

# HILLSIDE SECONDARY PLAN

Final Report



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## Appendices



# 1 Introduction

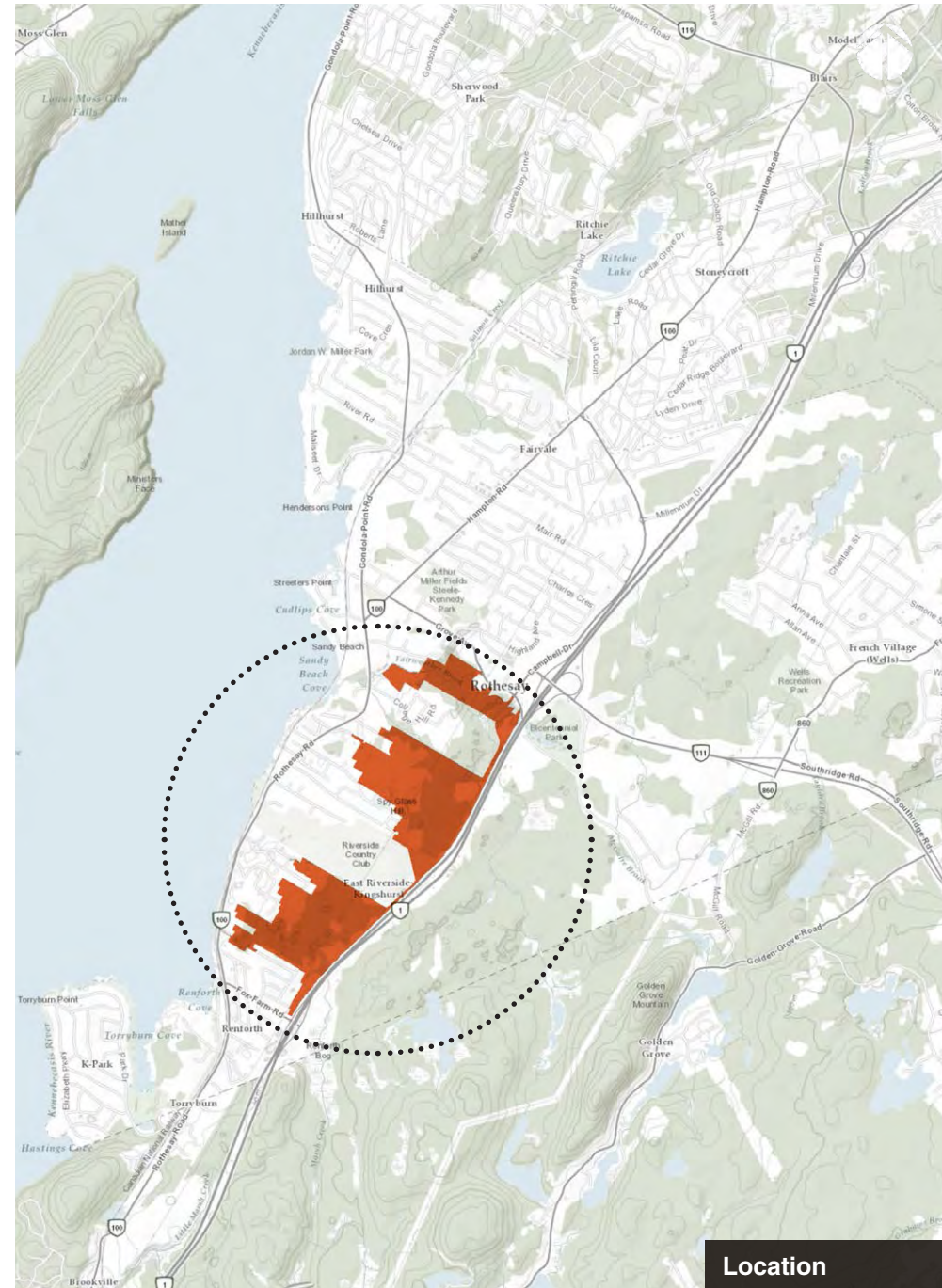




## 1.1 Objectives

Rothesay is situated in the beautiful Kennebecasis Valley and is one of the most attractive living environments in Atlantic Canada. Rothesay is a well-established and mature suburban community with a stable population of approximately 12,000 people. The town has a distinct identity and residents have a strong sense of pride in their community.

Rothesay is primarily a residential community with 85% of its land base zoned for residential land uses. Much of the developed residential land base comprises single family homes, but a shift is slowly beginning to occur towards higher density housing forms with single family dwellings making up just half of the Town's new growth in housing units in the last three years. There are a few areas of moderate density residential uses, including small apartment buildings, garden homes and townhouses. The increase in higher density housing is due to changes in family characteristics, income levels, an aging population and rising costs of land development. Demand for these housing options is expected to continue to grow due to the demographic trends of an aging population who want to stay in the community and the need to attract and retain young people. Developable land within serviced areas is also in limited supply, with the largest areas being primarily contained within the Oakville Acres area



near the town centre and the “Hillside” area surrounding the Riverside Country Club.

In 2010, Rothesay Council enacted the current Municipal Plan, which is designed to protect Rothesay’s residential character and its established residential neighbourhoods. New development will complement existing housing and generally reinforce the existing character and density in areas immediately contiguous with undeveloped land.

The Municipal Plan also supports opportunities for a greater range of housing choice and new residential development that will strengthen Rothesay’s vitality and make effective use of public infrastructure. The Municipal Plan notes that there are areas in Rothesay that should only be developed once a Secondary Plan is in place. These include two distinct undeveloped areas referred to as the “Hillside” between the Riverside Country Club and Rothesay Netherwood School, and the area southwest

of the Country Club. Collectively the “Hillside” areas provide more than 400 acres of greenfield land available for development. The purpose of the Secondary Plan is to generate municipal policy that will allow for coordination of roads, utilities, open space and recreation amenities and for input from residents in the vicinity.

The Hillside Secondary Plan was initiated in March 2016.

## 1.2 Planning Process

### Defining Developable Areas and Constraints

The boundaries of the developable areas are defined with consideration to constraints such as wetlands, watercourses, utility easements, and sensitive natural landscapes. Natural areas that have become important recreational assets are considered for preservation for future community use.

### Identifying the Right Development

**for Rothesay** Rothesay is a well-established stable community with an aging population. Many of its residents consider it an ideal retirement community. However, the increasing number of empty-nesters as well as young people trying to establish themselves in the community, have created a demand for

housing options other than the predominant single-family detached dwelling. The Secondary Plan area offers an opportunity to integrate a variety of housing options in a way that protects and respects the character of existing neighbourhoods while introducing medium density housing that will enable the Town to retain current residents and potentially attract newcomers from elsewhere.

### Transportation Access

Providing transportation access to the “Hillside” areas has long been a challenge due to various physical and financial constraints. The Secondary Plan considers all options for access and phasing through a thorough traffic and financial analysis.

### Phasing and Financial Viability

A critical piece of the Secondary Plan is to identify a phasing plan that is financially achievable for developers and feasible for the municipality. The Plan identifies the blocks of land that can be developed and serviced utilizing existing streets and services as well as tracts of land that require major capital investment to facilitate development.

### Public Engagement

The success of this Secondary Plan will depend on the level of input and buy-in from you, the town’s residents. The secondary planning process ensures that this is a “made in Rothesay” plan for quality development in which all residents can take pride.



### 1.3 Planning Area

The Hillside Planning Area occupies a total undeveloped land area of 182.3 ha [450.5 ac] situated between Route 1 to the east and Rothesay Road and the Kennebecasis River to the west. The Hillside Planning area encompasses two distinct areas referred to as the Hillside South Study Area and Hillside North Study Area.

**The Hillside South Study Area**, occupying an area of 73.7 ha [182.1 ac], is located south of the Riverside Country Club and is accessible via Dunedin Road, Appleby Drive, Horton Road, Wiljac Street, and Maplecrest Drive.

**The Hillside North Study Area**, occupying an area of 108.6 ha [268.3 ac], is located north of Riverside Country Club and is accessible via Allison Drive, Jersey Lane, Green Road, Renshaw Road, and other adjacent streets. The Hillside North Study Area encircles Rothesay Netherwood School (RNS) and is bounded by Grove Avenue to the north.





# 2 Planning Context





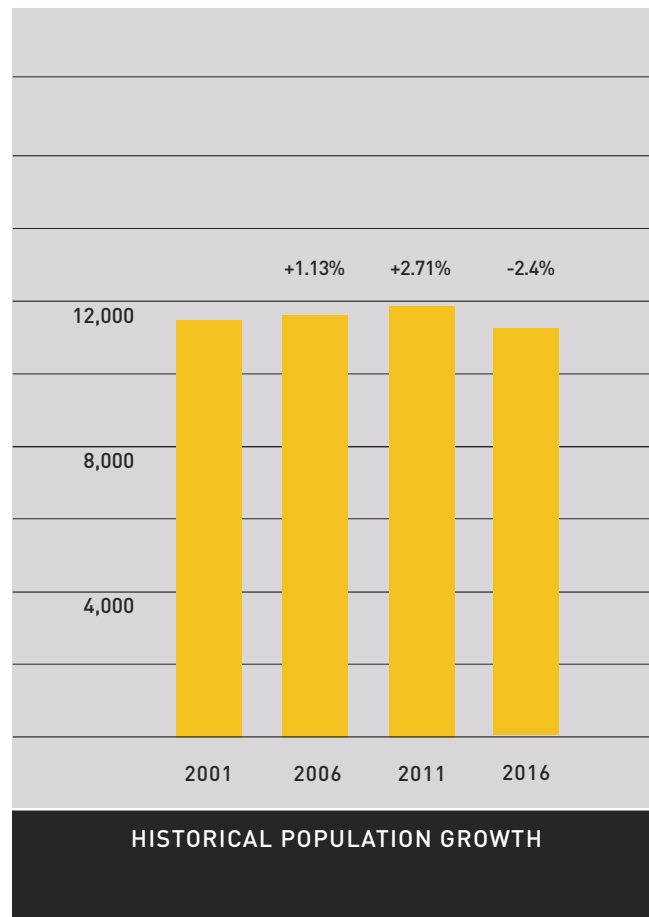
## 2.1 Demographics

Rothesay is primarily a residential community with the majority of its residents working in the City of Saint John. While every county in New Brunswick recorded a net outflow of people between 2006 and 2016, Rothesay's population grew slightly until 2016 when the population saw a slight dip, down by -2.4% between 2011 and 2016.

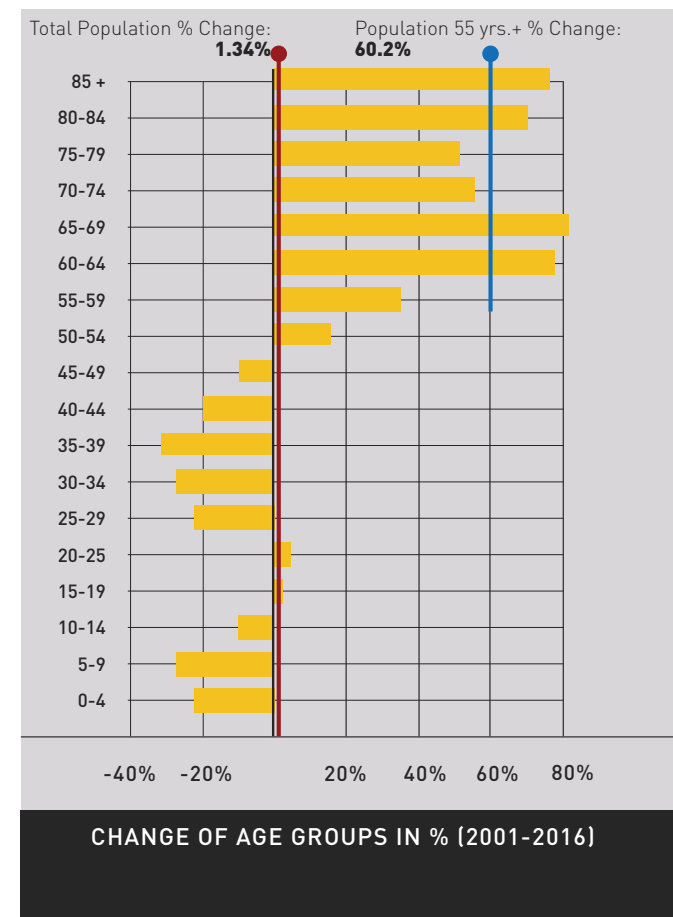
Although Rothesay is a fairly stable community in terms of its total population, the makeup of the population reflects a trend that can be seen across many Canadian small towns. Between 2001 and 2016, the number of residents aged 55 years and older grew by 60.2%. That means that a significant number of empty-nesters and retirees may look for options to downsize

homes, many of them presumably within the town.

On the other side of the spectrum, the number of residents who represent potential first time home buyers (those aged between 20 and 34 years) has decreased significantly. The decrease in young families is also reflected in the shrinking number of children in the town.



Source: Statistics Canada, 2016.



Source: Statistics Canada, 2016.

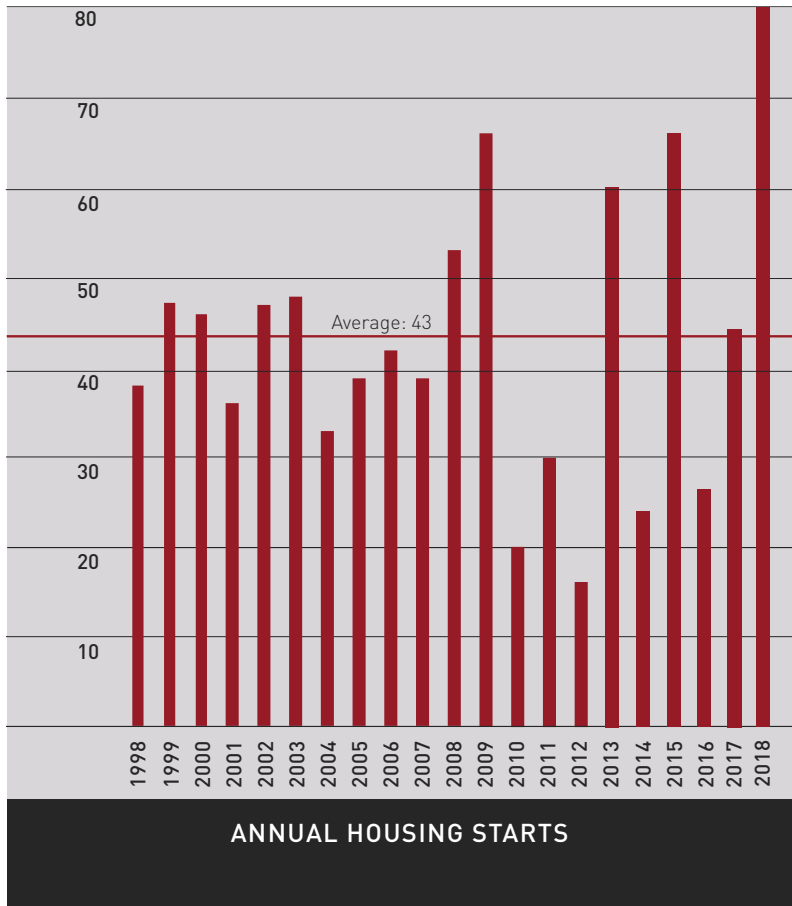
## 2.2 Housing

Since 1998, an average of 43 new homes have been built in Rothesay every year. Between 1990 and 2008, however, none of them were multi-unit buildings. Starting in 2009, the town saw a growing percentage of multi-unit housing starts coming to market every second year. Only 30 of these multi-unit housing starts, however, have been

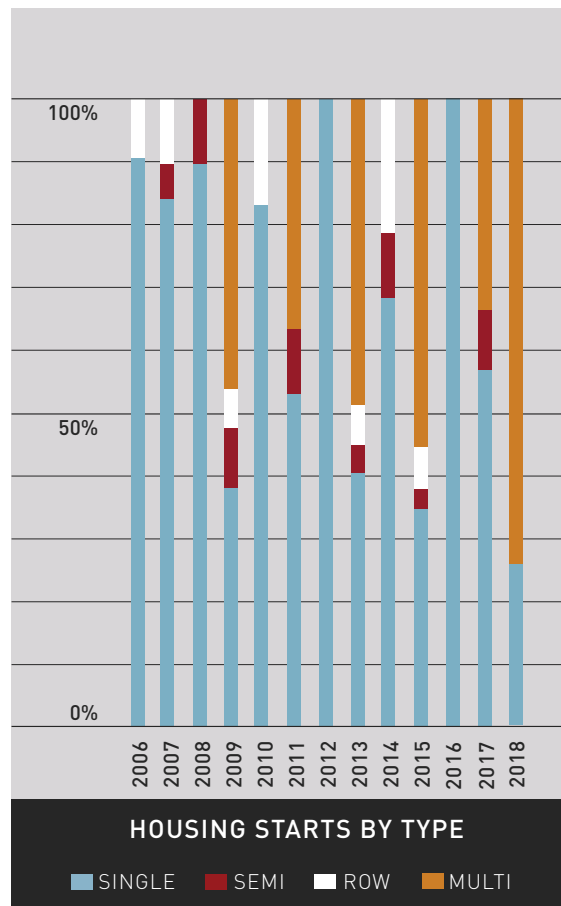
condos (added in 2009 and 2018) with the rest being rental units. The supply of more affordable semis and row houses has been consistently low.

The current Municipal Plan recognizes the need to diversify housing options within the town by encouraging higher density residential development in parts

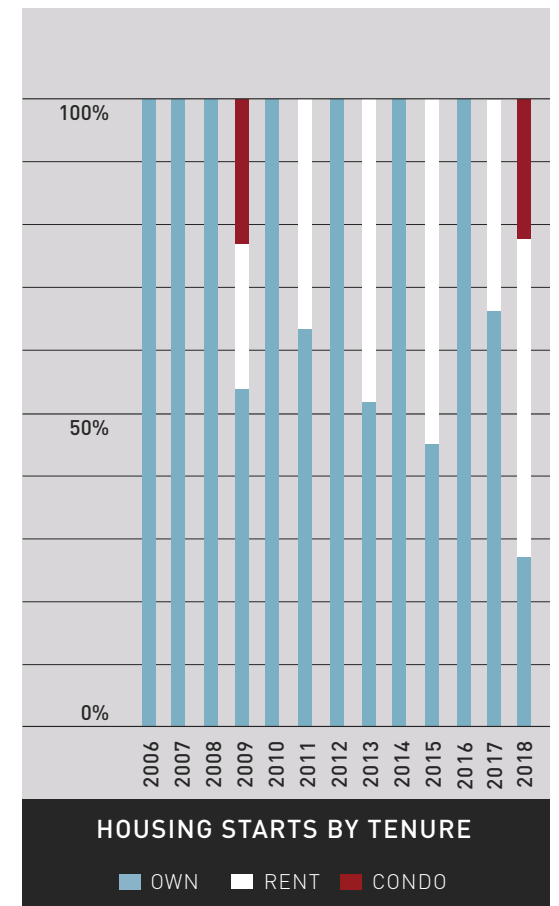
of the town and by considering approving innovative residential developments that do not meet the current Zoning By-law standards. Overall, the Plan's intent is that "Rothesay will remain a residential community interspersed with substantial natural areas and with a concentration of commerce at the eastern end of Town."



Source: Town of Rothesay, 2018.



Source: CMHC, 2018.



Source: CMHC, 2018.

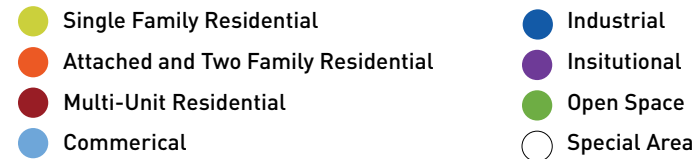


## 2.3 Urban Structure

Rothesay is primarily a residential community with 85% of its land base zoned for residential land uses. The Town's municipal plan is designed to protect this residential character and its established residential neighbourhoods. New development should complement existing housing and should generally reinforce the existing character and density in areas immediately contiguous with undeveloped land.

Notwithstanding the dominance of single family dwellings in Rothesay, a shift is slowly beginning to occur towards higher density housing forms, with single family dwellings making up just half of the Town's new growth in housing units in the last three years. While Rothesay is generally a low density residential community, there are a few areas of moderate density residential uses, such as small apartment buildings, garden homes and town houses.

Single-family detached homes, while still making up most of the market demand are increasingly in competition with other types of housing. This is due to changes in family characteristics, income levels, an aging population and rising costs of land development.



## 2.4 Planning Policies

Secondary plans contain policies and mapping for large or undeveloped parcels of land that provide details for future land use and policies to guide growth and development. The secondary planning process aims to achieve the following:

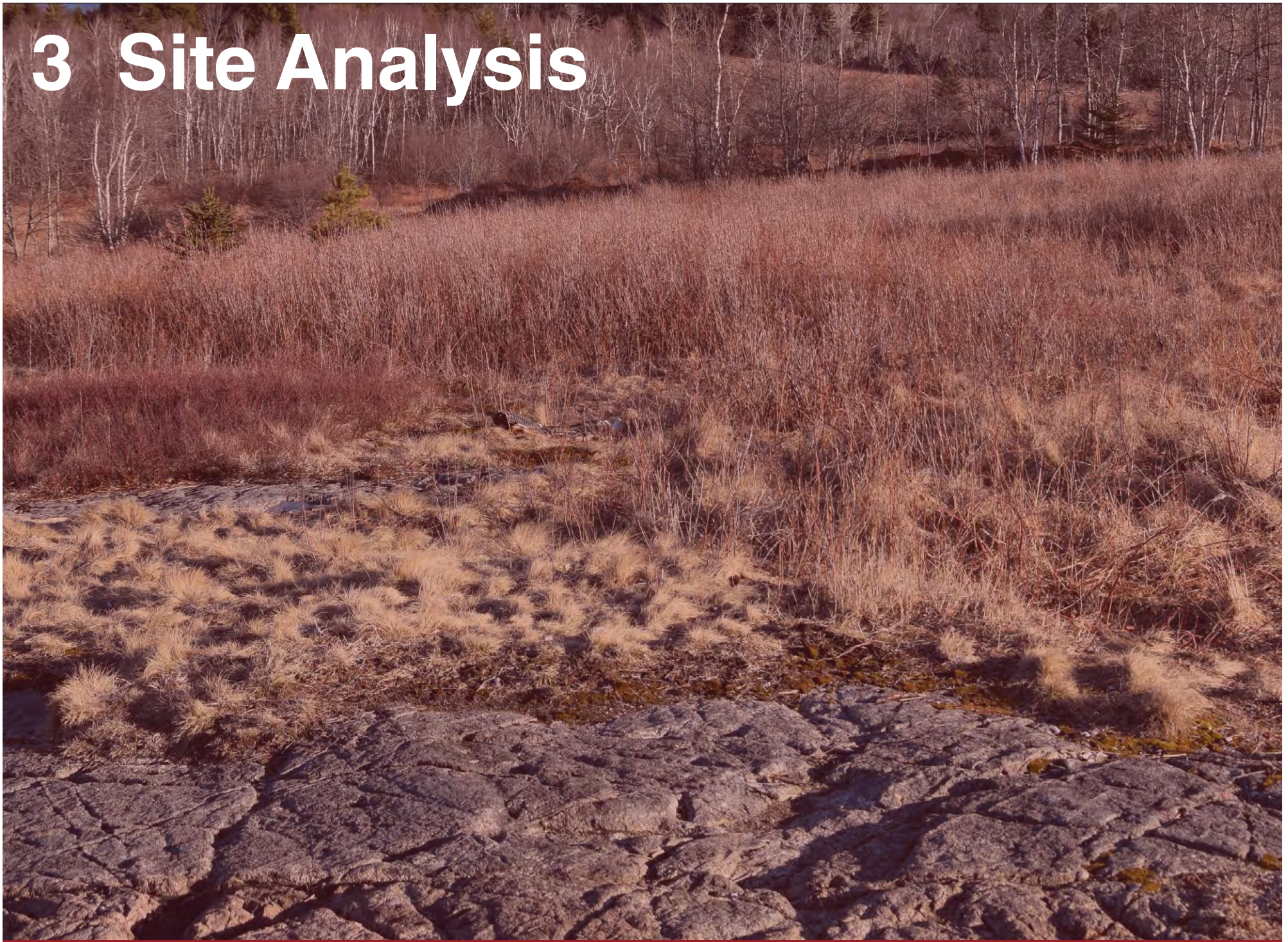
- Develop a community vision and design principles for physical development;
- Preserve unique heritage and landscape features;
- Identify land use, housing mix and densities;
- Determine transportation access and road layout;
- Create pedestrian and bicycle routes;
- Establish municipal servicing needs;
- Identify, protect and manage natural heritage areas;
- Identify development phases;
- Guide both public and private capital investment in infrastructure and amenities;
- Establish more detailed land development policies than those in the Municipal Plan; and
- Adapt and implement the Town's Municipal Plan through the zoning by-law in a coordinated approach.

The purpose of the new Secondary Plan for the "Hillside" area is to create a development framework that will provide both clarity to developers and assurance to residents that Rothesay will grow in a desirable, feasible and qualitative way that will further augment the character and identity of this well-established and mature town.





# 3 Site Analysis





### 3.1 Study Area

The Hillside is a largely undeveloped area that encompasses woodlands, ancient pasture, formal and informal trails, wetlands, and watercourses. An in-depth analysis of the study area is provided in the following sections.





**HILLSIDE SECONDARY PLAN - 2016**  
**Elevations and Profiles**

**LEGEND:**

-  PROPERTY LINES (APPROXIMATE)
-  CONTOURS (1m INTERVAL)
-  STUDY AREA BOUNDARY
-  WATERCOURSES
-  30m WATERCOURSE BUFFER
-  WATER FEATURES

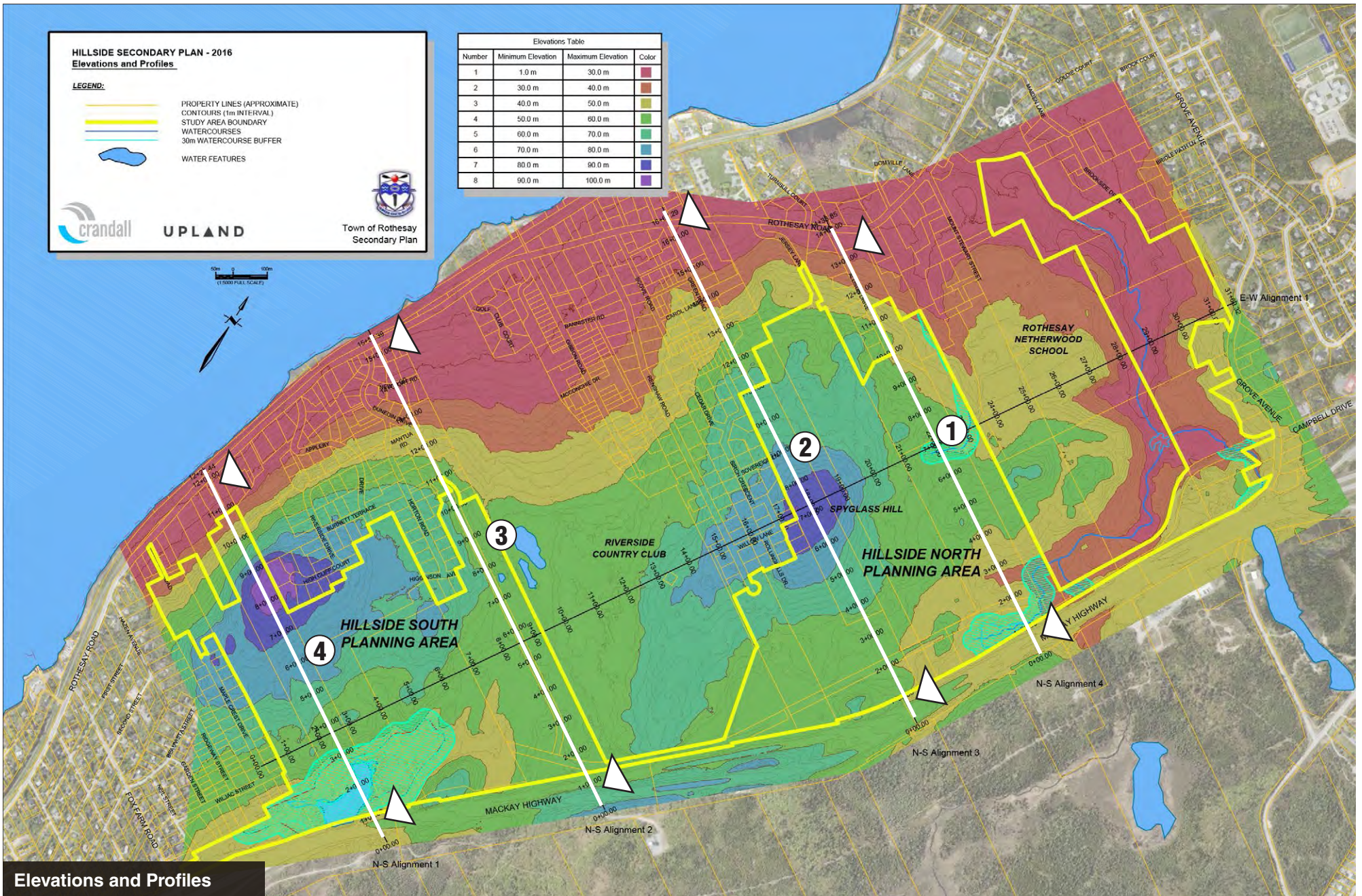


**UPLAND**



Town of Rothesay  
 Secondary Plan

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	1.0 m	30.0 m	Red
2	30.0 m	40.0 m	Orange
3	40.0 m	50.0 m	Yellow
4	50.0 m	60.0 m	Light Green
5	60.0 m	70.0 m	Green
6	70.0 m	80.0 m	Dark Green
7	80.0 m	90.0 m	Blue-Green
8	90.0 m	100.0 m	Blue



**Elevations and Profiles**



### 3.2 Topography

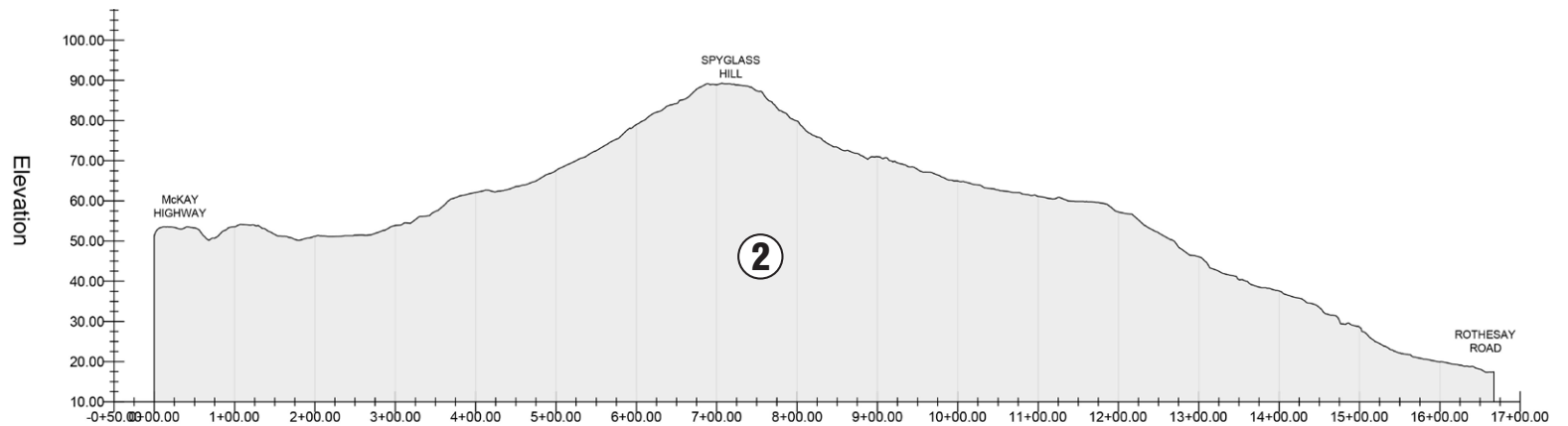
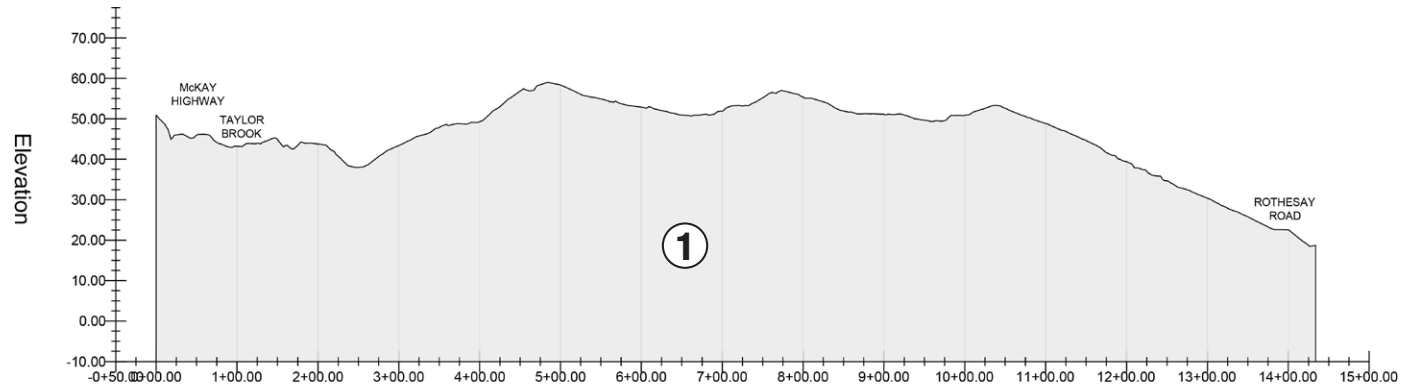
#### Hillside North Planning Area

The Hillside North Planning Area features a high point roughly two-thirds of the way from Rothesay Road to Route 1, just north of Rolling Hills Drive and east of Sovereign Lane. This high point, at elevation 90m, is mostly undeveloped and is commonly referred to as “Spyglass Hill”. From this point, the terrain slopes away in all directions. Aside from a plateau at the top, slopes on Spyglass Hill generally range from 13%

to 30%, and even exceed 30% in localized areas. These slopes are in a range where it would be very costly and challenging to develop lots and infrastructure along the sides of the hill.

From Spygass Hill to the end of Allison Drive is an approximate dividing line between the land that slopes toward the Kennebecasis River to the west and the rest of the area which slopes to the north and the east toward branches of

Taylor Brook and Fairweather Brook. The land sloping toward the north and east makes up the majority of the Planning Area, while the remaining catchment area that drains toward the Kennebecasis River is relatively small. Taylor Brook and Fairweather Brook could be utilized for storm discharge for the majority of the land draining to the north and east, but there are no well-defined watercourses on the remaining western slope of the Planning Area.

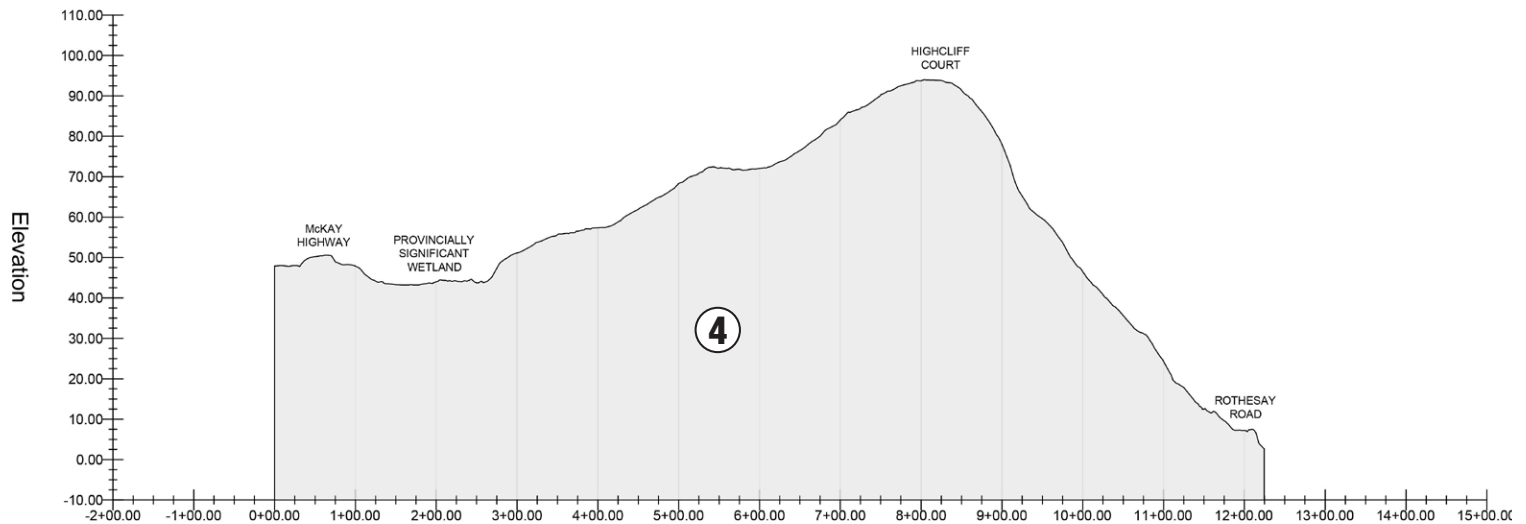
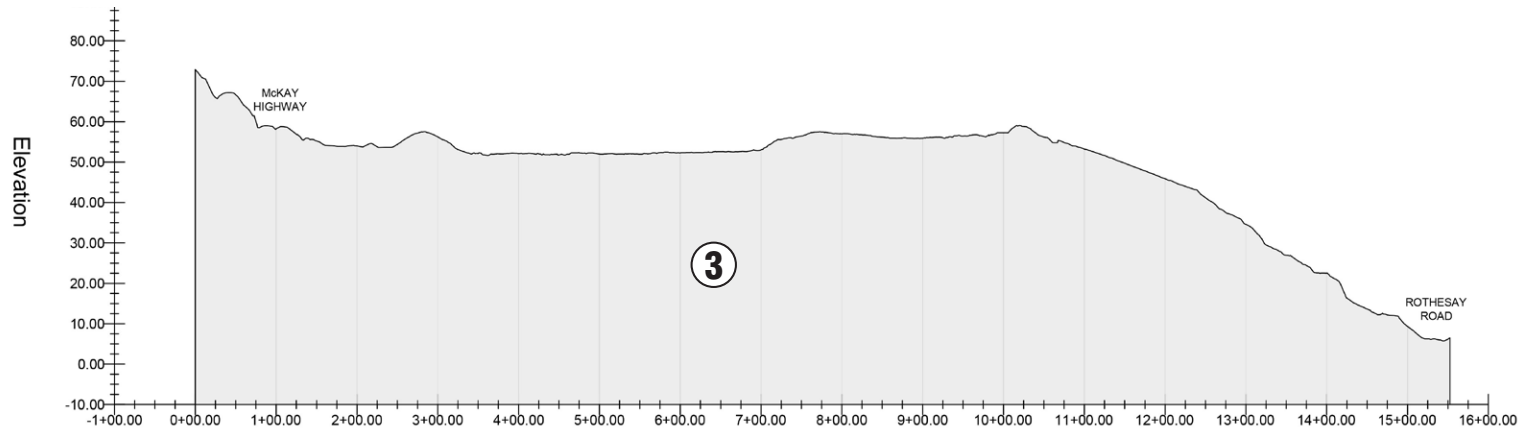


### Hillside South Planning Area

The majority of the Hillside South Planning Area slopes east toward the wetland near Route 1. The high point, at elevation 90m, is located at the end of High Cliffe Court. The developed areas to the north and west of this point drain west toward the Kennebecasis River.

Southwest of the high point, the terrain slopes steeply down through an undeveloped area toward Rothesay Road. With slopes exceeding 30%, it would not be practical or desirable to develop this area of land. Steep slopes can also be found surrounding the wetland.

The natural drainage from most of the Hillside South Planning Area flows toward the wetland at the eastern edge of the area, adjacent to the highway. Flow from this wetland passes into the Renforth Bog and eventually into Saint John's Marsh Creek system.








**HILLSIDE SECONDARY PLAN - 2016**

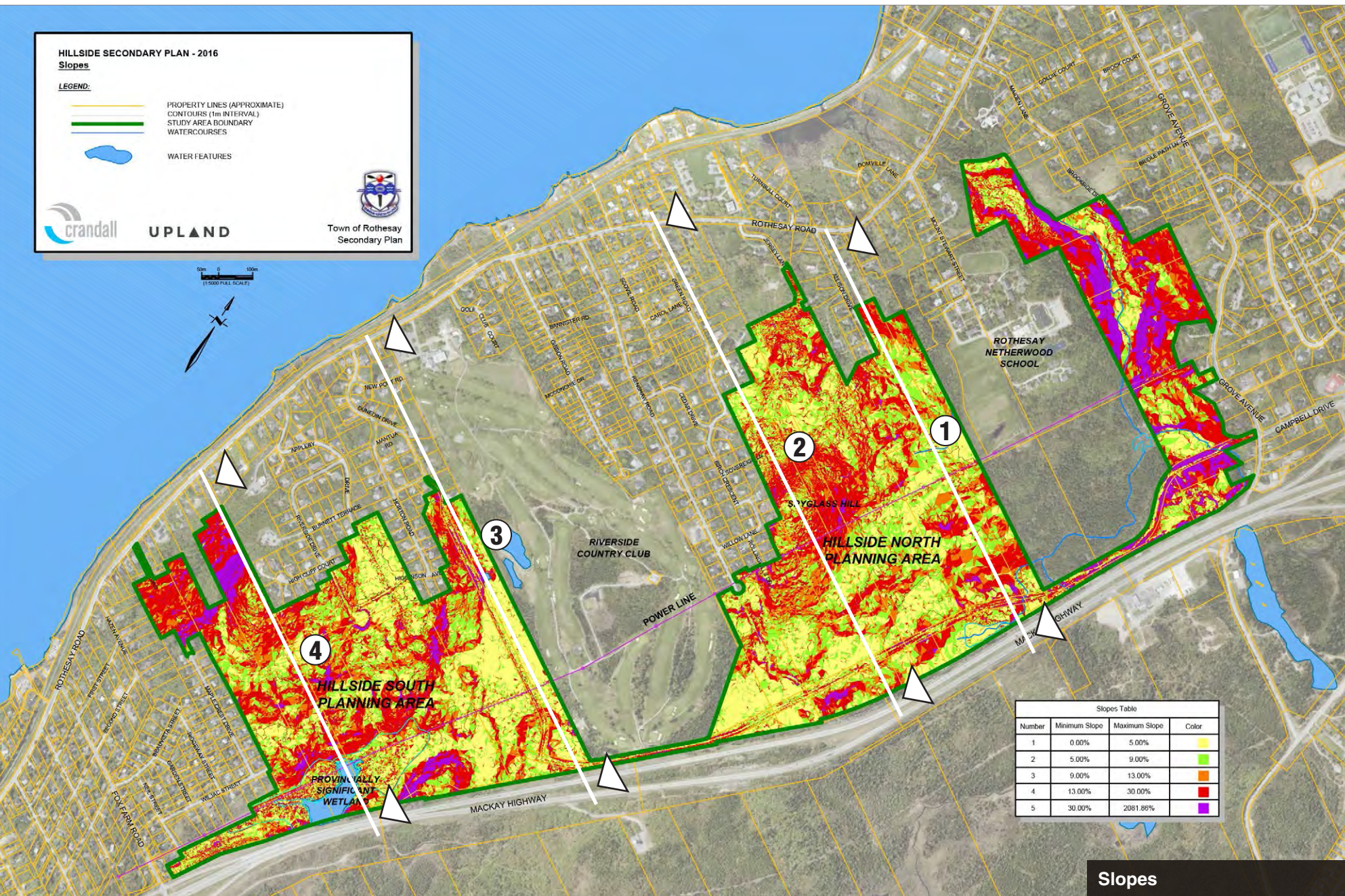
**Slopes**

**LEGEND:**

- PROPERTY LINES (APPROXIMATE)
- CONTOURS (1m INTERVAL)
- STUDY AREA BOUNDARY
- WATERCOURSES
- WATER FEATURES

Town of Rothesay  
Secondary Plan



Slopes Table			
Number	Minimum Slope	Maximum Slope	Color
1	0.00%	5.00%	Yellow
2	5.00%	9.00%	Light Green
3	9.00%	13.00%	Orange
4	13.00%	30.00%	Red
5	30.00%	2081.86%	Purple

**Slopes**



### 3.4 Hydrology

#### Hillside North Planning Area

The Hillside North Planning Area can be divided into two major watershed areas. From Spygass Hill to the end of Allison Drive is an approximate dividing line between the land that slopes toward the Kennebecasis River to the west and the rest of the area which slopes to the north and the east toward branches of Taylor Brook and Fairweather Brook. The land sloping toward the north and east represents approximately 85% of the Planning Area, while the remaining area drains toward the Kennebecasis River. Taylor Brook and Fairweather Brook could be utilized for storm discharge for the larger watershed draining to the north and east. These watercourses are described below:

- Fairweather Brook – The northeastern portion of this Planning Area is a drainage basin for Fairweather Brook. This includes the area between Grove Avenue and RNS as well as the northern boundary between RNS and Route 1. According to the 2006 Servicing Study, approximately 40% of the runoff from the North Planning Area naturally drains to this basin and flows out to the Kennebecasis River.
- Taylor's Brook – This drainage area is located between Allison Drive and College Hill Road. This drainage basin receives approximately 40% of the runoff from the North Planning Area.

The remaining runoff on the southern edge of the Planning Area drains off Spyglass Hill to the east towards the MacKay highway or west towards Jersey Lane where it enters a storm sewer system connected to Rothesay Road.

#### Hillside South Planning Area

The natural drainage from most of the Hillside South Planning Area flows toward the wetland at the eastern edge of the area, adjacent to the highway. Flow from this wetland passes into the Renforth Bog and eventually into Saint John's Marsh Creek system.

### 3.5 Servicing

#### Hillside North Planning Area

The Hillside North Planning Area currently has sanitary sewer and storm sewer piping and sanitary service laterals for almost all of the existing properties. There are sanitary and storm sewer pipes on Allison Drive, Scovil Road, Renshaw Road (with the exception of the very end past intersection with Willow Avenue), Gibbon Road, and Golf Club Court (sanitary sewer only). Jersey Lane has storm sewer piping but no sanitary sewer, however sanitary sewer could easily be extended up this street.

These sewer lines all connect into a sewer main on Rothesay Road which directs the wastewater to a treatment lagoon close to Kennebecasis Park. There is currently design work being done by the Town to change the existing sewer configuration.

There is currently no municipal water services on any of these streets, however a new water main has been extended parallel to the McKay Highway from Grove Avenue around the Riverside Golf and Country Club to connect to Dunedin Road and back down to Rothesay Road. This water main could be used to provide municipal water services to future developments in this study area.

#### Hillside South Planning Area

The Hillside South Planning Area is currently serviced by sanitary sewer systems with sanitary sewer laterals to each property within this study area between Dunedin Road and Fox Farm Road. There are storm sewer systems along Rothesay Road, Dunedin Road, Appleby Drive, Hazen Avenue, and Fox farm Road. There are no storm sewer systems on the side streets off of Fox Farm Road. Storm runoff in this area is collected in local drainage ditches that discharge into the wetland area located to the northeast of these streets.







Similar to the North Planning Area the sanitary sewer flows make their way down to Rothesay Road and over to the Kennebecasis Park Lagoon. The future sewer configuration discussed in Section 3.5 also applies to this area.

As mentioned in the previous section there is a new water main located on Dunedin Road, however there are currently no water mains or services on any other streets in this area. A water main could be extended over from Dunedin

Rd or from the new water main near the golf course to provide water service to existing and future developments in this area.

## 3.6 Transportation

### Trails

In 2011, the Town of Rothesay completed installation of a new water tower and water main in the vicinity of the Hillside lands. The water main begins at Grove Avenue and follows an alignment along the north edge of Route 1 for approximately 2.5 km at which point it turns north and terminates at Dunedin Road. A 6-metre wide gravel access road was constructed along the water main alignment for maintenance purposes. When the water main was installed, a 25m right-of-way was reserved, in contemplation that the alignment would eventually serve a collector road from Grove Avenue to Fox Farm Road.

In 2012, the Rothesay Active Transportation plan recommended that the access road be developed for use as a public multi-use trail. Acting on the recommendation, the Town placed a crusher dust surface on the trail and added trail amenities. The "Hillside Trail" opened in 2013 and has become a popular recreational amenity.

The Hillside Trail is the only formal public trail in the Hillside Lands. The series of footpaths that criss-cross through the Spyglass Hill area are used frequently by the public but are located on private land. A series of trails can also be found within the Rothesay Netherwood School property, but these are also private.

### Roadways

The Hillside Lands are bordered by Route 1 to the east, Rothesay Road to the west, Grove Avenue to the north, and Fox Farm Road to the south.

**Mackay Highway (Route 1)** is a provincially designated arterial divided highway. It serves as the main route between the Town of Rothesay and the City of Saint John and as a major east-west route across southern New Brunswick. Route 1 is Level I access controlled highway. Grade separated interchanges are located at Route 111 and Fox Farm Road, near the east and west extents of the Hillside lands.

**Rothesay Road (Route 100)** is a two-lane provincially designated collector highway, but functions as an urban collector street. A prominent route within the town, Rothesay Road provides access to residential, recreational, and institutional land uses and serves as a thru route between the Town and the City of Saint John. Rothesay Road features bike lanes and a sidewalk on one side of the street. Several residential local streets extend from Rothesay Road into the Hillside Lands, including Appleby Drive, Dunedin Road, Renshaw Road, Green Road, Jersey Lane, and Allison Drive.

**Fox Farm Road** is a two lane provincial primary local roadway but generally functions as a municipal collector. Its classification as a provincial roadway is due to the fact that it is a direct connection between Route 100 and the Route 1 interchange. Fox Farm Road also provides access to a number of residential local streets. The local streets that would provide access to the Hillside Lands, Wiljac Street and Maplecrest Drive, do not



connect directly with Fox Farm Road, but connect indirectly through Neil Street and Beauvista Street.

**Grove Avenue** is a two lane municipal collector street connecting Hampton Road to Campbell Drive (and then to the Route 111 interchange to Route 1). No direct roadway access is currently provided into the Hillside Lands from Grove Avenue, however, right-of-way has been reserved for a future street connection following the alignment of the Hillside Trail.

**Sidewalks**

Sidewalks are only found on a limited number of streets within the Study Area,

including Rothesay Road, Fox Farm Road, Dunedin Road, and a portion of Green Road.

Table 3-1 lists the average daily traffic volumes for streets within the Study Areas. Volumes with an astrix are based on actual traffic counts while the remaining volumes are estimates based on the number of homes and average residential trip rates.

Note that volumes on local residential streets are well below 1,000 vehicles per day, which is a common, desirable limit for the function of local streets.

**Table 3-1:** Daily Traffic Volumes

Street	Daily Volume (vehicles/day)
Rothesay Road	*12,000
Grove Avenue	*4,000
Fox Farm Road	*4,500
Wiljac Street	400
Maplecrest Drive	250
Dunedin Road	*600
Horton	250
Appleby Drive	*360
Renshaw Road	600
Green Road	450
Jersey Lane	50
Allison Drive	150
Beauvista Street	750

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### 3.7 Development Constraints

The Study Area has a total area of 182.3 ha [450.5 ac] however, the potential developable area is significantly less due to various constraints including:

- Steep slopes of 13% or greater;
- Provincially significant wetlands, such as the extension of the Renforth Bog, including the 30m development buffer; and
- The NB Power overhead transmission line right-of-way.

The estimated developable area for the entire Secondary Plan area is 107.9 ha [266.6 ac]. About 63.3 ha [156.5 ac] are suitable for development in the Hillside North Study Area and 44.6 ha [110.1 ac] in the Hillside South Study Area.









## 4.1 Engagement

To date, a number of opportunities were made available to provide public input into the secondary planning process.

### Public Open House

The Hillside Secondary Plan public open house served as the first introduction of the project to the residents of Rothesay. Held on the evening of Wednesday, March 30th 2016 from 5-8pm, the open house took place at the Bill McGuire Renforth Community Centre in Rothesay.

As attendees entered the open house they were greeted by a “Welcome” board containing an overview about all possible ways to provide feedback on the project as well as a staffed sign-in table. Attendees were then able to circulate amongst 11 boards on easels as well as large format maps on tables, where they could learn about

the secondary planning process and respond to questions through post-it notes. During the course of the open house, Town of Rothesay, Crandall and UPLAND staff were available to answer questions and engage with the attendees.

Over the course of three hours, 170 people registered at the sign-in table with the actual number of attendees likely being higher than that.

Over 190 written comments were received and recorded (for detailed comments, please see Appendix A).

### Survey

A paper survey (see Appendix B) was handed out at the open house. The same survey was also posted on the Town’s website in conjunction with a PDF of all the open house boards to

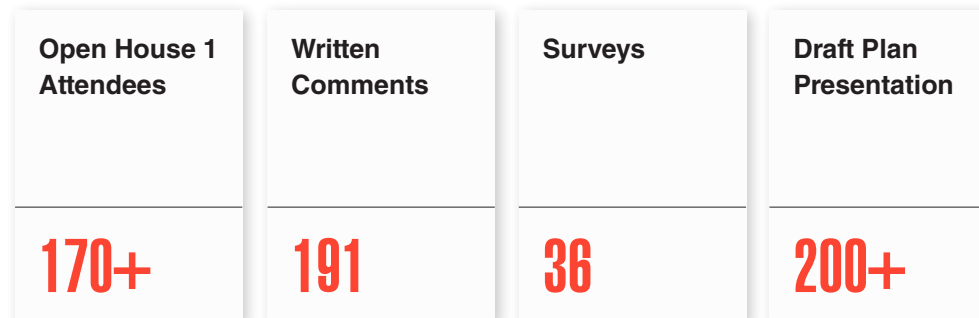
allow people who couldn’t attend the open house to learn about the secondary planning process.

### Stakeholder Interviews

One-on-one stakeholder meetings were held by the study team, with a focus on hearing from landowners about their intended future use of lands within the study area.

### Draft Plan Presentation

The Hillside Secondary Draft Plan was presented at a public meeting on November 15, 2018 from 6-8pm. Over 200 residents attended the presentation. The question and answer period evolved largely around the issue of connecting the South Hillside Area to Fox Farm Road via Wiljac Street and the impact of the related road upgrades on the current residents.





## 4.2 What We Heard

A larger majority of residents attended the open house out of concern that the secondary planning process would mean that the Hillside is about to be developed. Town and consulting staff spent considerable time at the open house communicating that the Secondary Plan is a means to respond to the piecemeal development on the Hillside by articulating a comprehensive framework for future development across a longer-term timespan.

By and large, most open house attendees and survey respondents expressed their attachment to the vast open space, scenery and informal trail network in the study area. It became obvious throughout many conversations that the qualities of the Hillside have been enjoyed by the town's residents for many years without users necessarily realizing that the lands are privately owned and zoned for residential development. Therefore, the secondary planning process was initially perceived by many open house attendants as a threat that eliminates cherished open space and as an undertaking that readies the Hillside for immediate development.

The following trends emerged throughout the public engagement process:

### Land Use

Many respondents strongly expressed that the Hillside or portions of it should remain undeveloped open space. In

particular, Spyglass Hill was singled out as a prime open space location for its spectacular views and trails. Some respondents suggested the Town buy the land from private landowners to preserve it as open space. Some respondents who acknowledged that the Hillside might be developed, expressed a need to retain large green areas or open space pockets. Others thought that mixed housing with small/light commercial uses like doctor's office, etc., and green space as part of a holistic plan (and not an afterthought) would be suitable for the Hillside. Also expressed was the point of view that the current owners of the land should have the right to develop their lands within the current zoning.

### Housing

Residents expressed that, if the Hillside was to be developed for residential uses, they wanted see a diversity of housing offered that would respond to the demographic makeup of the Town. Providing housing for seniors was a reoccurring theme. Some respondents thought that Rothesay needs smaller homes on smaller lots to provide options for seniors and those with disabilities. Also expressed was the opinion that developers should be encouraged to build a few homes with universal design principles so houses can adapt to their owner's needs as they change. Some respondents thought that more housing is not needed as it would devalue

existing properties in what they considered a flat market. They felt that there is a surplus of high end single family homes on the market already, which will only increase as the older generation downsizes and the next generation cannot afford these home. In general, most respondents seemed to have reservations towards multi-unit housing and those who expressed a need for higher density housing often thought this could be achieved through smaller more space-efficient single homes.

### Transportation

By and large the largest concern expressed was an increase in traffic on residential streets leading from Rothesay Road into the Study Area. In particular, residents feared that the roads they lived on would become the main access arterials connecting into the Hillside. Streets mentioned included Dunedin, Allison, Renshaw, Appleby, Wiljac, Neil, Beauista and Maiden Lane. Some respondents thought that a new access road parallel to the highway might alleviate that concern. Trails and active transportation connectivity were also repeatedly mentioned as priorities.

### Servicing

Concerns were raised whether the Town's current water and sewer infrastructure can handle the new load and about who pays for the new infrastructure. Respondents also expressed that development should not have adverse

effects (cause flooding, sewer backups, effects on wells) on existing residents.

### Environment

Environmental issues raised included the impact on the water table for residents on wells, the general hydrology at top of Dunedin & Higginson, the

filtration and retention role of wetlands, the protection of steep slopes and the general retention of as much wooded land as possible.

### Cost

The potential impacts on the Town's taxpayers was also raised as a con-

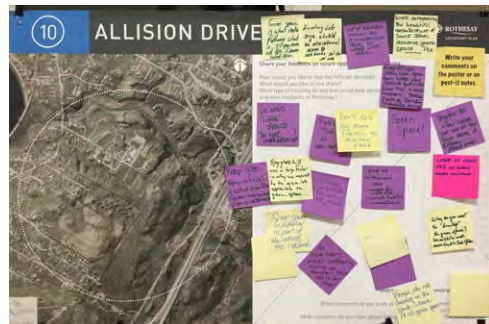
cern. In particular, there appeared to be uncertainty over who pays for the infrastructure on the Hillside (the developers or the Town) and concerns were expressed over who pays for downstream upgrades required to support new development.

## 4.3 Implications

The initial public consultation indicated that there was a need to clear up mis-perception about what the second-

ary planning process entails. More so the concept development needed to precisely present realistic options for

the future of the Hillside and explain the trade-offs between various scenarios to the town's residents.





# 5 The Plan



## 5.1 Vision

Capturing the vision of a diverse public is a challenge in every municipal visioning process. The variety of viewpoints produces positive tension from which unique, context appropriate, and creative solutions can emerge. Right now, there is a disconnect between what the community values about the Hillside

and what might occur in the area if the current status quo of piecemeal as-of-right development is maintained. The Hillside Secondary Plan aims to resolve this gap and better align future development with the values of the community. The following vision statement has been composed to succinctly summarize

what the design team heard through the public input opportunities, from discussions with landowners and municipal staff and balances this information with the outcomes of analyzing the site and the overarching objectives of the Municipal Plan for the Town of Rothesay.

*“The Secondary Plan will facilitate the coordinated evolution of the Hillside into a residential community over time while enabling a diversity of housing options and protecting sensitive environmental areas and key open space features highly valued by the residents of Rothesay.”*

## 5.2 Guiding Principles

The following guiding principles are informed by the emphasis and values conveyed by Rothesay residents who provided input, by the high level ob-

jectives established by the Town in the most recent Municipal Plan, and by best practice community design principles. These Guiding Principles serve to pro-

vide an overarching set of objectives to guide the development concepts.

### **A Rothesay Community**

- Respect the scale and character of traditional development in Rothesay
- Carefully integrate housing types currently not found in Rothesay

### **A Lifelong Community**

- Provide a variety of housing types that meet the needs of diverse demographics
- Enable new housing forms currently not found in Rothesay
- Enable areas with greater-than-average densities to decrease infrastructure cost, increase social intimacy and maintain valued open spaces
- Create a community in which current Rothesay residents can gracefully age and where young families can raise their children

### **A Linked System of Natural Areas and Parks**

- Respect sensitive environmental features to ensure that the natural heritage system is protected, enhanced or restored
- Ensure that ecological systems are not negatively affected through development
- Create an interlinking system of natural areas and green spaces connected by trails and sidewalks
- Create quality rather than residual open spaces



---

**Planned and Evolving Over Time**

- Devise a development framework that enables growth over time and can respond to market demand
- Develop a phasing plan that will make development practical and infrastructure investment logical

**Interconnected**

- Create an interconnected and walkable street system that makes trips as short as possible and provides alternative routes to the same destination
- Design a road network that minimizes and distributes the burden on existing local streets by facilitating a dispersed vehicular traffic flow
- Provide a frequency of intersections that require streets designed for lower average speeds and more frequent stops
- Provide a road network that discourages through traffic and shortcuts for vehicular traffic not originating on or destined for the Hillside

**A Respectful New Neighbour**

- Minimize visual, environmental and traffic impact of new development on existing homes bordering the Hillside
- Design stormwater system that eliminates new runoff into existing neighbourhoods
- Avoid excessive grading that may impact water quality for homeowners on wells

**Sustainable**

- Provide optimum conditions for the use of passive and active solar strategies
- Enable walking, biking and active living
- Leave steep slopes in a natural, vegetated state to minimize erosion, protect habitat and reduce stress on natural water systems
- Conserve wetlands and water bodies to preserve water quality, natural hydrology, habitat and biodiversity
- Provide tree-lined and shaded streetscapes
- Reduce runoff volume and maintain or improve water quality by replicating the natural hydrology and water balance of the site

**Featuring Key Valley Views and Valued Community Landmarks**

- Identify and incorporate key valley views
- Respect valued community landmarks and open space features
- Incorporate valued trail connections

**In Collaboration with Landowners**

- Respect landowners' expectations about their properties' development potential as per the current zoning
- Engage landowners in devising future development scenarios

**Minimizing Financial Burden on Public Purse**

- Balance the community's desire to protect open space with concerns about potential tax rate increases
- Develop infrastructure with optimal capital and maintenance cost impacts

### 5.3 Development Scenarios

Three high-level development concepts demonstrate various ways in which the secondary planning areas could be developed in terms of land use, road network, density, and preservation of open space.

These three options respond to comments received through several public engagements and discussions with staff and landowners. Specifically, the desire to preserve open space, particularly in the privately owned



Spyglass Hill area and the also expressed desire to leave the lands as they are were explored in the scenario planning.

#### Development Scenario 1

In this scenario, both Planning Areas would develop fully over the long term based on existing R1B (Single Family Residential Standard) zoning, without a coordinated approach to allocating lands for public purpose (LPP) and without a comprehensive plan. Lands

for public purpose in Scenario 1 are randomly dispersed throughout the development area and are assumed to make up 10% of the net developable land.

Scenario 1 would accommodate 621 residential units and a population of approximately 1,600 people.

SINGLE FAMILY RESIDENTIAL – STANDARD ZONE [R1B]   
 LAND FOR PUBLIC PURPOSES 



621



1,614









### Development Scenario 2

In this scenario, a large proportion of the North Planning Area around the Spyglass Hill area (20-30 acres) would be preserved as Open Space. This is achieved through consolidation of the landowner's 10% dedication of land for public purposes and town purchase of the remaining area. Town purchase could be partially financed through cash-in-lieu of land dedication throughout the remaining planning

areas, with the balance paid from the Town's general fund or through an area improvement charge. Higher density land uses are proposed in the North Planning Area to yield a higher financial return for financing of infrastructure and open space. The South Planning Area would develop in a similar manner to Scenario 1, but public open space would be reduced due to the cash-in-lieu option.

Scenario 2 would accommodate approximately 1,200 residential units and a population of 3,100 people.

- SINGLE FAMILY RESIDENTIAL – STANDARD ZONE [R1B] 
- SINGLE FAMILY RESIDENTIAL – SMALL LOT ZONE [R1E] 
- MULTI-UNIT RESIDENTIAL ZONE [R4] 
- LAND FOR PUBLIC PURPOSES 



1,196







3,109

### Development Scenario 3

In this scenario, both Planning Areas would be developed with a mix of residential densities (R1B - Single Family Residential Standard), R1E - Single Family Small Lot and R4 - Multi-Unit Residential). Open space areas would be allocated strategically with the total area not exceeding 10% of net developable area. The total public space area would be the same as in Scenario 1, but consolidated to fewer larger park areas and with the intent to protect a port of Spyglass Hill as open space.

Scenario 3 would accommodate approximately 1,500 residential units and a population of 4,000 people.

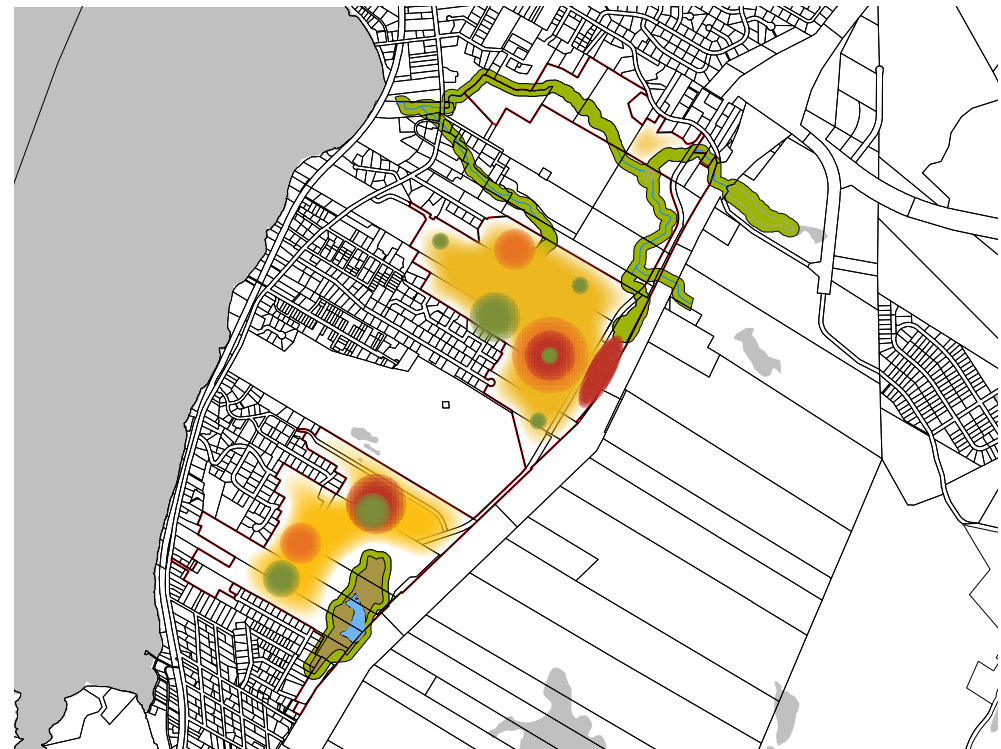
- SINGLE FAMILY RESIDENTIAL – STANDARD ZONE [R1B] 
- SINGLE FAMILY RESIDENTIAL – SMALL LOT ZONE [R1E] 
- MULTI-UNIT RESIDENTIAL ZONE [R4] 
- LAND FOR PUBLIC PURPOSES 



1,523



3,957





The development estimates for each option are summarized in the table below based on the maximum densities permitted in the zoning by-law for each land use. The table

lists the number of residential units at full build-out in each option, the total residential development area, the area dedicated for public purposes, total population and

population density (people per residential acre).

**Table 5-1: Development Scenario Yields**

	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>
R1B Single Family Residential (Standard) <sup>1</sup>	621 units	447 units	383 units
R1E Single Family Residential (Small Lot) <sup>2</sup>		138 units	189 units
R4 Multi-Unit Residential <sup>3</sup>		611 units	951 units
<b>Total Residential Units</b>	<b>621 units</b>	<b>1,196 units</b>	<b>1,523 units</b>
Residential Development Area	208 acres	203 acres	208 acres
Land for Public Purpose	23 acres	27 acres	23 acres
Population <sup>4</sup>	1,614 people	3,109 people	3,957 people
Avg Population Density	8 people/acre	15 people/acre	19 people/acre

1. Maximum units based on a minimum allowable lot area of 1350 m<sup>2</sup>.

2. Maximum units based on a minimum allowable lot are of 700 m<sup>2</sup>.

3. Maximum units based on a maximum allowance density of 50 units per hectare.

4. Population estimates assume average household of 2.6 people.

The evaluation of each development scenario with respect to alignment with guiding principles, traffic, municipal

servicing, cost, and response to public comments is summarized in the table below.

**Table 5-2:** Scenario SWOT

	Scenario 1	Scenario 2	Scenario 3
<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Lowest traffic impact</li> <li>• Lowest servicing and storm water impact</li> </ul>	<ul style="list-style-type: none"> <li>• Responds to public desire for large open space area.</li> <li>• Coordinated approach to trails, parks, and municipal services</li> <li>• Variety of housing options</li> <li>• Higher yield developments</li> </ul>	<ul style="list-style-type: none"> <li>• Preservation of some large open space areas, but smaller than Scenario 2</li> <li>• Coordinated approach to trails, parks, and municipal services</li> <li>• Variety of housing options</li> <li>• Higher yield developments</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>• Lack of housing variety</li> <li>• No coordinated approach to public spaces, trails, services, etc.</li> <li>• No preservation of large areas of open space</li> <li>• Lower yield developments</li> </ul>	<ul style="list-style-type: none"> <li>• May require public funding/taxes to finance open space area</li> <li>• Higher traffic volumes</li> <li>• Higher stormwater management requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Highest traffic volumes</li> <li>• Highest stormwater management requirements</li> </ul>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Highly marketable single family homes in great location with great views</li> </ul>	<ul style="list-style-type: none"> <li>• Development of a high quality nature park for enjoyment of all residents</li> <li>• Variety of highly marketable housing for existing and new residents</li> </ul>	<ul style="list-style-type: none"> <li>• Variety of highly marketable housing for existing and new residents</li> </ul>
<b>Threats</b>	<ul style="list-style-type: none"> <li>• Does not achieve diversification of housing and existing residents forced to move to other areas when downsizing.</li> <li>• Potential to be rejected by public for not preserving large blocks of open space.</li> <li>• Town to bear capital cost of roadways and services that are not recoverable.</li> </ul>	<ul style="list-style-type: none"> <li>• Uncooperative landowner could pose difficulties in acquiring open space.</li> <li>• Potential that long term market does not support the number of high density units shown</li> <li>• Proposed densities may be too high for public acceptance.</li> <li>• Town to bear capital cost of roadways and services that are not recoverable.</li> </ul>	<ul style="list-style-type: none"> <li>• Uncooperative landowner could pose difficulties in dedicating open space in desired location.</li> <li>• Potential that long term market does not support the number of high density units shown</li> <li>• Potential to be rejected by public for not preserving large enough blocks of open space.</li> <li>• Town to bear capital cost of roadways and services that are not recoverable.</li> </ul>





## 5.4 Development Concept

The preferred concept is a hybrid of Scenario 2 and 3. The development plan prioritizes protecting large portions of Spyglass Hill and continuing the single dwelling character of the adjacent neighbourhoods. However, other, currently underrepresented, housing options such as townhouses and multi-unit buildings are also integrated into the development plan. Densities within the Secondary Plan area increase gradually from east to west and existing single dwelling neighbourhoods do not interface with higher density built forms.

The street pattern of the development plan emphasizes connectivity and route choices by avoiding cul-de-sacs and long blocks.

A new institutional land parcel for a future school or church and a new neighbourhood park in the Hillside South Area are both located within a 10 minute walking distance from all new residences and from many adjacent existing homes in the area.

Overall, the entire Hillside area can accommodate 1,231 new residential units or 3,200 new residents. A detailed breakdown of residential units by dwelling type is provided in Section 5.6.













	North	South
	837	394
	2,176	1,024

### Guiding Principles Addressed:

- Respect the scale and character of traditional development in Rothesay
- Enable areas with greater-than-average densities to decrease infrastructure cost, increase social intimacy and maintain valued open spaces
- Create a community in which current Rothesay residents can gracefully age and where young families can raise their children
- Devise a development framework that enables growth over time and can respond to market demand
- Create an interconnected and walkable street system that makes trips as short as possible and provides alternative routes to the same destination
- Provide a frequency of intersections that require streets designed for lower average speeds and more frequent stops
- Leave steep slopes in a natural, vegetated state to minimize erosion, protect habitat and reduce stress on natural water systems
- Conserve wetlands and water bodies to preserve water quality, natural hydrology, habitat and biodiversity
- Minimize visual, environmental and traffic impact of new development on existing homes bordering the Hillside



**HILLSIDE SECONDARY PLAN - 2019**  
**Concept with Connection to Fox Farm Road**

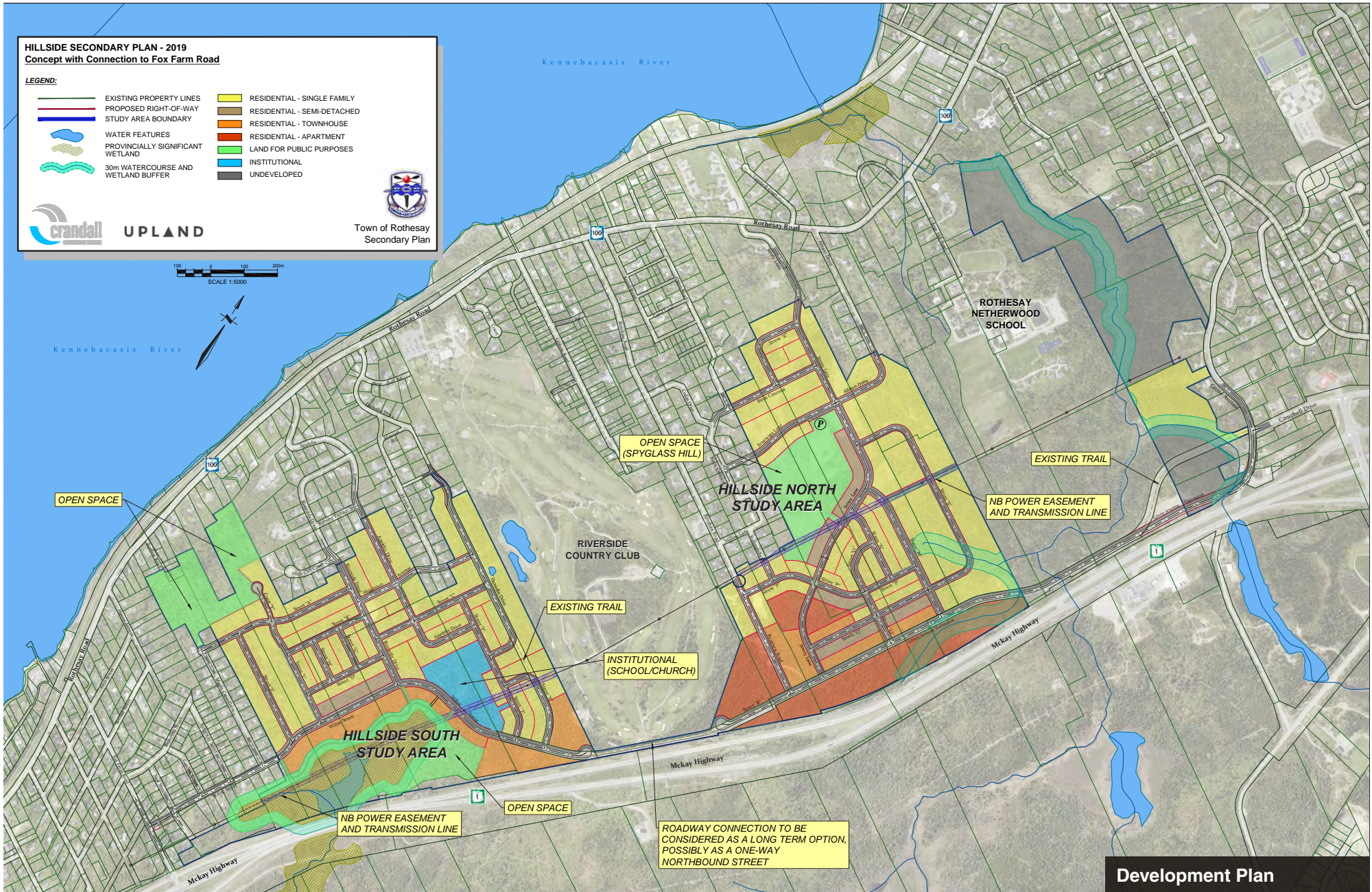
- LEGEND:**
-  EXISTING PROPERTY LINES
  -  PROPOSED RIGHT-OF-WAY
  -  STUDY AREA BOUNDARY
  -  WATER FEATURES
  -  PROVINCIALLY SIGNIFICANT WETLAND
  -  30m WATERCOURSE AND WETLAND BUFFER
  -  RESIDENTIAL - SINGLE FAMILY
  -  RESIDENTIAL - SEMI-DETACHED
  -  RESIDENTIAL - TOWNHOUSE
  -  RESIDENTIAL - APARTMENT
  -  LAND FOR PUBLIC PURPOSES
  -  INSTITUTIONAL
  -  UNDEVELOPED



**UPLAND**



Town of Rothesay  
 Secondary Plan



**Development Plan**



## 5.5 Open Space Strategy

The consultation process for the secondary planning process revealed a strong attachment of many Rothesay residents to the open space qualities of the area. In particular, Spyglass Hill was singled out as a prime open space location for its spectacular views and trails.

The open space strategy prioritizes protecting both sensitive environmental features such as watercourses, wetlands and steep slopes and the cherished views, trails and open space of Spyglass Hill, all within the context of the current ownership situation.

### Open Space Classification

The concept plan builds on the open space classification and standards of the *Rothesay Recreation Master Plan (2009)* and proposes one Neighbourhood Park, one Regional Park and several other Open Spaces.



### Neighbourhood Park

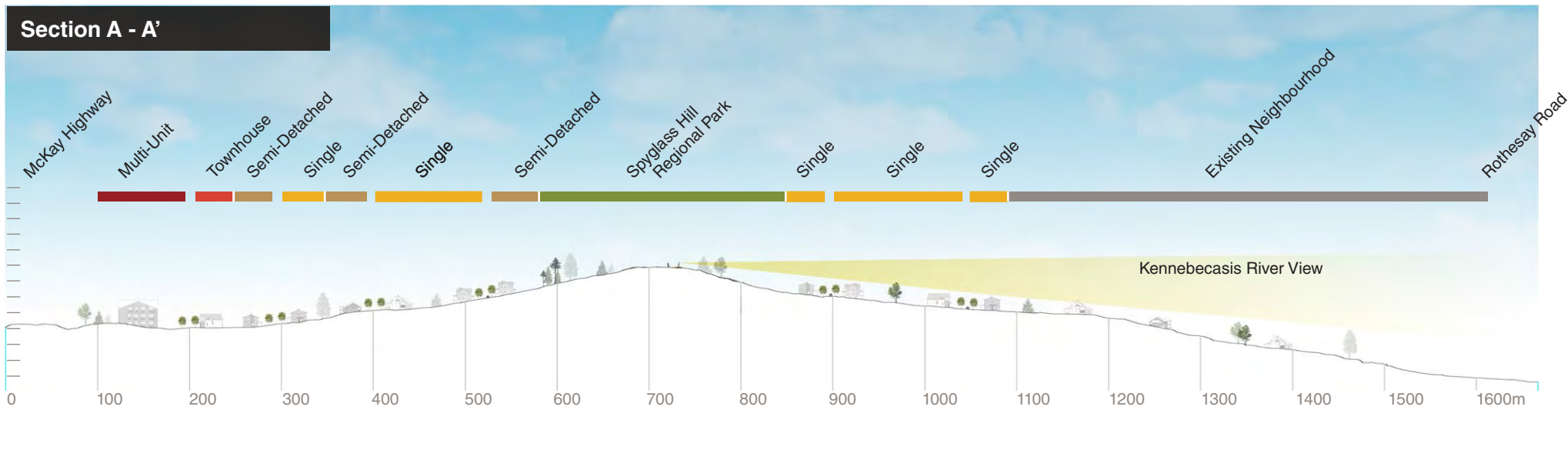
The South Planning Area includes one Neighbourhood Park (0.75h) centrally located and adjacent to the new institutional use (school or church). Neighbourhood Parks are primarily meant to serve the people who live within a neighbourhood. They are developed to meet the interests of that population group and should be within walking distance of all sections of the neighbourhood. Neighbourhood parks have a catchment area of 0.8 km radius. A guideline for the provision of neighbourhood parks is 1.0 hectares per 1000 population (Rothesay Recreation Master Plan).

The concept plan for the South Planning Area accommodates 387 new residential units for about 1,000 new residents. The proposed Neighbourhood Park in

conjunction with open spaces of a new institution and additional open spaces provided for trails and sensitive areas will accommodate the neighbourhood recreational needs of the new residents of the South Planning Area.

### Regional Park

The North Planning Area includes one Regional Park (6.7h) that preserves the scenic qualities of Spyglass Hill. Regional Parks typically provide space for active and unstructured recreation and specialized pursuits. They protect unique natural features and provide community-wide attractions. Regional Parks can also be developed as a "tourist attraction" serving residents and visitors alike. A guideline for the supply of regional parks is 3.0 hectares per 1000 population.





According to the 2009 Recreation Master Plan, Rothesay currently falls short in the provision of Regional Parks. When compared to the standards of the Plan, the town should have 3 hectares of regional parks for every 1,000 residents, Rothesay should have a total of 34.9 hectares of Regional Parks. Municipally owned regional parks in Rothesay total 23.38 hectares which falls below the standard.

The proposed Spyglass Hill Regional Park (6.7ha) could help address this shortage. The scenic qualities of the hill could be marketed to attract visitors. Most importantly, Spyglass Hill would

be preserved for the continued use of Rothesay residents who have come to appreciate it as an area for both recreation and physical activity.

#### Other Open Spaces

Several other open spaces in the concept plan protect riparian watercourses, wetland buffers and steep slopes; provide open space connectivity through trails or are used as green buffers between established neighbourhoods and new development.

#### Guiding Principles Addressed:

- ☑ Respect sensitive environmental features to ensure that the natural heritage system is protected, enhanced or restored
- ☑ Ensure that ecological systems are not negatively affected through development
- ☑ Create an interlinking system of natural areas and green spaces connected by trails and sidewalks
- ☑ Create quality rather than residual open spaces
- ☑ Identify and incorporate key valley views
- ☑ Respect valued community landmarks and open space features
- ☑ Incorporate valued trail connections



Key View

Section A - A'

Spyglass Hill Regional Park

Kennebecasis River View

800

900

1000m

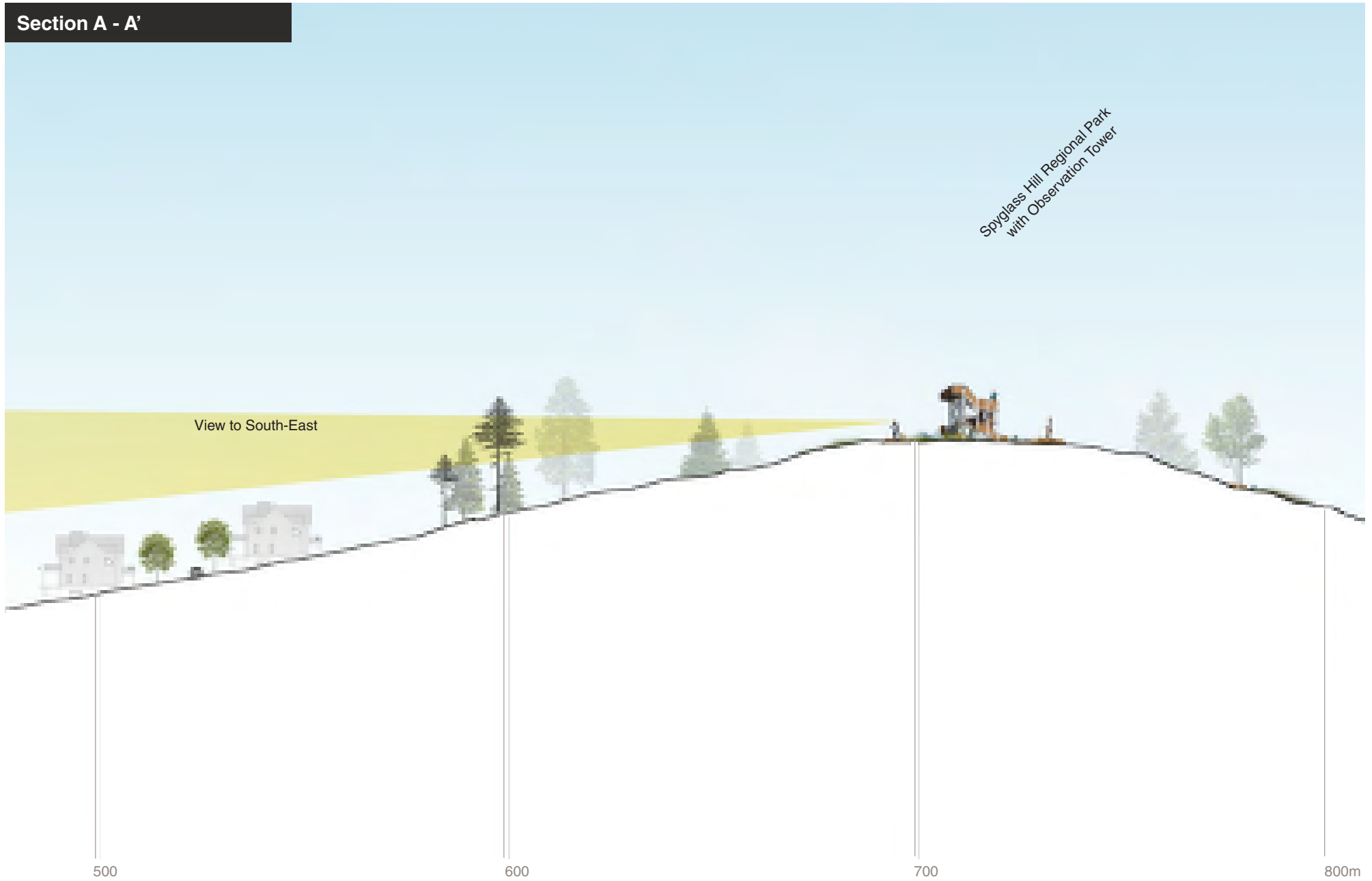


### **Observation Tower**

Another opportunity to promote Rothesay in general and Spyglass Hill in particular as a destination would be the installation of an observation tower on Spyglass Hill. Observation towers not only attract visitors but also can, if designed uniquely and attractively, become landmarks in their own right. An observation tower on Spyglass Hill could also help mitigate the impact of new surrounding development on the viewer experience on top of the hill and afford the visitor with spectacular 360 degree views without obstruction by trees or buildings.



Section A - A'





## 5.6 Housing

The proposed housing mix for the Secondary Plan area will allow Rothesay to adapt to changing demographics, retain or attract residents looking for options other than large lot single dwellings and to maintain the traditional development character in the town. The overall housing mix by dwelling type and phase can be found on page 46.

### Single Family Homes

The majority of the North and South area feature a mix of Small Lot [R1E], Standard [R1B] and Large Lot [R1A] single family homes. These homes are located adjacent to existing neighbourhoods and allow for a gradual transition to higher density housing.

### Semi-Detached Homes

Semi-Detached [R2] homes are located further east in both the North and South planning area and begin the transitioning into higher density neighbourhoods.

### Townhomes

Most Townhomes [R3] are located in the South Planning area along Wiljac Street Extension backing on large open space buffering them from the highway. The Townhomes in the North Planning area are situated as built form transition between Semi-Detached Homes and Apartments.

### Apartments

All Apartments [R4] are located on the eastern edge of the North Planning Area, interspersed by Semi-Detached and Town Homes.

### Grouped Homes / Pocket Neighbourhoods

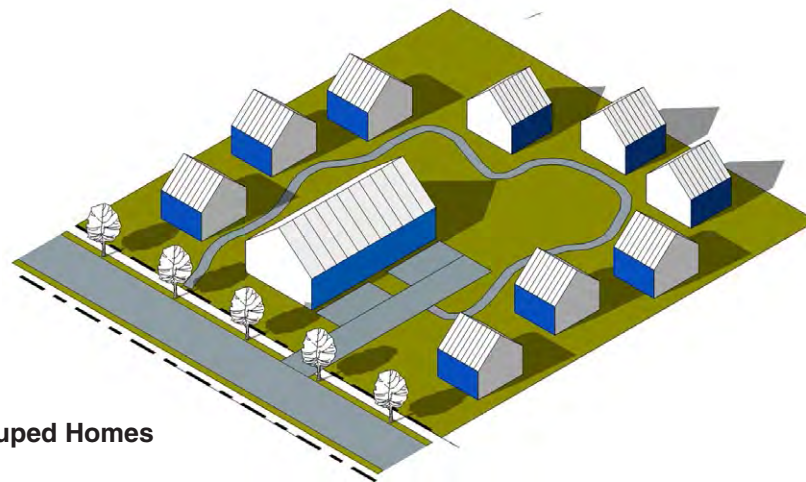
Pocket Neighbourhoods are a new housing type for dwellers looking to down-size, while maintaining the pride of home ownership and distributing the responsibilities of maintenance. These neighbourhoods typically feature a

series of tiny homes grouped around a common house, which includes features such as a large kitchen and dining area, living room, activity space, gathering hall, kids play room, bathrooms, guest bedroom, laundry facilities and mail boxes. Grouped Homes are currently not allowed under the Rothesay Land Use By-Law and do not have designated areas in the Hillside concept plan. They can however easily be integrated into any Single Family Home zone of the plan.

The renderings on Pages 44 and 45 visualize the proposed design concepts for the South and North Planning Areas.

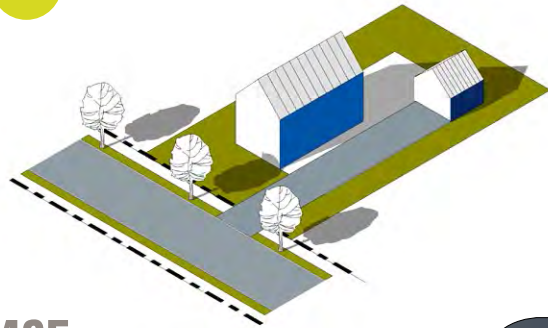
#### Guiding Principles Addressed:

- Carefully integrate housing types currently not found in Rothesay
- Provide a variety of housing types that meet the needs of diverse demographics
- Enable new housing forms currently not found in Rothesay
- Enable areas with greater-than-average densities to decrease infrastructure cost, increase social intimacy and maintain valued open spaces
- Create a community in which current Rothesay residents can gracefully age and where young families can raise their children



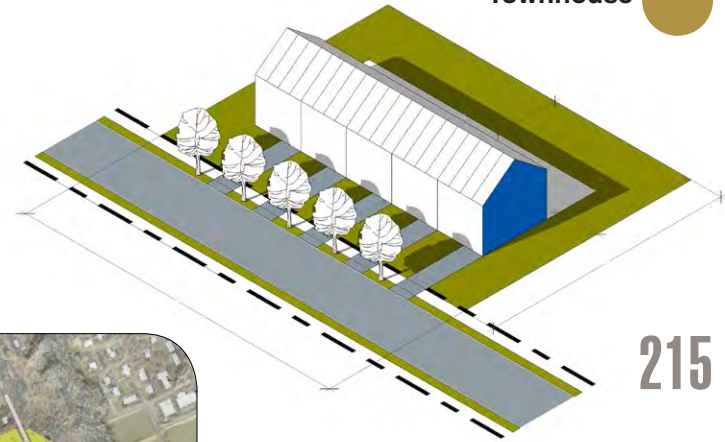
**Grouped Homes**

Single Family Homes



425

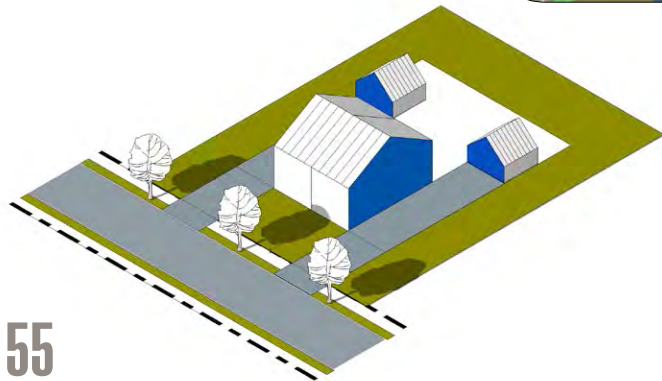
Townhouse



215

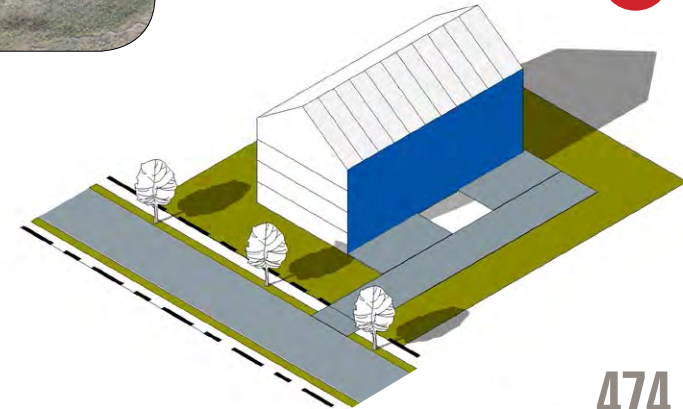


Semi-Detached



55

Multi-Unit



474



















**Table 5-3:** Housing Mix by Type and Phase

<b>South Area</b>	Single Family - Small Lot [R1E]	Single Family - Standard [R1B]	Single Family - Large Lot [R1A]	Semi-Detached [R2] <sup>1</sup>	Townhome [R3] <sup>2</sup>	Apartments [R4] <sup>3</sup>	Total
	# of units	# of units	# of units	# of units	# of units	# of units	
Phase 1	2	16	11	16	-	-	
Phase 2	15	8	5	-	32	-	
Phase 3	70	21	22	-	101	-	
Phase 4	40	21	14	-	-	-	
Sub-Total (units)	127	66	52	16	133	-	394
Sub-Total (ppl)	330	172	135	42	346	-	1024
<b>North Area</b>	Single Family - Small Lot [R1E]	Single Family - Standard [R1B]	Single Family - Large Lot [R1A]	Semi-Detached [R2] <sup>1</sup>	Townhome [R3] <sup>2</sup>	Apartments [R4] <sup>3</sup>	Total
	# of units	# of units	# of units	# of units	# of units	# of units	
Phase 1	26	14	9	-	-	-	
Phase 2	25	13	9	-	-	-	
Phase 3	36	18	12	27	13	65	
Phase 4	13	7	5	12	69	409	
Phase 5	-	-	54	-	-	-	
Sub-Total (units)	100	52	89	39	82	474	837
Sub-Total (ppl)	260	135	231	101	213		2176
<b>TOTAL (UNITS)</b>	<b>228</b>	<b>118</b>	<b>141</b>	<b>55</b>	<b>215</b>	<b>474</b>	<b>1,231</b>
<b>TOTAL (PPL)</b>	<b>592</b>	<b>307</b>	<b>367</b>	<b>143</b>	<b>559</b>	<b>1,232</b>	<b>3,200</b>

1 Average Lot Size is 1200 m<sup>2</sup>, with 2 units per lot

2 Rothesay Zoning Bylaw; for Attached [R3] 1,200 m<sup>2</sup> or 400 m<sup>2</sup> / residential unit, whichever is greater.

3 Rothesay Zoning Bylaw; for Multi-Unit Residential [R4] 1,400 m<sup>2</sup> or 200 m<sup>2</sup> / residential unit, whichever is greater.

## 5.7 Transportation Network

### North Planning Area

Critical to the North Planning Area is the proposed connector road that extends from Grove Avenue to the golf course, following the 25m wide Hillside Trail/water main right-of-way for most of its length. The connector road will be curbed with a 3.5m wide roadside multi-use trail. A network of local streets branches off of the connector road through the development area and provide connections to existing streets including Renshaw Road, Green Road, and Jersey Lane. The connector road provides convenient access to Campbell Drive and the Route 1 interchange and will carry the majority of traffic from the North Planning Area at full build-out. Originally, it was contemplated that the connector road would follow the 25m right-of-way beginning at the Grove Avenue/Campbell Drive intersection; however, significant fills would be required to construct the roadway due the steep

grades and watercourse near Grove Avenue. Therefore, an alternate alignment is proposed that would avoid this area by extending from the end of Grove Avenue closer to the highway. One constraint to this alignment is that right-of-way would need to be acquired through a parcel of land owned by Rothesay Netherwood School.

It is also proposed to construct Jersey Lane with curb and sidewalk and extend the street into the North Planning Area to serve Phase 1 and 2 developments.

### South Planning Area

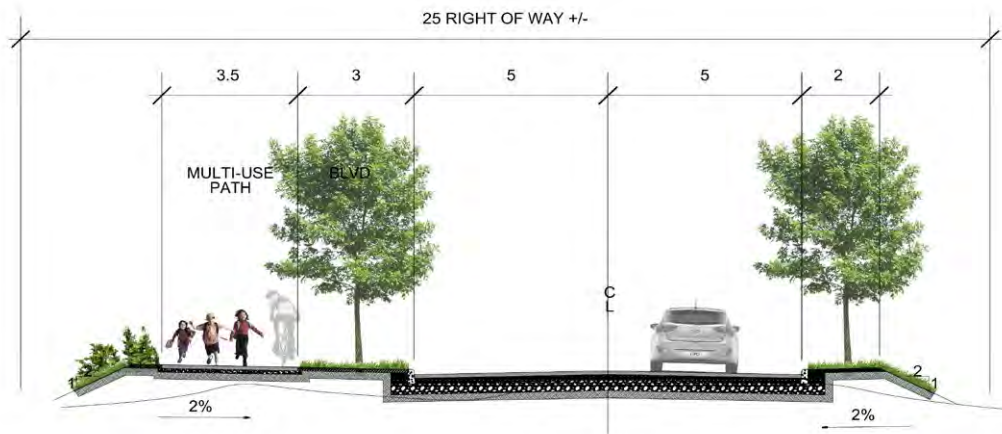
The proposed street network in the South Planning Area branches off of an extension of Wiljac Street and forms a grid pattern with connections to Riverside Drive, Appleby Drive, and Dunedin Road. Wiljac Street is extended south to Fox Farm Road and upgraded to a minor collector standard with curb, sidewalk, and bike lanes. This cross-section is carried along the extension of Wiljac Street, except that east of Riverside Drive, the sidewalk turns into a multi-use trail. The Wiljac Street extension continues to the golf course, where it ends in a cul-de-sac. It is proposed that Riverside Drive also feature a sidewalk or roadside trail to act as a core east-west active transportation corridor within the South Planning Area. All other streets will be constructed with open ditches and no

curb or sidewalk. The proposed new cross-section for Wiljac Street and its extension to Fox Farm is shown on Page 52. The extension of Wiljac Street to Fox Farm Road will require acquisition of two properties.

The option of connecting a new roadway directly to Fox Farm Road, adjacent to the highway, was reviewed in detail. The roadway would have required realignment of the highway off-ramp and would have resulted in impacts to the provincially significant wetland. The opinion of the Department of Environment and Local Government (DELG) is that the merits of the new roadway do not justify the wetland impacts and the impacts can be avoided by exploring other means of access to the development area. DELG did not support advancing the roadway project to an Environmental Impact Assessment stage.

At this time, no roadway connection is shown between the two planning areas, however, this connection could be made, perhaps as a one-way northbound street, depending on future needs and phasing options.

### Connector Road Section





## Traffic Volumes

Traffic volume projections were prepared to estimate the volume of daily traffic throughout the road network in each planning area by each phase and at full-build out. The number of vehicle trips generated by the development were estimated using trip generation rates contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual. The total volume of daily trips estimated to be generated in each planning area for each phase are listed in Table 5-4. Trips were then assigned to external access points to determine an estimate of traffic increase on connecting streets, as shown in Table 5-5. Trip assignment estimates, as described below, were based on existing traffic patterns, phasing, and knowledge of the study area. Refer to Section 5.9 for a description of the proposed development. phasing. Note that phasing may be modified throughout the build-out based on land availability, developer interest, and town budget capacity.

### North Planning Area

- In Phase 1 and 2, all traffic must use Jersey Lane and Green Road given that the connector road is not constructed yet. It is assumed that 85% of traffic uses Jersey Lane while 15% use Green Road.

- In Phase 3, the connector road is constructed and begins to carry the majority (60%) of development traffic.
- By the end of Phase 4 and 5, it is estimated that the connector road will carry 75% of the traffic from the North Planning Area, while Jersey Lane will carry 15%, Green Road 3%, and Renshaw Road 7%. A small volume would also travel on Alison Drive, should the street connection be made in Phase 5.

### South Planning Area

- Phase 1 comprises less than 30 single family homes, generating an estimated daily traffic of 280 vehicles. This traffic will split evenly on Appleby Drive and Dunedin Road (an additional 140 veh/day on each street), given that no connections will have been made to other streets in the very short term.
- In Phase 2 and 3, Wiljac Street is upgraded and extended toward the golf course to facilitate development near the highway. Until connections are made down to Appleby Drive and Dunedin Road, all development traffic will use Wiljac Street. Once the development area expands to connect with Dunedin Road and Appleby Drive. It is assumed that Wiljac will still carry

80% of development traffic and the remainder will be split between Dunedin Road, Appleby Drive, and Riverside Drive.

- By the end of Phase 4, it is estimated that Wiljac Street will carry 80% of development traffic and the remainder will be split between Dunedin Road, Appleby Drive, and Riverside Drive.

Main highlights of the traffic assessment are as follows:

- The connector road to Grove Avenue will carry a traffic volume of 4,000 to 5,000 vehicles per day at full build-out. This is similar to the volume of traffic on Grove Avenue currently. The connector road will be built to a collector street standard.
- At full build-out, Wiljac Street is estimated to carry a traffic volume of approximately 3,000 vehicles per day. For comparison, Fox Farm Road currently carries approximately 4,000 vehicles per day and Rothesay Road carries 10,000 to 14,000 vehicles per day. It is recommended that Wiljac Street be upgraded to a collector street standard with curb, sidewalk, and bike lanes.

- At full build-out, Appleby Drive and Dunedin Road are estimated to carry approximately 800 and 1,100 vehicles per day, respectively, while Renshaw Road and Jersey Lane are each estimated to carry approximately 1,000 vehicles per day.

Traffic on local residential streets will remain at approximately 1,000 vehicles per day or less, which is a desirable limit for local streets. Also, some traffic growth on local streets will be offset by a change in traffic patterns that result from the new connector roads. For example, by Phase 3, traffic currently originating at the top of Appleby Drive and Dunedin Road will be likely to

access Route 1 via Wiljac Street instead of travelling via Rothesay Road. Similarly, in the north planning area, some current traffic on Renshaw Road is likely to divert to the new connector road to Grove Avenue.

A level of service (LOS) traffic analysis was completed for the future Fox Farm Road/Wiljac Street intersection to determine operational conditions and traffic control requirements at full build-out. The analysis indicates that stop control

is satisfactory and traffic signals would not be required.

Full build-out is not anticipated to occur for approximately 40 years based on historical and projected development rates. Within this time, the way people travel is expected to change considerably with the emergence of autonomous vehicles, on-demand ride services, ride sharing and advancements in communications. The impacts of these changes are not captured in the traffic projections.

**Table 5-4:** Estimated Daily Traffic Generated by Each Development Phase

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Total at Full Build-Out
<b>North Planning Area</b>						
Single Family/Townhomes	49	46	107	106	54	363
Apartments	---	---	65	409	---	474
<b>Total Units</b>	<b>49</b>	<b>46</b>	<b>172</b>	<b>515</b>	<b>54</b>	<b>837</b>
<b>Traffic Volume Generated</b>	470	440	1,450	3,700	500	6,560
<b>South Planning Area</b>						
Single Family/Townhomes	29	76	213	76	---	394
New School	---	---	---	200 students	---	200 students
<b>Total Units</b>	<b>29</b>	<b>76</b>	<b>213</b>	<b>76</b>	<b>---</b>	<b>394</b>
<b>Traffic Volume Generated</b>	280	720	2,290	720	---	4,010



**Table 5-5:** Estimated Daily Traffic Generated on Each Street by Phase in North Planning Area

Street	Existing Daily Traffic (veh/day)	End of Phase 1	End of Phase 2	End of Phase 3	At Full Build-Out (40 years)	Total Daily Traffic in 40 years (veh/day)
<b>North Planning Area</b>						
Jersey Lane	25	400	770	820	1,010	1,035
Green Road	450	70	140	120	180	630
Renshaw Road	600	0	0	0	420	1,020
Connector to Grove	50	0	0	1,290	4,950	5,000
<b>Total North Area</b>	<b>---</b>	<b>470</b>	<b>910</b>	<b>2,350</b>	<b>6,560</b>	<b>---</b>

**Table 5-6:** Estimated Daily Traffic Generated on Each Street by Phase in South Planning Area

Street	Existing Daily Traffic (veh/day)	End of Phase 1	End of Phase 2 & 3 (20 years)	At Full Build-Out (40 years)	Total Daily Traffic in 40 years (veh/day)
<b>South Planning Area</b>					
Wiljac Street	400	0	2,460	3,010	3,610
Riverside Drive/Appleby Drive	360	140	410	500	860
Dunedin Road	600	140	410	500	1,100
<b>Total South Area</b>	<b>---</b>	<b>280</b>	<b>3,290</b>	<b>4,010</b>	<b>---</b>

\*Traffic volumes listed for each phase include traffic volumes from previous phases

## Sidewalks and Trails

The North and South Planning Areas have been designed to promote walkability and active living. Key features include the following:

1. The tight grid network of local streets make the neighbourhood permeable for pedestrians and reduces walking distances.
2. The Hillside Trail is maintained in the North Planning Area as a roadside trail adjacent to the future connector road from Grove Avenue to the golf course. The trail will continue past the golf course and then parallel the Wiljac Street extension up to Riverside Drive. This connects the two planning areas and provides access to the future institutional lands (possibly home to a future elementary school) and Renforth Bog wetland, which is identified as a future open space area.
3. Key corridors will be upgraded with improved pedestrian and cyclist facilities, as follows:
  - a. Wiljac Street will be upgraded and the Wiljac Street extension constructed with curb, sidewalk and bike lanes.
  - b. Riverside Drive extension will be constructed with sidewalk or a roadside trail;

- c. Jersey Lane will be upgraded and the Jersey Lane extension constructed with curb, sidewalk, and bike lanes.

## Construction Traffic

The proposed development phasing is intended to limit construction traffic on local streets where no upgrades are planned. In the North Planning Area, all construction traffic will need to route through Jersey Lane, but it is proposed to upgrade Jersey Lane with sidewalk and Jersey Lane serves few residents. For Phase 3 and Phase 4 development, construction traffic will use the new connector road from Grove Avenue.

In the South Planning Area, Phase 1 comprises a relatively small number of residential units and construction traffic on Appleby Drive and Dunedin Road would be of low intensity. Wiljac Street should be upgraded and connected to Fox Farm Road prior to Phase 2 and 3 proceeding. Wiljac Street is on a level grade and the upgrade will make the street better suited for construction traffic than Appleby Drive or Dunedin Road.







Additionally, the rate of development is not expected to generate intense volumes of construction traffic.

## Guiding Principles Addressed:

- Create an interconnected and walkable street system that makes trips as short as possible and provides alternative routes to the same destination
- Design a road network that minimizes and distributes the burden on existing local streets by facilitating a dispersed vehicular traffic flow
- Provide a frequency of intersections that require streets designed for lower average speeds and more frequent stops
- Provide a road network that discourages through traffic and shortcuts for vehicular traffic not originating on or destined for the Hillside



**HILLSIDE SECONDARY PLAN - 2018**  
**Proposed Wiljac St. Connection to Fox Farm Road**

- LEGEND:**
-  PROPERTY LINES
  -  STUDY AREA BOUNDARY
  -  WATER FEATURES
  -  PROVINCIALLY SIGNIFICANT WETLAND
  -  30m WATERCOURSE AND WETLAND BUFFER
  -  PHASING BOUNDARY



UPGRADE WILJAC STREET TO MATCH NEW CROSS-SECTION INCLUDING NEW SIDEWALK

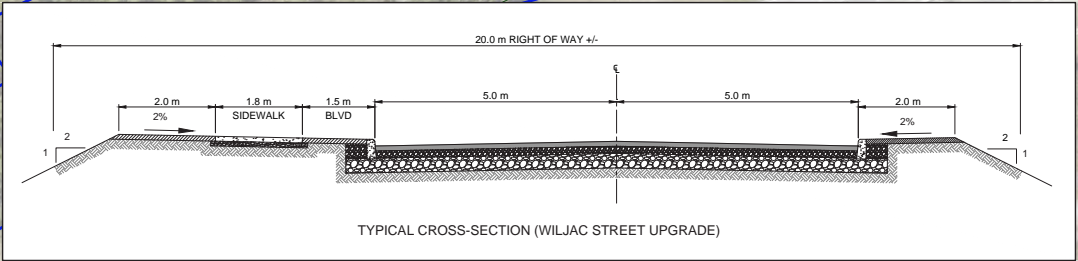
PROVINCIALLY SIGNIFICANT WETLAND

30m WETLAND BUFFER

MCKAY HIGHWAY (ROUTE 1)

WIDEN FOX FARM ROAD TO PROVIDE A LEFT TURN LANE ONTO WILJAC STREET

PROPERTY REQUIRED FOR EXTENSION OF WILJAC STREET TO FOX FARM ROAD



**Wiljac Street Upgrades**

## 5.8 Municipal Services

### North Planning Area

To allow future developments to proceed in the North Planning Area, municipal services including water, sanitary sewer, and storm sewer piping would need to be extended in the Planning Area to a point where developers could connect to these services and extend them as part of their development(s). Based on our proposed phasing, the following would be required by the town of Rothesay to allow development of this area:

### Water Infrastructure

The town of Rothesay desires to have all future developments on the municipal water system as opposed to drilling individual wells. This will require the installation of approximately 800m of

200mm diameter water main pipe down from the Hillside watermain to the upper edge of the Phase 1 area to allow for this phase of development to begin. The increase in peak demand under the concepts we have shown is approximately 30.3 l/s.

### Sanitary Sewer Infrastructure

New sanitary sewer piping is scheduled to be installed on Allison Drive in near future. The town is planning to size this piping to be able to handle the flows from these future developments. This new sewer on Allison Drive would need to be extended through an easement or town ROW to Jersey Lane in order to allow developers to connect to this. Alternately, the sanitary sewer could be extended up Jersey Lane if no easement can be obtained to allow the

Allison Drive sewer to be used. This would allow Phase 1,2, approximately 300m along the Jersey Lane portion of Phase 3, and the extension of Sovereign Lane to Allison Drive in Phase 5 to be developed as a gravity sewer system. The development of the remaining part of Phase 3, all of Phase 4, and all of Street "S" in Phase 5 will require the addition of a sanitary lift station. We propose this lift station be located at the corner of Street "M" and the Grove Connector Road as shown on Drawing "Servicing - North Area". Table 5-7 summarizes the sanitary flows for the North Development Area based on the Land Use as per Table "Housing Mix by Type and Phase". Sewer flows have been calculated as per the Atlantic Canada Wastewater Guidelines 2006.

**Table 5-7: Sanitary Design Flows for North Planning Area**

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Totals
No. of Proposed Dwelling Units	49	46	172	515	54	836
Population Equivalent *	123	115	432	1293	135	2,098
Sanitary Sewer FLOws (Litres/second)	0.48	0.45	1.70	5.09	0.53	8.25
Harmon Peaking Factor	4.22	4.23	4.01	3.73	4.21	---
Estimated Pipe Length (km)	1.06	0.75	1.63	2.00	1.13	6.57
Infiltration Allowance (litres/second)	0.12	0.08	0.18	0.22	0.13	---
<b>Total Peak Design Flows (l/s)</b>	2.16	2.00	6.99	19.17	2.36	32.68
<b>Lift Station Peak Design Flows ** (l/s)</b>	---	---	6.16	19.17	---	25.33

\* Statistics Canada 2016 Census data for Rothesay indicates a population density of 2.5 persons/dwelling unit.

\*\* Lift station flows based on 150 dwelling units for Phase 3 as some units will be on the gravity sewer system.



As can be seen from [Table 5-7](#), the new sanitary sewer piping can be mostly 200mm in diameter without any capacity concerns. The only capacity concerns that are apparent at this time would be for the pipe on Jersey Lane downstream of where the forcemain connects from the future lift station. Future peak flows have been calculated as 30.3 l/s which is essentially the peak capacity for a 200mm pipe at a minimum grade of 0.4%. The variable in this equation is the actual pumping rate from the lift station based on the pump selection. In order to ensure proper capacity in the downstream sewer, the piping on Jersey Lane and Allison Drive from the intersection with the Grove Connector Road should be set at a minimum slope of 1.0% in order to accommodate peak design flows and lift station pumping rates. If this slope cannot be achieved then the pipe size should be increased to 250mm diameter.

### **Storm Sewer Infrastructure**

There are three locations to where storm water runoff can be directed within this area: A new storm sewer extension on Jersey Lane or Allison Drive as discussed on the Sanitary Sewer section, Fairweather Brook, and Taylors Brook. In order to meet net zero storm water increase best design practices, and because the area is undeveloped, there will be a need for some manner of storm water detention as part of these developments. This could be achieved through a detention pond located near the point of discharge, or an enclosed underground detention system located within the right of way. Other options can be explored as well, such as engineered wetlands with ornamental plantings and walking trails which may be considered as land for public purposes. The size of storm water detention infrastructure is expected to be more significant for Phase 4 of this development due to the higher density development which will create more impermeable surfaces. Because of the existing topography, Phases 1 and 2 of development will need to connect to a potential storm sewer extension on Jersey Lane or Allison Drive. One concern is the size and capacity of the existing storm sewer piping on Jersey Lane and Rothesay Road is not known at this time and therefore a hydraulic analysis of the receiving sewers will need to be completed in order to verify the extent of pre- development work

required for Phases 1 and 2. Phases 3, 4, and 5 storm water will be directed east towards the new access road to Grove Avenue. Storm water flows can be discharged into Fairweather Brook, or to Taylors Brook depending on environmental approvals and discharge amounts. Development of any detention infrastructure at this location will likely require at minimum a WAWA permit, and close coordination with the Department of Environment and Local Government to assure that all requirements for quality of discharged storm water are met.







## South Planning Area

Development in the South Planning Area can begin by extending Dunedin Drive and Appleby Drive just past Higginson Avenue. For Phase 2 to proceed, an upgrade and extension of Wiljac Street will be required as discussed under the Transportation section. This will include the connection of this street directly to Fox Farm Road. This will require the acquisition of PIDs 00236562 and 30164172 and the removal of the existing buildings, foundations, and landscaping on these properties. The Town could also consider extending the sanitary sewer through these properties and connecting to the sanitary sewer

on Fox Farm Road. This would allow the Town to abandon the existing sewer and easements through PIDs 30207245, 30207237, 30207229, and 30110456.

### Water Infrastructure

The town of Rothesay desires to have all future development on the municipal water system as opposed to drilling individual wells. Phase 1 development will not require any additional water main work by the Town, however future phases will require the installation of new water on the extension of Wiljac Street to bring water piping to the existing end of Wiljac Street. The Town would also have the option of installing

water main on Wiljac Street as part of the upgrades which would then allow a loop to be formed by a future water main installation up Fox Farm Road. The increase in peak demand under the concepts we have shown is approximately 20.0 l/s.

### Sanitary Sewer Infrastructure

New sanitary sewer infrastructure would be installed by the developer and be connected to the existing sewer system on Wiljac Street, Appleby Drive and Dunedin Road. We have calculated the current peak flows in this sewer to be approximately 3.1 l/s. Phase 1 of this development area will be connected to

the existing sanitary sewers on Appleby Drive and Dunedin Road. There are no capacity concerns with this phase of the development for the existing sanitary sewers.

The development of Phases 2 and 4 will increase the flows in the sewer as per the Table below. The development of Phase 3 will require the addition of a sanitary lift station to be located on Wiljac Street approximately 100m north of the intersection with Riverside Drive as shown on page 53. The Table below summarizes the sanitary flows for the South Development Area based on the Land Use as per page 51. Sewer

**Table 5-8:** Design Flows for South Planning Area

	Phase 1	Phase 2	Phase 3	Phase 4	Totals
No. of Proposed Dwelling Units	29	76	213	76	394
Potential New School (# of students)	---	---	200	000	200
Population Equivalent *	73	190	533	190	986
Sanitary Sewer Flows (litres/second)	0.29	0.75	2.10 0.63	0.75	4.52
Harmon Peaking Factor	4.27	4.16	3.96 1.5	4.16	---
Estimated Pipe Length (km)	1.040	1.245	1.490	1.485	5.26
Infiltration Allowance (litres/second)	0.12	0.14	0.17	0.17	---
<b>Total Peak Design Flows (l/s)</b>	1.36	3.26	9.43	3.29	17.34
<b>Lift Station Peak Design Flows ** (l/s)</b>	---	---	---	11.4	11.4

\* Statistics Canada 2016 Census data for Rothesay indicates a population density of 2.5 persons/dwelling unit.

flows have been calculated as per the Atlantic Canada Wastewater Guidelines 2006.

As can be seen from the table on the previous page, the new sanitary sewer piping can be 200mm in diameter without any capacity concerns. The new sewer pipe on Wiljac Street will see the highest peak flows of approximately 17.9 l/s including flows from the lift station. This will mean peak flows at the end of Wiljac Street at the intersection with Neil Street could be approximately 21 l/s when the station is operating.

As can be seen from the table on the previous page, the new sanitary sewer piping can be 200mm in diameter without any capacity concerns. The new sewer pipe on Wiljac Street will see the highest peak flows of approximately 17.9 l/s including flows from the lift station. This will mean peak flows at the end of Wiljac Street at the intersection with Neil Street could be approximately 21 l/s when the station is operating.

#### **Storm Sewer Infrastructure**

Proper storm water management is an increasing challenge as storm intensity and frequency are increasing. Given that the existing property is undeveloped, there will be a need for stormwater detention as part of these developments to meet net zero increase storm water management best practices.

Stormwater can be directed to the existing provincially significant wetland area known as Renforth Bog to the southeast of this development for Phases 2, 3, and 4. This may require more intensive analysis as the receiving waters of the Renforth Bog appear to drain south towards the City of Saint John, and ultimately are conveyed to the Bay of Fundy via Marsh Creek, which is well known for frequent flooding during significant rainfall events. The ability of the natural watercourses and wetlands to attenuate these additional flows will need to be demonstrated. Phase 1 storm water will need to be directed to the storm sewers on Appleby Drive and Dunedin Road similarly to the sanitary sewer piping. The size and capacity of the existing storm sewers is unknown at this time and this would need to be carefully reviewed before allowing this phase of the development to proceed. It is likely that pre-development work will be required to apply the necessary capacity upgrades to these receiving sewers. Conversely, an underground detention structure to restrict additional flows to a manageable degree could be considered as an alternative to immediate upgrades to the downstream storm sewer capacity.

#### **Guiding Principles Addressed:**

- ☑ Develop infrastructure with optimal capital and maintenance cost impacts
- ☑ Design stormwater system that eliminates new runoff into existing neighbourhoods
- ☑ Avoid excessive grading that may impact water quality for homeowners on wells
- ☑ Reduce runoff volume and maintain or improve water quality by replicating the natural hydrology and water balance of the site



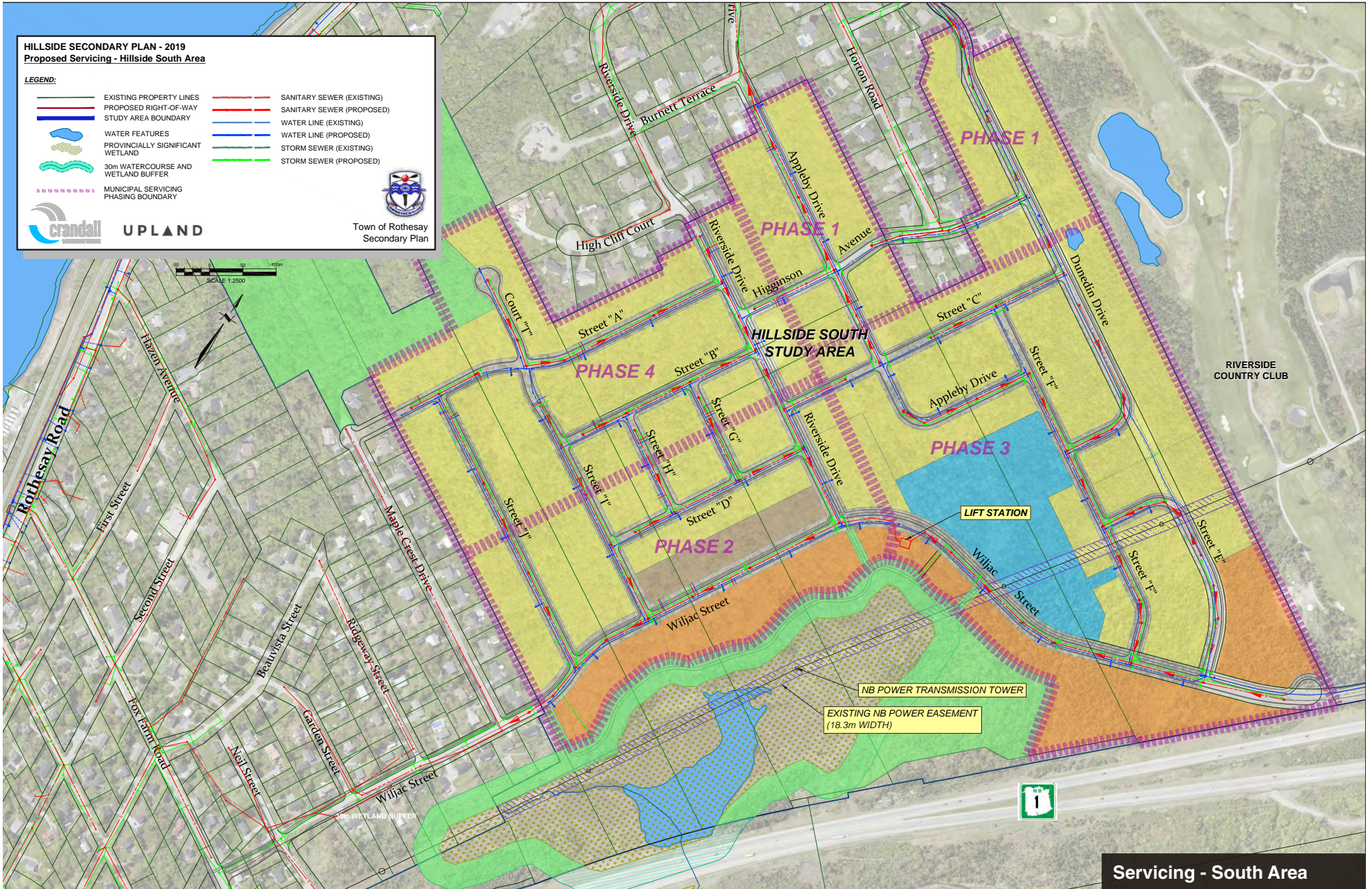
**HILLSIDE SECONDARY PLAN - 2019**  
**Proposed Servicing - Hillside South Area**

**LEGEND:**

- |   |   |
|---|---|
|  EXISTING PROPERTY LINES              |  SANITARY SEWER (EXISTING) |
|  PROPOSED RIGHT-OF-WAY                |  SANITARY SEWER (PROPOSED) |
|  STUDY AREA BOUNDARY                  |  WATER LINE (EXISTING)     |
|  WATER FEATURES                       |  WATER LINE (PROPOSED)     |
|  PROVINCIAL SIGNIFICANT WETLAND       |  STORM SEWER (EXISTING)    |
|  30m WATERCOURSE AND WETLAND BUFFER   |  STORM SEWER (PROPOSED)    |
|  MUNICIPAL SERVICING PHASING BOUNDARY |   |



Town of Rothesay  
 Secondary Plan



**Servicing - South Area**



## 5.9 Phasing

A phasing strategy was developed considering transportation and construction access, infrastructure and servicing requirements, and cost recovery. As described below, each planning area is proposed to be built out over four to five

phases; however, the planning areas do not need to proceed concurrently and can be developed at their own rate. There is also flexibility in modifying phase limits as development proceeds based on property boundaries and spe-

cific development proposals. Finally, the phases are not necessarily sequential and can advance concurrently if conditions support it.

**Table 5-9:** Phasing Strategy for North Planning Area

	Description	Phasing Rationale	Infrastructure Required	Estimated Buildout
<b>Phase 1</b>	<ul style="list-style-type: none"> <li>Located at the end of Jersey Lane</li> <li>7.2 ha</li> <li>49 single family homes</li> </ul>	Jersey Lane can be upgraded to accommodate development traffic from up to 100 single family homes. Gravity services can be installed down Jersey to tie into Rothesay Road.	Upgrade and extension of Jersey Lane (300m total) with new curb and sidewalk, storm, and sanitary. Extend new watermain 800m from existing Hillside watermain.	5 years (2025)
<b>Phase 2</b>	<ul style="list-style-type: none"> <li>Located east of Phase 1 of a further extension of Jersey Lane</li> <li>8.8 ha</li> <li>46 single family homes</li> <li>Includes protection of 2 ha Spyglass Hill open space</li> </ul>	As an extension of Phase 1, all traffic and servicing can be accommodated via Jersey Lane. Phase 1 and 2 provide a variety of single-family home options in an attractive landscape nestled below Spyglass Hill.	None. All infrastructure by developers.	5 years (2030)
<b>Phase 3</b>	<ul style="list-style-type: none"> <li>Located between Phase 2 and Route 1</li> <li>19.8 ha</li> <li>67 single family homes</li> <li>40 semi-detached/townhomes</li> <li>65 Apartment/Condo units</li> <li>Includes protection of 4.1 ha Spyglass Hill open space</li> </ul>	This area is deferred to Phase 3 due to the need for transportation access via the new connector road to Grove Avenue. Higher density housing is introduced in this phase as higher traffic volumes can be served by the connector road. This phase could be advanced sooner subject to the need for higher density housing and availability of funding for upfront infrastructure.	Connector Road to Grove Avenue Lift Station	10 years (2040)
<b>Phase 4</b>	<ul style="list-style-type: none"> <li>Located between Phase 2 and Route 1</li> <li>18.3 ha</li> <li>25 single family homes</li> <li>81 semi-detached/townhomes</li> <li>409 Apartment/Condo units</li> </ul>	Phase 4 contains the highest number of dwelling units and therefore will likely require the longest buildout period.	None. All infrastructure by developers.	20 years (2060)



**HILLSIDE SECONDARY PLAN - 2019**  
**Concept with Connection to Fox Farm Road**

- LEGEND:**
- EXISTING PROPERTY LINES
  - PROPOSED RIGHT-OF-WAY
  - STUDY AREA BOUNDARY
  - WATER FEATURES
  - PROVINCIALY SIGNIFICANT WETLAND
  - 30m WATERCOURSE AND WETLAND BUFFER
  - MUNICIPAL SERVICING PHASING BOUNDARY
  - RESIDENTIAL - SINGLE FAMILY
  - RESIDENTIAL - SEMI-DETACHED
  - RESIDENTIAL - TOWNHOUSE
  - RESIDENTIAL - APARTMENT
  - LAND FOR PUBLIC PURPOSES
  - INSTITUTIONAL
  - UNDEVELOPED

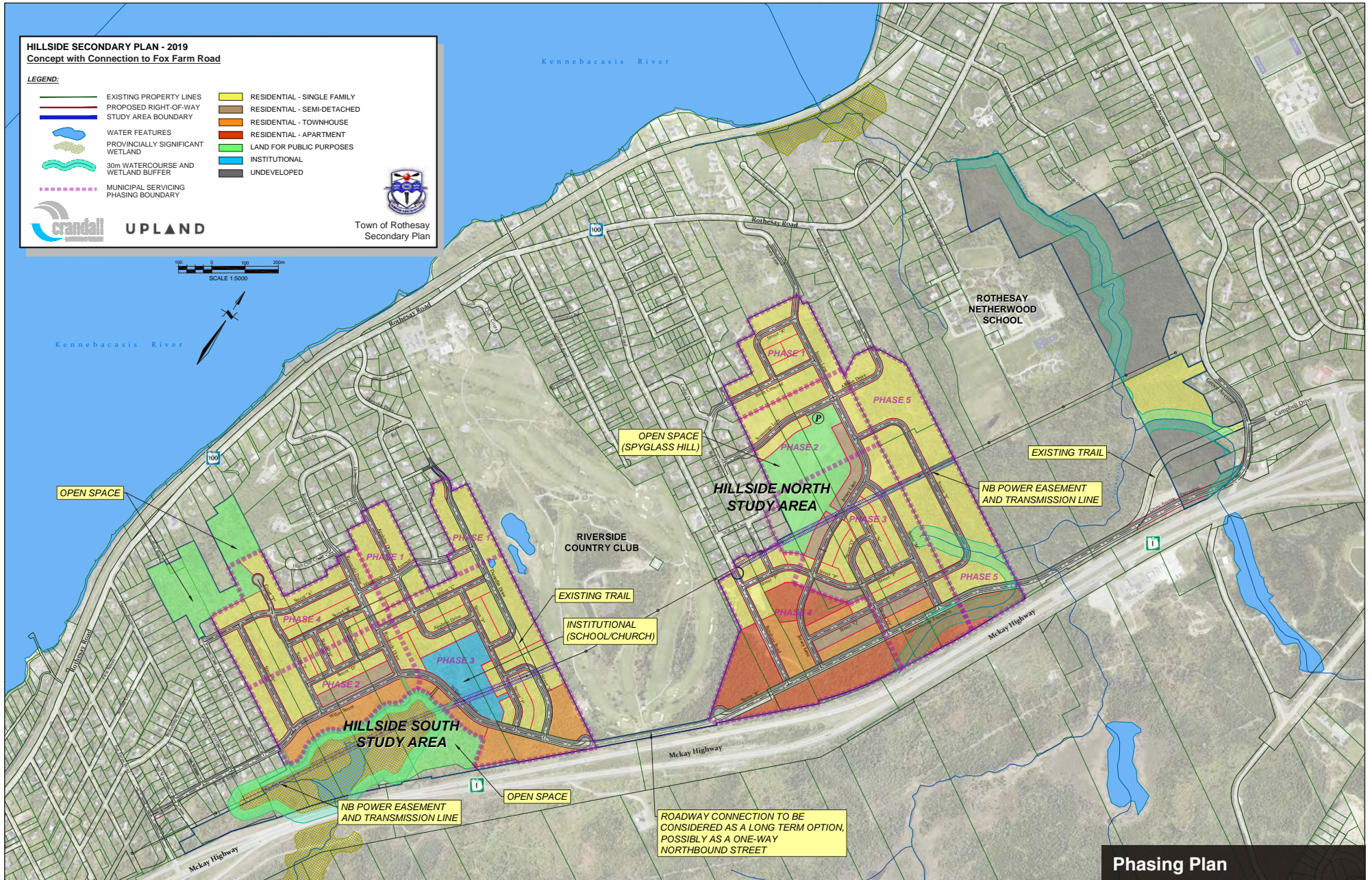


**UPLAND**



Town of Rothesay  
 Secondary Plan

SCALE 1:5000



**Phasing Plan**



**Table 5-10: Phasing Strategy for South Planning Area**

Description	Phasing Rationale	Infrastructure Required by Town	Estimated Buildout
<p><b>Phase 1</b></p> <ul style="list-style-type: none"> <li>• Located at the end of Dunedin Road</li> <li>• 7.5 ha</li> <li>• 29 single family homes</li> </ul>	<p>These lands are developable without extension of services. Although initially the only traffic access would be via Dunedin Road and Appleby Drive, 29 single family homes generate low traffic volumes that are not expected to cause operational or safety issues on these streets.</p>	<p>None. All infrastructure by developers.</p>	<p>5 years (2025)</p>
<p><b>Phase 2</b></p> <ul style="list-style-type: none"> <li>• Located at the end of Wiljac Street</li> <li>• 11.2 ha</li> <li>• 44 single family homes</li> <li>• 32 semi-detached/ townhomes</li> </ul>	<p>Wiljac Street can be upgraded and extended to Fox Farm Road to accommodate development and construction traffic. Due to the straight and flat alignment, Wiljac Street is a preferred route to upgrade for development access versus Appleby Drive or Dunedin Road. It is envisioned that Wiljac Street could be extended the entire length to the Golf Course and Phase 2 and 3 would then extend concurrently toward the river according to developer interest. The initial stages of Phase 2 could begin concurrently with Phase 1.</p>	<p>Upgrade and extension of Wiljac Street (430m total) with new curb and sidewalk and storm sewer. The extension to Fox Farm Road will require the acquisition of two residential properties. At this time it is not anticipated that the upgrading of existing Wiljac Street will require additional right-of-way.</p>	<p>20 years (2040)</p>
<p><b>Phase 3</b></p> <ul style="list-style-type: none"> <li>• Located between Phase 2 and Route 1</li> <li>• 11.0 ha</li> <li>• 74 single family homes</li> </ul>	<p>This phase includes a variety of housing options, including higher density townhomes and semi-detached dwellings for stronger initial tax base to recover cost of infrastructure.</p> <p>Institutional lands are reserved in the event a new elementary school is needed to serve the growing community.</p>	<p>A 360m long water main from existing Hillside Water Main would be required if development begins in Phase 2 prior to the completion of the Wiljac Street extension.</p>	
<p><b>Phase 4</b></p> <ul style="list-style-type: none"> <li>• Located between Phase 2 and Riverside Drive</li> <li>• 12.3 ha</li> <li>• 76 single family homes</li> </ul>	<p>Phase 4 consists of a variety of single-family housing options. Connections will eventually be made to Riverside Drive, Appleby Drive, and Dunedin Road, but traffic increases on these streets will be managed by the main transportation access via the upgraded Wiljac Street.</p>	<p>None. All infrastructure by developers.</p>	<p>10-15 years (2040-2055)</p>



## 5.10 Financial Model

A basic financial model was developed to demonstrate the cumulative return on investment to the Town from the development of the planning areas while considering upfront capital expenditures. The model is based on the following input:

- 20-year analysis period;
- Capital expenditures by the Town per Table 5-11. It is assumed expenditures are made from the town's capital budget and no financing costs or outside funding sources are included;
- Increase in town operations and maintenance cost of \$2,700 per lane km of new roads;
- Average build-out rate of 10-15 residential units per year in each planning area;
- Average property assessment value of \$275,000;
- Tax rate of \$1.24 per \$100 assessed value.
- For simplicity, the model does not

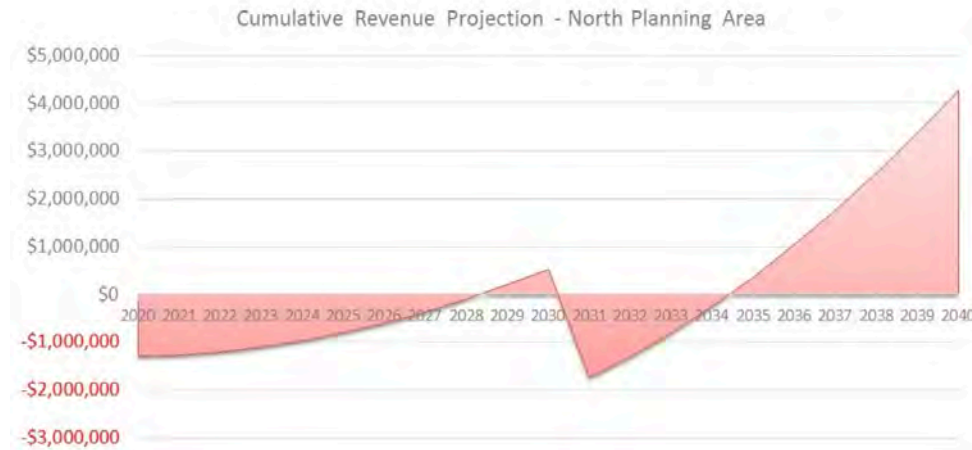
include inflation of costs or revenues over the 20-year period.

Note that the cost of acquiring right-of-way is not included in the model.

**Table 5-11:** Capital Expenditure

Capital Expenditure	Timing	Cost (incl. HST)
<b>North Planning Area</b>		
Jersey Lane Upgrade and Extension to Phase 1 Boundary	Prior to Phase 1	\$0.900 million
Watermain Extension from Existing Hillside Watermain	Prior to Phase 1	\$0.400 million
Grove Connector Road	Prior to Phase 3	\$2.669 million
Lift Station	Prior to Phase 3	\$0.300 million
Total North Planning Area Investment		<b>\$4.269 million</b>
<b>South Planning Area</b>		
Wiljac Street Upgrade and Extension to Fox Farm Road	Prior to Phase 2	\$1.496 million
Watermain Extension	Prior to Phase 2	\$0.827 million
Wiljac Street Extension to the Golf Course	Early Phase 2 and 3	\$2.500 million
Lift Station	Prior to Phase 4	\$0.300 million
Total South Planning Area Investment		<b>\$5.123 million</b>

## 20-Year Cumulative Revenue Projection of Planning Areas



The cumulative revenue projections for the North and South Planning Areas are shown in these figures. The financial model demonstrates the following:

- For the North Planning Area, breakeven occurs for Phase 1 and 2 development in Year 8, following the initial investment in the Jersey Lane upgrade and water main extension. In Year 11, cumulative revenues drop below zero again due to the construction of the Grove Connector Road, but rebound to a positive position again by Year 15.
- For the South Planning Area, breakeven occurs in Year 13, following the initial investments in the Wiljac Street upgrade, Wiljac Street extension, and watermain extension. Cumulative revenues remain positive after Year 13 given that the majority of remaining infrastructure costs will be borne by developers.

The above analysis considers a scenario with a large initial project for the South Planning Area that would involve extending Wiljac Street to the Golf Course (1,000m). This would provide access to a larger development area and to more property owners, potentially accelerating the development potential. It is estimated that this would \$2.5 million in the initial capital expenditure. A development charge could be considered to assist in recouping a portion of this additional initial cost.

### Guiding Principles Addressed:

- Devise a development framework that enables growth over time and can respond to market demand
- Develop a phasing plan that will make development practical and infrastructure investment logical
- Balance the community's desire to protect open space with concerns about potential tax rate increases



## 5.11 Implementation

### Current Planning Policy

By and large, The Hillside Secondary Plan is consistent with Rothesay's Municipal Plan and Land Use By-Law. However, some amendments would more prescriptively encourage and enable the development of grouped housing or pocket neighbourhoods.

Currently the Municipal Plan states that: " A more sustainable development pattern will be achieved if new development uses land more efficiently by reducing lot sizes and clustering housing units where such housing can be developed without impinging excessively on existing neighbourhoods. This form of development is becoming increasingly popular in areas where citizens no longer desire the burden of large property and large house maintenance."

This intent is further referenced in Policy 5.2.3 (h) which states that "In any residential designation in this Plan, Council, through a specific agreement under section 39 of the Community Planning Act, will consider approving innovative development that does not meet the standards set out in the Zoning By-law where such development can be shown to meet the general intent of this Plan [...]."

### Proposed Planning Policy

Section 5.1. General Residential Development Context should include a statement on housing diversity such as:

*"The housing stock in Rothesay is primarily single-detached dwellings. With recent trends of shrinking household sizes and an aging population, Council recognizes there may be some market demand for more diversity in the types of housing available to Rothesay's residents. While the single-detached dwelling will likely continue to be the housing choice for many of Rothesay's residents, Council wishes to ensure options are available for all tastes and stages of life."*

Policy 5.2.3 should be amended to include a statement such as:

*"Council shall, through the policies of this Plan and through the Land Use By-law, enable diversity in the form, scale, and location of housing that is permitted in the Municipality."*

Accordingly, Section 2.9 Definitions of the Rothesay Zoning By-law should include a definition for grouped housing such as:

*"DWELLING, GROUPED means three or more dwellings, not including accessory dwellings, located on a single lot."*

The Land Use By-law could then simply allow grouped dwellings in specific zones without necessitating a particular zone for grouped dwellings. Above a certain number of dwellings a requirement for a site plan approval or development agreement process should be included.

### Acquisition of Spyglass Hill

The public consultations for this project have made clear that Rothesay residents value the recreational opportunities currently provided by the vacant land in the Hillside area; in particular, the lands on Spyglass Hill overlooking the river. This Secondary Plan proposes that 15 to 18 acres could ensure this recreational amenity is preserved as the Hillside secondary planning area develops. The approach to developing a public park on Spyglass Hill will be somewhat dependent on the level of cooperation from the current landowner, as discussed below in two scenarios.

#### Cooperative Landowner

The current owner of the Spyglass Hill lands owns approximately 85 acres of land in the immediate area. The creation of a public park would mean a loss of developable land; however, the landowner may recognize the value that a high quality park would bring to their remaining lands and be cooperative in the park's development. In this situation, acquisition of the park lands would best be achieved through two means:

- Land for Public Purposes - The Town of Rothesay's Subdivision Bylaw currently requires land owners who are subdividing land to dedicate 10 percent of the land area (minus public roads) for public purposes. Assuming 25 percent of land as public roads, the landowner's contribution would provide a maximum of around 6 acres of public land. The Community Planning Act permits lands dedicated in excess of the 10 percent requirement to be used as credit for future subdivisions in the immediate area. In other words, if the landowner subdivides in phases they could still provide the entire park dedication up front and use it as a selling point for future phases.
- Purchase - The remainder of the lands would need to be donated or purchased. As a park that could be reasonably considered a Town-wide amenity, funding could reasonably be drawn from general budget funds. However, if Council desired to link funding for the park more directly to the immediate area it could do so through cash-in-lieu from the development of the Hillside area. The Subdivision Bylaw permits Council to require cash for recreation development purposes instead (in lieu) of taking a land dedication. This contribution is set at 8 percent of the market value

of the land in the proposed subdivision (excluding public roads). Council has currently set market value at \$13.50 per square metre of land.

At the current rate, the remainder of the Hillside North lands could provide cash-in-lieu of approximately \$600,000, while the Hillside South lands could provide up to another \$600,000. However, spending this money on land acquisition must be balanced with the need to spend money to actually develop the park, and the need for public spaces elsewhere in the Hillside secondary planning area.

#### *Uncooperative Landowner*

An uncooperative landowner could make the acquisition of Spyglass Hill more challenging. Council could still get the 6 acres through the land dedication process, but purchasing the remainder of the proposed park could become difficult. In this situation Council has two tools:

- Zoning - The risk of a drawn out negotiation process is that the landowner could develop the Spyglass Hill lands and eliminate the possibility of a park. Council could, through this secondary planning process, designate and zone these lands for recreation purposes. While this would not immediately mean

that the Town owned the land and could develop the park, it would prevent the development of the land as residential homes and would provide some time for Council and the landowner to come to a suitable agreement.

- Expropriation - The Municipalities Act gives Council the power to expropriate land for public purposes. However, the expropriation process can be complicated and drawn-out, and is likely a last resort. Through the expropriation process, Council and the landowner are still expected to come to an agreement on price for the land. If those negotiations fail, the Expropriation Act gives the Courts the power to set compensation based on the market value of the land.



# Appendices

A - Open House Comments by Theme

B - Survey Form

C - Land Use Area Calculations

D - Financial Model

## A - Open House Comments by Theme

### Land Use

1. Keep Spyglass Hill area - recreational.
2. The area from Allison Drive to Spyglass is a jewel. It should be preserved. No development!
3. Please reserve as much open space as possible. Lung room!
4. Please keep Spyglass/green space as is.
5. Keep Spyglass.
6. Keep green space as is.
7. Keep Spyglass Hill!
8. Spyglass Hill "original location".
9. There are many houses for sale in Rothesay. Why do we need to build more? Leave the space green please.
10. Need more green space not houses.
11. Please reserve as much open space as possible. Lung room!
12. Please do not use Wiljac Street.
13. Do not use Allison Drive.
14. Please do not use Allison Drive.
15. Leave the green space for the wildlife. Do not use Wiljac Street!
16. Arrange for a public wild green space (aka Rockwood Park). Try getting it donated to NB Nature Trust so owners save taxes.
17. Buy and donate the land to the nature conservancy. Leave it green please.
18. Keep green space.
19. Keep green space.
20. Town should purchase Spyglass Hill and turn into a park.
21. Keep green space for water filters and enjoyment of nature.
22. Develop other side of Fox Farm.
23. Keep Allison Drive Study Area green and trails. Develop a trust. Have volunteers maintain the trails. Develop Dunedin Study Area.
24. Keep green space.
25. Save Spyglass Hill.
26. Save Spyglass Hill
27. Keep as much green space as possible.
28. Do not develop on this green space please.
29. Town of Rothesay please purchase land and keep as much green space!
30. We need to keep as much green space as possible.
31. Keep entire area as Park land and give tax incentive to property owners.
32. We need the nature! We should give tax to the property owners for sale!
33. We have a wonderful green space that should be maintained for future generations.
34. Keep as much green space as possible.
35. Allison Drive Study area could be kept green, accessed from Hillside Park Road (need parking lot there) develop small part of Dunedin study area.
36. Existing green space and informal/formal network of trails should be maintained and expanded.
37. Protect the Hillside trail, Spyglass Hill and Taylor's Brook.
38. Keep Spyglass Hill and as much green as possible. Rothesay now has no nature at all.
39. Spyglass Hill land below. Please keep green for recreation site.
40. Nature Reserve.
41. Keep green space. Minimize development.
42. Town should purchase significant land for green space and unstructured recreation.
43. New development requires minimum green space.
44. Keep this area for parkland for the greater Saint John area. Look to the future.
45. Keep it as green space.
46. When it's developed make sure there is plenty of large green areas or pockets. Two ways out of dead end streets is good.
47. Keep green space.
48. Undeveloped green space and trails are very important!
49. Leave 50% natural wooded parkland
50. Please leave as green space. So environmentally diverse. Amazing natural beauty for generations to come!
51. Awesome green space! We should pay for the tax to the owners.
52. Keep as green space.
53. Green space is not replaceable.
54. Undeveloped green space.
55. Keep as s with more groomed trails.
56. Green space is what makes Rothesay what it is. If you develop all this will become Saint John.
57. We need "lung" space. Do not over develop!
58. Keep green - form a trust and active volunteer system to encourage pride. Sustainability.
59. Spyglass Hill was a large factor in why we moved to the area. We appreciate the green space.
60. Green spaces in Rothesay is part of the reason we live here!
61. Don't develop. Keep as park land and give tax incentive to property owners.
62. Keep as undeveloped land.
63. No development.
64. Please do not develop on the land. Leave it as green space.
65. Why do you want to develop the green space? We might as well move back to Saint John.



66. Leave at least 50% as natural wooded park land.
67. Spyglass hill & trail systems are one of the true gems of Rothesay -Please keep!
68. Keep Allison Study area green. Turn water road (Hillside Park) into access road (if absolutely necessary). Develop parks of Dunedin study area to small garden homes.
69. Leave this space green. Keep Rothesay beautiful and peaceful.
70. Prefer all green space. If developed, need to maintain some trail access and incorporate active transportation.
71. Leave at least 50% as wooded parkland.
72. If developed please leave natural area, or places to enjoy the woods etc. There has to be a buffer.
73. This green space is a treasure. Young families need lots of green space.
74. Leave it as green space.
75. No I would not like to see development on Hillside.
76. Leave it as recreational/green space.
77. Leave it green! Plenty of single family dwellings already.
78. Have recreational green space.
6. Agree if no connection between Grove and development (local roads only).
7. Please do not make all this into a road.
8. Leave Renshaw as it is - No upgrades to make it a collector road.
9. Do not use Allison Drive as access road!
10. Do not use Allison Drive as an access road!
11. Please no more increase of traffic on Dunedin/Horton.
12. Dunedin & Appleby can not take additional traffic! Dangerous roads.
13. Do not use Allison Drive as as access road.
14. Build connector road before any development.
15. Dunedin and Appleby are roads that are not to code - dangerous curves. No more traffic.
16. I do not want Renshaw used. Traffic is already too fast and dangerous.
17. Do not use Renshaw as access road.
18. Please do not use Allison for more traffic.
19. Do not connect Dunedin; leave wooded buffer between Dunedin and any new development.
20. Any development should ultimately see traffic go to access road by highway.
21. No access on Renshaw Road.
22. Go for Renshaw Access Road - good luck!
23. Do not use Dunedin as an access road - too much traffic now!
24. MacKay highway proposal for IG - house projects needs own sewage system and access road!
25. Do not use Dunedin as access road.
26. Do not use Dunedin as access road.
27. No additional traffic on existing street in Renshaw.
28. Build an on-ramp central to the development facing Saint John highway access.
29. Collector Road onto Wiljac is a bad idea . Trying to modify an old subdivision to suit the increase traffic is not fair or feasible.
30. Support developing active transportation routes to Hillside Trail.
31. Existing roads don't support change. Dangerous at best!
32. Why were the fire hydrants already put along this 3km path? This could be a bike path to Saint John - not a housing development.
33. Create parking area and winter skating and pond to play hockey on wetland. Also create walking trails.
34. Many walking trails would be eliminated.
35. Build a walking trail along the tracks.
36. Keep the Hillside Trail as a walking path!
37. Green road, Renshaw Road - No access - too many children.
38. Please no access on Renshaw Road.
39. Please not Allison Drive as an access road.
40. Green space for hiking and biking (non-motorized).
41. Leave Maiden Lane a private owned dead end.
42. Keep as s with more groomed trails.
43. No more heavy trucks constantly running up Renshaw - we have had it for 15 years!
44. Don't add anymore traffic to Maiden Lane.
45. Spyglass hill & trail systems are one of the true gems of Rothesay -Please keep!
46. Keep Allison Study area green. Turn water road (Hillside Park) into access road (if absolutely necessary). Develop parks of Dunedin study area to small garden homes.
47. Top of Renshaw should be a connection trail to water line trail.
48. Do not make Wiljac a through fare.
49. Prefer all green space. If developed, need to

## Transportation

1. Dunedin & Allison cannot accommodate additional traffic - too narrow.
2. Too much traffic on the Rothesay Road now.
3. Dunedin Road - How will traffic access McKay Highway and where?
4. Local roads "as-is" already inadequate for Dunedin Study Area. Connection to Arterial required before further development.
5. Entrance to highway here going to Town only (right in, right out).

maintain some trail access and incorporate active transportation.

50. Dunedin cannot accommodate more traffic.
51. Keep Hillside Trail exactly as it is..a walking trail.
52. Do not connect Dunedin and Applyby to any new developments.
53. Develop a path around the wetland and pond area.
54. Walking trails and green space is fantastic.
55. More groomed walking trails.
56. Keep hillside trail exactly as it is..a walking trail.
57. Wiljac, Neil, Beauista Street are not wide enough to accept more traffic for more homes.
58. Keep hillside trail exactly as it is.
59. Wiljac cannot handle more traffic!
60. Dunedin cannot support more traffic - road is too dangerous.
61. Nice green space. Build trails.

## Housing

1. If any residential development allowed - it should fit the demographic. No more single family residences. Preference is green space.
2. Diversity of housing needs to be offered.
3. Seniors housing allows for independent living of like minded people. No more than 10.
4. Higher density housing.
5. Affordable seniors housing & care.
6. Adding more housing in a flat market devalues existing housing stock. We need to plan for a steady state.
7. Seniors neighborhoods should not be encouraged. They are boring and depressing. Rothesay's character is due to the different

style of homes. Modern developers to build similar looking homes.

8. Rothesay needs smaller homes on smaller lots to provide options for seniors and those with disabilities. Developers should be encouraged to build a few home with universal design principles so houses can adapt to their owner's needs as they change. One visit to a nursing home might convince residents of the town to accept these small accessible homes.
9. Retirement complexes; wheelchair accessible, etc.
10. Question should be is this development needed and we have zero growth. More housing is not needed and devalues existing properties.
11. High density housing is an eye sore and does not fit the beautiful homes at Rothesay.
12. Single family traditional lot. 200 to 300k homes.
13. Existing lot size should be maintained.
14. There is a surplus of high end single family homes on the market already, which will only increase as the older generation down sizes and the next generation cannot afford the home. Do not build more.
15. The varied habitats close to the more intense housing with lack of large back yards provides a great get-away.
16. What I would not like to see is increase habitation.
17. Smaller, smarter housing - more green space than not.

## Servicing

1. Sewer system issue on Horton Road.
2. MacKay highway proposal for IG - house

projects needs own sewage system and access road!

3. Can current town infrastructure (water & sewer) handle the increase load? Who pays for this?
4. Development should not have adverse effects on existing residents. Example: cause flooding, sewer backup, effect wells.

## Environment

1. Sustainable green space is essential for a healthy community.
2. Hydrology at top of Dunedin & Higginson study required!
3. Mother Earth needs room to replenish life as we know it.
4. I have enough displaced deer in my yard now.
5. Please consider water table. (for those on wells for water) with development.
6. Please consider we are on wells.
7. Please consider we are on wells.
8. Leave 50% natural wooded parkland
9. You are going to destroy a wonderful ecosystem for what? \$\$
10. Don't touch the wetland (duck pond) area.
11. Bog is filter for those of us on wells. How will this affect us?!
12. Need buffer for Renforth Bog.
13. Develop a path around the wetland and pond area.
14. What about our water wells?!
15. Do not build where gradients are steep.

## Cost

1. Who pays for the new infrastructure? The developers or the tax payers?
2. Can current town infrastructure (water &

sewer) handle the increase load? Who pays for this?

3. Why pay for the downstream upgrades required to support the development. It should be developers.

## Other

1. Developers must post bond guarantee loss or compromise of wells will be compensated.
2. Green Hill.
3. Let's be wise about extending infrastructure.
4. Why were the fire hydrants already put along this 3km path? This could be a bike path to Saint John - not a housing development.
5. So why do you want to develop it?
6. More housing - is the population not decreasing - lots of empty houses in the future. Water run off from developed areas is expensive to deal with. Do not destroy my well water. Grow the town big and expensive to keep up and live in.
7. Create parking area and winter skating and pond to play hockey on wetland. Also create walking trails.
8. Water run off concerns Dunedin/Horton/Appleby.
9. Keep forested for water run off control.
10. RNS - Property goes all the way to MacKay Highway.
11. Do we want to be like Saint John? Need to cry about needing money to pay for infrastructure. Build it and they will come - but the EARTH needs space to replenish.
12. How will run off be controlled for homes below development on Rothesay Road?
13. Go away and leave us alone!
14. You may never recover green space. Encourage people to live in Saint John.



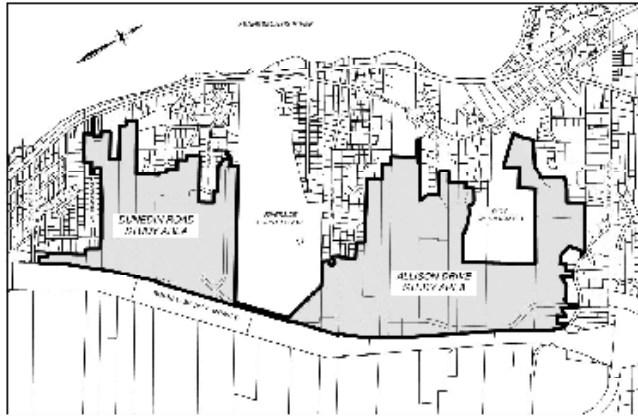
- 
15. If it ain't broke, why fix it?
  16. Go away and leave us alone!
  17. Go away and leave us alone!
  18. Why has the decision been made to develop already?!
  19. Why are you showing these?
  20. Why are we picking houses before we decide zoning? Cart before horse!
  21. Currently used at least once a week.
  22. Protect it!
  23. All this green space at the top of the hill acts as a giant sponge holding all the water from running into the basements of all the houses down the hill.



## Hillside Secondary Plan Public Open House Questionnaire

In 2010, Rothesay Council enacted the current Municipal Plan, enabling the Town to look at "The Hillside" area in a comprehensive manner by preparing a Secondary Plan. The purpose of the Hillside Secondary Plan is to establish local development plans and policies to guide long term growth, considering housing needs, transportation networks, public spaces and facilities, the overall character of development and efficient allocation of municipal infrastructure dollars. The Hillside Secondary Plan will create a development framework that will provide clarity to developers and assurance to residents that Rothesay will grow in a desirable, feasible and qualitative way that further augments the character and identity of the town.

We are keen to ensure the views of Rothesay residents are taken into account in the future planning and development of "The Hillside". When answering the questions below, please think about the needs of both current and future generations of Rothesay residents, and both the positive and negative effects of sizes and types of development on the future character and infrastructure of the town.



1. What places, features and qualities of "The Hillside" are important to you?

2. What type of housing do you feel is needed to best serve current and new residents of Rothesay?

3. How would you like to see the Hillside develop? What would you like to see there?

4. What concerns do you have about future development of the Hillside?

5. What concerns do you have about transportation access to the Hillside areas?

6. Please provide any other comments you may have about future development of the Hillside.

Name (optional) \_\_\_\_\_

Telephone (optional) \_\_\_\_\_

Email address (optional) \_\_\_\_\_

You are welcome to leave your completed form in the drop box by the door or return it to:

Brian White, MCIP, RPP  
Director of Planning and Development  
Rothesay  
E-mail: [brianwhite@rothesay.ca](mailto:brianwhite@rothesay.ca)  
848-6609

Peter Allaby, P.Eng.  
Consultant Project Manager  
Crandall Engineering Ltd.  
E-mail: [pa@crandallengineering.ca](mailto:pa@crandallengineering.ca)  
693-5893

Please return your questionnaire by April 15, 2016.

All records in the custody or under the control of the town of Rothesay are subject to the provisions of the Right to Information and Protection of Privacy Act and may be subject to disclosure. The collection of personal information on this form is for the purpose of considering your comments. This may be shared with internal departments, external agencies or may be released at a Town Council or Committee meeting, which may be public. Any questions regarding the collection of this information can be directed to the Rothesay Town Clerk, 70 Hampton Road, Rothesay, NB E3E 5L5.



## C - Land Use Area Calculations

South Area		Single Family - Small Lot [R1E]		Single Family - Standard [R1B]		Single Family - Large Lot [R1A]	
		Area per lot:	700	Area per lot:	1350	Area per lot:	2000
		Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units
Phase 1		1,400	2	21,600	16	22,000	11
Phase 2		10,811	15	10,811	8	10,811	5
Phase 3		49,000	70	28,350	21		22
Phase 4		27,757	40	27,757	21	27,757	14
<b>Phase N3 Development (2030-2034)</b>			127		66		52
Sub-Total (area)		88,969		88,519		60,569	
North Area		Single Family (Small Lot)		Single Family (Standard)		Single Family (Large Lot)	
		Area per lot:	700	Area per lot:	1350	Area per lot:	2000
		Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units
Phase 1		18,421	26	18,421	14	18,421	9
Phase 2		17,417	25	17,417	13	17,417	9
Phase 3		24,935	36	24,935	18	24,935	12
Phase 4		9,345	13	9,345	7	9,345	5
Phase 5		-	-	-	-	108,700	54
Sub-Total (units)			100		52		89
Sub-Total (area)		60,774		60,774		169,474	
<b>TOTAL</b>		<b>149,743</b>	<b>227</b>	<b>149,293</b>	<b>118</b>	<b>230,043</b>	<b>142</b>

South Area		Semi-Detached [R2] <sup>1</sup>		Townhome [R3] <sup>2</sup>		Apartments [R4] <sup>3</sup>		Open Space		Institutional		Total
		Area per unit:	600	Area per unit:	400	Area per unit:	200	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	
		Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	
Phase 1		-	-	-	-	-	-	6,911	-	-	-	
Phase 2		9,465	16	12,600	32	-	-	2,522	-	-	-	
Phase 3		-	-	-	101	-	-	-	-	-	-	
Phase 4		-	-	-	-	-	-	-	-	31,254	-	
<b>Phase N3 Development (2030-2034)</b>			16		133		-		-		-	393
Sub-Total (area)		9,465		12,600		-		9,433		31,254		300,808
North Area		Semi-Detached		Townhome		Apartments		Open Space		Institutional		
		Area per unit:	600	Area per unit:	400	Area per unit:	200	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	
		Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	Area (m <sup>2</sup> )	# of units	
Phase 1		-	-	-	-	-	-	-	-	-	-	
Phase 2		-	-	-	-	-	-	20,382	-	-	-	
Phase 3		16,319	27	5,291	13	13,059	65	42,036	-	-	-	
Phase 4		7,159	12	27,656	69	81,733	409	-	-	-	-	
Phase 5		-	-	-	-	-	-	-	-	-	-	
Sub-Total (units)			39		82		474		-		-	837
Sub-Total (area)		16,319		5,291		13,059		62,418		-		388,109
<b>TOTAL</b>		<b>25,784</b>	<b>55</b>	<b>17,891</b>	<b>215</b>	<b>13,059</b>	<b>474</b>	<b>71,851</b>	<b>-</b>	<b>31,254</b>	<b>-</b>	<b>1,230</b>

1 Average lot size is 1200 m<sup>2</sup>, with 2 units per lot

2 Rothesay Zoning Bylaw; for Attached [R3] 1,200 m<sup>2</sup> or 400 m<sup>2</sup> / residential unit, whichever is greater.

3 Rothesay Zoning Bylaw; for Multi-Unit Residential [R4] 1,400 m<sup>2</sup> or 200 m<sup>2</sup> / residential unit, whichever is greater.





## D - Financial Model

### South Planning Area

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Cost by Town<sup>1</sup></b>										
Phase S1 Development (2020-2024)	1,496,000	1,327,000	1,000,000	1,000,000						
Phase S2 Development (2025-2029)										
Phase S3 Development (2030-2034)										
Phase S4 Development (2035-2054)										
Sub-Total	1,496,000	1,327,000	1,000,000	1,000,000	0	0	0	0	0	0
<b>Expenses</b>										
O&M Costs (additional compared to Town now) <sup>2</sup>		832	2,419	4,007	6,188	8,370	10,552	12,733	14,915	17,096
Short-Term Financing Costs at 1%										
Long-Term Financing - 20 years at 4%										
Total Expenses (Town Investment no Funding)	0	832	2,419	4,007	6,188	8,370	10,552	12,733	14,915	17,096
<b>Lot Development</b>										
Phase S1 Lots Developed		6	6	6	6	6				
Phase S2 Lots Developed			8	8	8	8	8	8	8	8
Phase S3 Lots Developed					5	5	10	10	10	10
Phase S4 Lots Developed										
Sub-Total	0	6	14	14	19	19	18	18	18	18
<b>Return on Investment - Town of Rothesay</b>										
Cumulative additional Tax Base <sup>3</sup>		1,650,000	5,500,000	9,350,000	14,575,000	19,800,000	24,750,000	29,700,000	34,650,000	39,600,000
Tax Rate (2018)	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
New Tax Revenue with Based on 2018 Rate	0	20,460	68,200	115,940	180,730	245,520	306,900	368,280	429,660	491,040
Annual Expenses Related to New Development	1,496,000	1,327,832	1,002,419	1,004,007	6,188	8,370	10,552	12,733	14,915	17,096
Net Profit / Loss - Town of Rothesay	<b>-\$1,496,000</b>	<b>-\$1,307,372</b>	<b>-\$934,219</b>	<b>-\$888,067</b>	\$174,542	\$237,150	\$296,348	\$355,547	\$414,745	\$473,944
Cumulative Return on Investment - Town of Rothesay	<b>-\$1,496,000</b>	<b>-\$2,803,372</b>	<b>-\$3,737,591</b>	<b>-\$4,625,658</b>	<b>-\$4,451,116</b>	<b>-\$4,213,966</b>	<b>-\$3,917,618</b>	<b>-\$3,562,071</b>	<b>-\$3,147,326</b>	<b>-\$2,673,382</b>

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	TOTAL
<b>Capital Cost by Town<sup>1</sup></b>												
Phase S1 Development (2020-2024)												4,823,000
Phase S2 Development (2025-2029)												0
Phase S3 Development (2030-2034)												0
Phase S4 Development (2035-2054)							300,000					300,000
Sub-Total	0	0	0	0	0	0	300,000	0	0	0	0	5,123,000
<b>Expenses</b>												
O&M Costs (additional compared to Town now) <sup>2</sup>	19,278	21,460	23,641	25,823	28,004	30,186	32,368	34,549	36,731	38,912	41,094	409,158
Short-Term Financing Costs at 1%												0
Long-Term Financing - 20 years at 4%												0
Total Expenses (Town Investment no Funding)	19,278	21,460	23,641	25,823	28,004	30,186	32,368	34,549	36,731	38,912	41,094	409,158
<b>Lot Development</b>												
Phase S1 Lots Developed												30
Phase S2 Lots Developed	8	4										76
Phase S3 Lots Developed	10	10	15	15	15	15	15	15	15	15	13	203
Phase S4 Lots Developed												0
Sub-Total	18	14	15	15	15	15	15	15	15	15	13	309
<b>Return on Investment - Town of Rothesay</b>												
Cumulative additional Tax Base <sup>3</sup>	44,550,000	48,400,000	52,525,000	56,650,000	60,775,000	64,900,000	69,025,000	73,150,000	77,275,000	81,400,000	84,975,000	84,975,000
Tax Rate (2018)	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
New Tax Revenue with Based on 2018 Rate	552,420	600,160	651,310	702,460	753,610	804,760	855,910	907,060	958,210	1,009,360	1,053,690	11,075,680
Annual Expenses Related to New Development	19,278	21,460	23,641	25,823	28,004	30,186	32,368	34,549	36,731	38,912	41,094	5,532,158
Net Profit / Loss - Town of Rothesay	\$533,142	\$578,700	\$627,669	\$676,637	\$725,606	\$774,574	\$823,542	\$872,511	\$921,479	\$970,448	\$1,012,596	\$5,543,522
Cumulative Return on Investment - Town of Rothesay	-\$2,140,240	-\$1,561,540	-\$933,871	-\$257,234	\$468,372	\$1,242,946	\$1,766,488	\$2,638,999	\$3,560,478	\$4,530,926	\$5,543,522	\$5,543,522

1 Based on order of magnitude cost estimates including HST and Engineering

2 Includes allowance of \$2700/lane km for snow removal and maintenance

3 Tax base estimates are based on property assessment values of \$275,000 per lot/unit



North Planning Area

	2007	2008	2009	2013	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Cost by Town<sup>1</sup></b>														
Phase N1 Development (2020-2024)					1,300,000									
Phase N2 Development (2025-2029)														
Phase N3 Development (2030-2039)														
Phase N4 Development (2040-2059)														
Sub-Total					1,300,000	0	0	0	0	0	0	0	0	0
<b>Expenses</b>														
O&M Costs (additional compared to Town now) <sup>2</sup>						1,500	2,500	3,000	4,000	4,500	5,500	6,500	7,500	8,000
Short-Term Financing Costs at 1%														
Long-Term Financing - 20 years at 4%														
Total Expenses (Town Investment no Funding)					0	1,500	2,500	3,000	4,000	4,500	5,500	6,500	7,500	8,000
<b>Lot Development</b>														
Phase N1 Lots Developed						10	10	10	10	10				
Phase N2 Lots Developed											10	10	10	10
Phase N3 Lots Developed														
Phase N4 Lots Developed														
Sub-Total					0	10	10	10	10	10	10	10	10	10
<b>Return on Investment - Town of Rothesay</b>														
Cumulative additional Tax Base <sup>3</sup>						2,750,000	5,500,000	8,250,000	11,000,000	13,750,000	16,500,000	19,250,000	22,000,000	24,750,000
Tax Rate (2018)					1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
New Tax Revenue with Based on 2018 Rate					0	34,100	68,200	102,300	136,400	170,500	204,600	238,700	272,800	306,900
Annual Expenses Related to New Development					1,300,000	1,500	2,500	3,000	4,000	4,500	5,500	6,500	7,500	8,000
Net Profit / Loss - Town of Rothesay					<b>-\$1,300,000</b>	\$32,600	\$65,700	\$99,300	\$132,400	\$166,000	\$199,100	\$232,200	\$265,300	\$298,900
Cumulative Return on Investment - Town of Rothesay					<b>-\$1,300,000</b>	<b>-\$1,267,400</b>	<b>-\$1,201,700</b>	<b>-\$1,102,400</b>	<b>-\$970,000</b>	<b>-\$804,000</b>	<b>-\$604,900</b>	<b>-\$372,700</b>	<b>-\$107,400</b>	\$191,500

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	TOTAL
<b>Capital Cost by Town<sup>1</sup></b>												
Phase N1 Development (2020-2024)												1,300,000
Phase N2 Development (2025-2029)												0
Phase N3 Development (2030-2039)		2,669,000										2,669,000
Phase N4 Development (2040-2059)												0
Sub-Total	0	2,669,000	0	0	0	0	0	0	0	0	0	3,969,000
<b>Expenses</b>												
O&M Costs (additional compared to Town now) <sup>2</sup>	8,500	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	27,500	241,000
Short-Term Financing Costs at 1%												0
Long-Term Financing - 20 years at 4%												0
Total Expenses (Town Investment no Funding)	8,500	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	27,500	241,000
<b>Lot Development</b>												
Phase N1 Lots Developed												50
Phase N2 Lots Developed	10											50
Phase N3 Lots Developed		17	17	17	17	17	17	17	17	17	17	170
Phase N4 Lots Developed												0
Sub-Total	10	17	17	17	17	17	17	17	17	17	17	270
<b>Return on Investment - Town of Rothesay</b>												
Cumulative additional Tax Base <sup>3</sup>	27,500,000	32,175,000	36,850,000	41,525,000	46,200,000	50,875,000	55,550,000	60,225,000	64,900,000	69,575,000	74,250,000	74,250,000
Tax Rate (2018)	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
New Tax Revenue with Based on 2018 Rate	341,000	398,970	456,940	514,910	572,880	630,850	688,820	746,790	804,760	862,730	920,700	8,473,850
Annual Expenses Related to New Development	8,500	2,679,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	27,500	4,210,000
Net Profit / Loss - Town of Rothesay	\$332,500	-\$2,280,030	\$444,940	\$500,910	\$556,880	\$612,850	\$668,820	\$724,790	\$780,760	\$836,730	\$893,200	\$4,263,850
Cumulative Return on Investment - Town of Rothesay	\$524,000	-\$1,756,030	-\$1,311,090	-\$810,180	-\$253,300	\$359,550	\$1,028,370	\$1,753,160	\$2,533,920	\$3,370,650	\$4,263,850	\$4,263,850





**UPL▲ND**