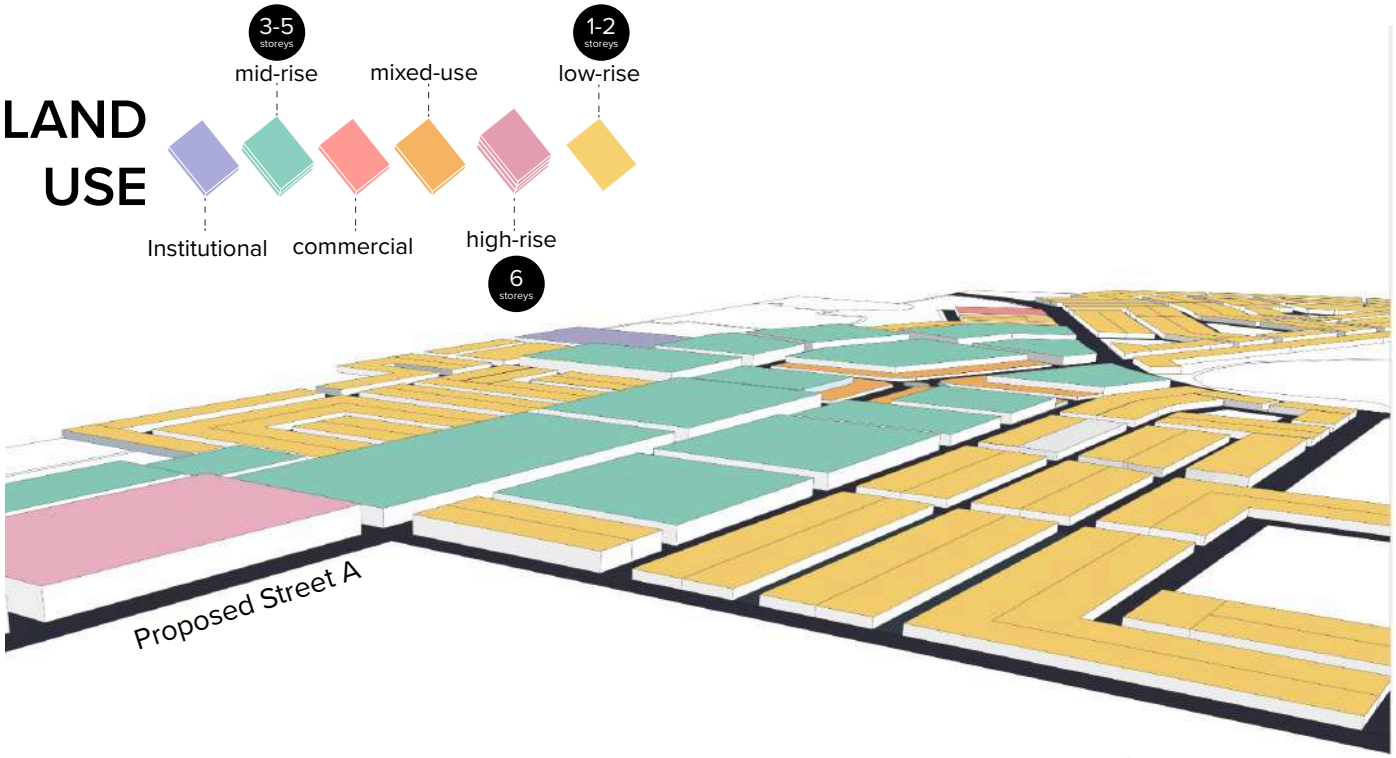
Community Node Guiding Principles

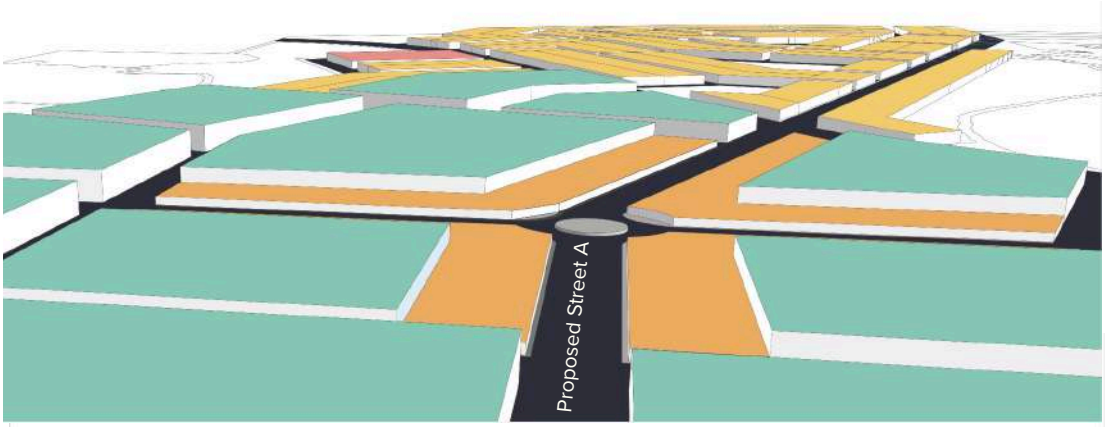
1. Provide a mix of commercial and employment opportunities
2. Provide ample public space and community gathering areas

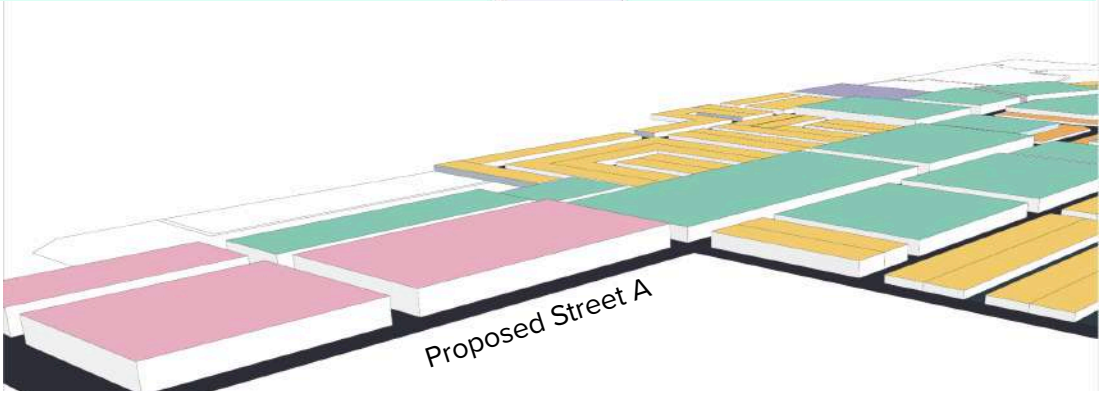


Block Plan

In addition to the 2D concept plans, a 3D block plan showing the site was created to visualize massing. Scenes from this block plan are included below, along with land use.







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Demographic Planning

Older Adults:

Encouraging aging-in-place is a key policy directive in Ontario and the Region of Waterloo. However, housing needs often change with age. The proposed 6 storey buildings are an ideal density for supporting older adults within this community, through providing 1-2 bedroom units. Further, the location of the high rise allows for close proximity to transit, the community node and the Fischer-Hallman commercial corridor.

Young Professionals/ Empty Nesters:

Through the provision of back to back stacked town homes demographics which require less space, however are still in the market for a home are accommodated through the mid-rise portion of this site. Its close proximity to the community node also urbanizes this area making it attractive to young professionals.

Families:

The site is primarily still low density residential providing an ideal density for families. These districts are tied into the site thorugh community parks and an extensive trail network. For areas that cannot reach the community node within walking distance, community commercial block is provided.

This exercise ensured that all demographics would be supported within the proposed land use of this site, however demographic mixing is encouraged and would be supported through the range of housing type provided.

Life-Cycling Guiding Principles

1. Promote a mix of housing and amenities which can support multiple demographics, aging-in-place and lifelong community

Affordable Housing

Definition of Affordable
The Provincial Policy Statement and the Ministry of Housing define what is "affordable"

Affordable means:
a) in the case of ownership housing, the least expensive of:

housing for which the purchase price results in annual accommodation costs which do not exceed 30 percent of gross annual household income for low and moderate income households; or

housing for which the purchase price is at least 10 percent below the average purchase price of a resale unit in the regional market area;

For Kitchener, the average 2016 resale price was $387,163, and the forecasted average for 2018 was $445,000-$459,000 (Canada Mortgage and Housing Corporation, 2017a). The forecasted "affordable" range would then be $400,500-$413,100

b) in the case of rental housing, the least expensive of:
a unit for which the rent does not exceed 30 percent of gross annual household income for low and moderate income households; or a unit for which the rent is at or below the average market rent of a unit in the regional market area.

Though Citify recommends that Activa work with a partner to provide affordable rental housing, below are the prices and rents that could be expected from an "affordable" unit.

Because the Ministry of Housing does not distinguish how to determine affordability for rental units, a combination of Ontario's Investment in Affordable Housing's (AIH - the most significant government stream of funding for affordable housing in Ontario) definition (80% of average market rent – AMR) and Canada Mortgage and Housing Corporation's defined AMR are used to determine the necessary rents for this development.

Below is Kitchener's AMRs for various apartment sizes, 80% of AMR, and 60% of AMR. As mentioned above, "affordable" also means that one is not paying more than 30% of their income on housing. For an ODSP income, 30% is $345.30 a month. However, the housing allowance portion of ODSP is typically $489/month, which is comparable to 60% AMR in many municipalities.

	Average Market Rent	80% of Average Market Rent	60% of Average Market Rent
Bachelor	$736	$588.80	$441.60
1 Bedroom	$917	$733.60	$550.20
2 Bedroom	$1,093	$874.40	$655.80
3 Bedroom	$1,291	$1,032.80	$774.60

Recommended Affordability Targets

Waterloo Region has a goal of creating 250 rental units and 100 ownership units from 2014-2019. If 350 units were included in this development, through partnering with housing charities, Waterloo Region's affordable housing goals for 2014-2019 would be met. This would represent 5.9%-7.9% of the development (based on the 80 people and jobs per hectare density scenario). A target of 5%-10% of the Regional target has been assumed as reasonable. This would equate to 18-35 units, or only 0.4% - 0.8% of the proposed 60 people and jobs per hectare scenario, or 0.3%-0.6% of the units in the 80 people and jobs scenario.

Affordable housing provided in the new development would not need to directly and significantly cut into the economic bottom-line, as there are grants and assistance programs for private developers of affordable housing available at all levels of government. Most of these programs require a non-profit party to be the applicant, so it is encouraged that Activa work with non-profit partners to administer affordable housing.

Waterloo Region's Housing Strategy

The Region of Waterloo's Housing Strategy sets goals for the 2014-2019 period of creating:

-250 new affordable rental units
-100 new affordable home ownership units
-Repairing and revitalizing 250 units
-Assisting a further 100 families with the Flexible Housing Assistance Program

Regional and Local Grants and Assistance Programs
The plan also lists some regional grants and assistance programs for private developers of affordable housing. The most significant program is the Region of Waterloo Capital Grant for Affordable Rental Housing. In 2015 these grants amounted of 75% of capital costs per affordable unit or $125,000, whichever was lesser.
(Region of Waterloo, 2014)

Affordable Housing Guiding Principles

1. Achieve 10% of the Region's Affordable Housing target through adjusting 35 units to be marketed at an affordable rate, likely through partnership with an affordable housing developer

Section J

CONCLUSIONS +RECOMMENDATIONS

Conclusion

In conclusion, the 80PPJ/HA is an obtainable density for an area of this size. Further when adhering to the below guiding principles, the community will also be a contextually sensitive, walkable, transit-orientated node prepped to evolve with the changing characteristics of Southwest Kitchener.

Guiding Principles

Spatial Analysis

1. Locate low-density residential and LID on sensitive soil areas
2. Be spatially and contextually sensitive to the natural heritages on site

Massing/Land Use

1. Create a community that is contextually sensitive to its surrounding neighbourhood
2. Locate mid-rise and high-rise along a main street
3. Establish a community node
4. Ensure connectivity of low-rise communities through local streets
5. Ensure a gradient of housing type throughout the site
6. Protect views and vistas of natural heritage through locating low-rise near sensitive features

Open Space Network

1. Encourage community parks throughout the site
2. Utilize street trees and park trees to gradient natural features throughout the site
3. Protect natural heritage areas with a 15m buffer and only allow passive recreation through the areas
4, Encourage stormwater management ponds and LID around natural heritage areas to protect from excess stormwater runoff as well as promote rain gardens on private lots.

Transportation

1. Transit First Strategy: To ensure that people can move conveniently and that sustainable development is supported, transit is integral to the development of the community
2. Prioritize pedestrian movement: To facilitate residents the proposed plan will have an extensive trail network which will connect pedestrians through the woodlands and the community parks
3. Ensure a thoughtful local street pattern: ensuring connection throughout the site is hinged to the mobility of the community
4. Promote complete street design: to facilitate a true multi-modal split each new proposed road should prioritize complete street elements

Community Node

1. Provide a mix of commercial and employment opportunities
2. Provide ample public space and community gathering areas

Life-Cycling

1. Promote a mix of housing and amenities which can support multiple demographics, aging-in-place and lifelong community

Affordable Housing

1. Achieve 10% of the Region's Affordable Housing target through adjusting 35 units to be marketed at an affordable rate, likely through partnership with an affordable housing developer

Section K

PROJECT BUDGET

K1

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Southwest Kitchener Community Structure Plan - Final Budget

Project Team	Michelle Baya	David VanderWindt	Luisa Vacondio	Samantha Leger	Kevin Persaud	Michelle Tien	
	Project Manager	*Sustainable Urban Designer*	*Project Planner*	*Transportation & Environmental Planner*	*Land Use Planner*	*Design Technician*	**Budget To-Date**
Phase 1 – Research							
Initial Meeting with Activa/Site Visit	2.0	0.0	2.0	2.0	2.0	2.0	10.00
Background Review of Applicable Policies and Documentation	3.5	6.0	4.0	15.0	2.0	3.0	33.50
Summary Report of Background Research	8.0	1.0	1.0	4.0	1.0	0.5	15.50
Meeting with Activa/Update Call	1.0	0.0	0.0	0.0	0.5	1.0	2.50
Subtotals	*14.5*	*7.0*	*7.0*	*21.0*	***5.5***	*6.5*	**61.5**
Fees	*$2,900.00*	*$1,260.00*	*$980.00*	*$3,360.00*	*$687.50*	*$715.00*	**$9,902.50**
Phase 2 – Concept Development							
Spatial Analysis	11.5	0.0	0.0	10.0	0.0	1.0	22.50
Develop Preliminary Concepts	18.5	3.5	5.0	5.0	4.0	21.0	57.00
Meeting with Activa	0.5	0.5	0.5	0.5	0.5	0.0	
Subtotals	*30.5*	*4.0*	*5.5*	*15.5*	***4.5***	*22.0*	**82.00**
Fees	*$6,100.00*	*$720.00*	*$770.00*	*$2,480.00*	*$562.50*	*$2,420.00*	**$13,052.50**
6							
Density Analysis and Finalizing Concepts	3.0	6.0	3.0	0.0	40.0	35.0	
Create 3D Models/Final Renderings	7.0	0.0	0.0	20.0	0.0	0.0	
Subtotals	*10.0*	*6.0*	*3.0*	*20.0*	*40.0*	*35.0*	**114.0**
Fees	*$2,000.00*	*$1,080.00*	*$420.00*	*$3,200.00*	*$5,000.00*	*$3,850.00*	**$15,550.00**
Phase 3 – Density Calculations and Finalizing Concept							
Prepare Final Report and Presentation	22.0	7.0	5.0	30.0	5.0	3.0	
Final Presentation	2.0	0.0	2.0	2.0	2.0	2.0	
Revising Final Deliverables	2.0	2.0	2.0	2.0	2.0	2.0	
Subtotals	*26.0*	*9.0*	*9.0*	*34.0*	*9.0*	*7.0*	**94.0**
Fees	*$5,200.00*	*$1,620.00*	*$1,260.00*	*$5,440.00*	*$1,125.00*	*$770.00*	**$15,415.00**
Total Number of Hours Per Individual	**81.0**	**26.0**	**24.5**	**90.5**	**59.0**	**70.5**	
Hourly Rate	**$200.00**	**$180.00**	**$140.00**	**$160.00**	**$125.00**	**$110.00**	
Total Fees Per Individual	**$16,200.00**	**$4,680.00**	**$3,430.00**	**$14,480.00**	**$7,375.00**	**$7,755.00**	
Sub-total	**$53,920.00**						
Disbursements (including mileage, printing)	**$200.00**						
TOTAL COST (EXCLUDING HST)	**$54,120.00**						