TRAILS MASTER PLAN

TOWN OF QUISPAMSIS

March, 2003

ADF
A.D. Fiander Associates Ltd.
500 Beaverbrook Court, 3rd Floor, Fredericton, N.B., Canada E3B 5X4
Ph.: (506) 458-1530
Fax.: (506) 459-0007
E-Mail: fiandera@nbnet.nb.ca

ADF **A.D. Fiander Associates Ltd.**
500 Beaverbrook Court, Suite 301, Fredericton, N.B., Canada E3B 5X4

Ph.: (506) 458-1530
Fax.: (506) 459-0007
E-Mail: fiandera@nbnet.nb.ca
www.adfiander.ca

March 24, 2003

Ms. Dana Purton Dickson
Director of Community Services
Town of Quispamsis
11 Recreation Centre Road
P. O. Box 21085
Quispamsis, N. B., E2E 4Z4

Re: Final Report on Trails Master Plan

Dear Ms. Purton Dickson:

I am pleased to enclose herewith our Report and Master Plan for a proposed Trails network for the Town of Quispamsis.

I trust these documents provide a meaningful Long Range strategy for Trails development within the community.

Thank you for the opportunity to assist you with this project. If we can be of assistance regarding any aspect of the detailed design and implementation of your plan, please contact me at your convenience.

Yours truly,

Allan D. Fiander, P. Eng.
President

cc. Debbie Allen

Enclosures

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1.0 Introduction

1.1 Background of Study

This report presents the highlights of work undertaken to prepare the accompanying conceptual Master Plan for the long term development of a Walking Trail system for the Town of Quispamsis. The work was done in accordance with the "Call for Proposals" by the Town of Quispamsis dated August 21, 2002 . The scope of work was further defined in our Proposal dated September 6, 2002.

1.2 General Intent of Trails Master Plan

The Town wishes to have a Long Term Master Plan for a walking trail network, so that when opportunities present themselves, they will be in a position to ensure that development occurs in a desired manner.

1.3 Objective of Trails Master Plan

The objective being to preserve the opportunity to have a trail network evolve in a manner compatible with the town's overall long term Trails Master Plan.

The Master Plan provides a document to aid the Town in decision making regarding the selection and utilization of land for public purposes and specifically for trail development. This plan will also assist the Town in realizing its vision of a large, integrated trail system that encompasses the entire community, with the potential to eventually connect with existing and potential future trails in neighbouring communities.

1.4 Nature of Trails Master Plan

The attached future *"Trails Master Plan"* provides a conceptual trail map for the Town of Quispamsis. This plan utilizes the current town trails, sidewalks, other town property, existing easements and potential "land for public purposes" opportunities from future developments. The project will also require development of easements from other land owners.

1.5 Elements of Trails Master Plan

The accompanying *"Trails Master Plan"* is the primary deliverable for this project. This report complements the Master Plan by providing supplementary material regarding the general intent of the plan, the major objectives of the plan and the process followed in preparing the plan. This report also outlines the key elements of the plan and the rationale behind the key elements of the plan.

1.6 Conceptual Nature of Trails Master Plan

It is important to recognize that the *"Trails Master Plan"* is **conceptual in nature**. It presents a framework for future trail development. The lines on the plan show the ideal desired location of the trails. However, the plan should be dynamic and flexible in that the lines should not, in all cases, imply a precise location for the trail.

The intent of the plan is to indicate the desired linkage between key nodes and elements of the community. In some cases, the location of the trail line on the Plan is inherently relatively fixed in that the trail has to be in a defined location due to severe constraints. For example, the locations of specific rail crossings or along existing street sidewalks are cases where the trail is constrained to the specific location indicated on the Plan. In other cases, there is substantial flexibility in the final, precise location of the trail as long as the underlying integrity of the Plan is maintained. For example, in some areas, the Plan shows potential trail locations across currently undeveloped land. In such areas, the precise location of the trail can be modified as long as the important linkages between key features such as between residential nodes, to schools, or to community facilities, are maintained. **These adjustments can be made with the developers at the time they are formulating their Tentative Plans and Subdivision Plans.**

It is important that as the Tentative Plans and Subdivision Plans are being prepared, Town staff carry out more detailed design considerations to ensure that a trail of the standard prescribed in a given area can be designed and constructed in the location proposed. This work should include more detailed considerations of site specific conditions including the precise topography, soils conditions and consideration of wetlands and environmental features. At that stage, it is critical to fine tune the general trail locations shown on the Master Plan to make any adjustments necessary to ensure that the trail can actually be built in the area proposed. If necessary, appropriate adjustments in the location of the trail may be required.

2.0 General Scope of Work

The general scope of work for this project included the following:

a). The Town of Quispamsis was the primary study area for this project. However, future connections to trail systems in neighbouring communities were also considered. Discussions were held with representatives of Rothesay. This enhanced compatibility of the proposed trail network with the potential for future development of trails within this adjoining community. It also enhances the potential for long term regional integration of trail facilities.

b). The plan utilizes, where possible, existing trails. This document also includes comments on the status of existing recreation facility infrastructure. This assessment included obtaining input from staff and reviewing the background documentation which was prepared

during the last updating of the Municipal Plan.

At project initiation, detailed information on existing facilities was obtained from town staff. The existing trails were walked and a general assessment of existing facilities was undertaken. This inspection provide the basis for evaluating the condition and adequacy of these facilities and suggesting enhancements which may be desirable. In addition to reviewing existing trail and recreation facilities, an extensive examination of the entire community was undertaken. This provided a basis for identifying key opportunities for trail development. It also resulted in identifying the primary nodes of existing and potential future development to be linked. As well, the potential corridors available for the trails to achieve these links were identified.

c). The Project Manager met with town staff, members of Council, local developers, land owners and volunteers (eg. Kennebecasis Valley Trails Committee) for input and suggestions regarding any factors they felt relevant to the formulation of a trail network Master Plan. These meetings were coordinated by the Director of Community Services in conjunction with our Study Project Manager. The initial meetings were held at the Meenan's Cove Beach House on October 10, 2002. These meetings were supplemented with follow up discussions and meetings with several individuals including representatives of Town staff in the Recreation Services and Engineering Services groups and other landowners/developers.

Property data and zoning plan details were provided in digital format subsequent to the initial meetings at the beginning of the project. After reviewing the terrain, property and zoning characteristics, and receiving input from the meetings with staff and local individuals and groups, on-site investigations were conducted. This included visiting key areas with the greatest potential for trail development. Special attention was given to particularly appealing features with regard to physical features, environmental features and, interpretive opportunities. Specific attention was given to the potential for views of the river valley, proximity to brooks and streams, isolation from high traffic areas and key nodes requiring linkage. Other factors considered included the character of residential development and general locational features of areas with high concentrations of young families, public spaces, seniors developments, schools, recreation facilities, shopping facilities and community services (eg. Town Hall, library, etc.). Major emphasis was given to identifying the potential corridors for safely linking these nodes together.

The following factors had major impacts on formulating the proposed Master Plan for Trails development in the community:

- the existing land use;

- the existing zoning plan;

- the spatial location of the key nodes of the community including the residential subdivisions; recreation facilities; elementary schools, middle and high schools; senior's facilities; and other community facilities such as the Town Hall, Library and shopping

facilities;

- location of existing town owned land;

- existing municipal easements for utilities and services;

- existing telephone and power easements;

- current and planned developments such as the new Town Hall and the short term plan to decommission the waste water treatment facility at Matthew's Cove (near the intersection of Meenan's Cove Road and Route #119). Also, the concurrent planned expansion of the waste water treatment facility north of the CN Rail line adjacent to Longwood Drive and the municipal boundary with Rothesay was taken into consideration.

- the primary barriers to safe pedestrian traffic flow including the Route # 1 four-lane highway, the two-lane Gondola Point Arterial and the main line of the CN Rail which runs through the middle of the community. Both the Route #1 highway and rail line split the community in a generally an east - west direction. The Gondola Point Arterial Highway bisects the community in a north-south direction.

d). After a Preliminary Draft Master Plan was prepared, it was presented to and discussed with the Director of Community Services and the Town Engineer. This provided valuable input on a number of factors relating to potential obstacles to development of the proposed trail network. Based on this input, and feedback from the Town Manager, a number of enhancements were made and a Draft Plan was prepared and submitted for review by Town staff and Council. The Draft Plan was accompanied by this report explaining the methods used, the issues considered and the reasoning behind the elements of the plan. After a period of review, a final presentation was made to staff and Council on March18, 2003 to highlight the contents of the Plan, explain the rationale for the plan and respond to questions. After this presentation and associated discussions, appropriate final edits were made and the Final Plan and report prepared.

3.0 Overview of Relevant Community Features

3.1 Major Assets

The town of Quispamsis is a community which has many positive features for its residents. These features are obviously attractive to the public, as the community continues its extensive trend of rapid expansion. The town's location in close proximity to the job opportunities in the Saint John region is an asset. However, the town's major attractions include its location overlooking the beautiful Kennebecasis River Valley, the relatively rugged terrain along the valley, its proximity to the beautiful natural rural environment, its abundance of recreation facilities, its expanding commercial facilities providing a wide range of services and shops in the immediate community

and the proximity of schools and other community services.

The town covers a large geographic area and has a vast potential for future residential (and other types of) development.

3.2 Summary of Existing Facilities and Services

A general assessment of the existing recreation facilities was undertaken. This included reviewing the appropriate sections of the *"Municipal Development Plan Background Document"* to the recent Municipal Plan review and update. This resulted in the general conclusion that the town has a reasonable inventory of recreation facilities which are well dispersed throughout the community. The Background document indicates that the population projections by age group shows that the populations *"in the pre-school and elementary school and middle school age groups are not expected to increase over the plan period to 2016. This would indicate that there should not be increased pressure on playground and sport facilities overall in Quispamsis but there will be requirements for new playgrounds associated with new subdivision growth areas".*

The Background document also notes that the biggest increase in numbers and demand for recreation facilities will be for those in their 50's, 60's and older. These projections indicate there is likely to be a substantial increase in the level of demand for recreation and leisure services and facilities for both *active* facilities such as trails as well as *passive* facilities such as parks, nature trails, shaded sitting and rest areas, and walkways. These issues are addressed, to a large extent, by this Trails Master Plan document.

Due to the large size of the community and sparse density of the community, the existing recreation facilities are spread out over a large area. Consequently, there is a high level of need for vehicular transportation to efficiently travel about the community. This dependence on the automobile could; however, be reduced with the proposed network of trails. By making an extensive network of trails interconnecting all the key nodes of the community, this would also have the positive impact of enhancing the level of physical activity of individuals in the community.

The existing trails provide a good foundation for trails development. The three primary existing trail developments are good facilities which have been used as focal points (i.e. important nodes) of the comprehensive trails network proposed in this document. The three primary existing trail elements are:

- the Gondola Point Recreation Centre trails which includes the Saunder's Brook trail running westward from the Recreation Centre through a rapidly developing series of residential neighbourhoods;

- the Hammond River Park trails which includes an extensive and compact series of trails at the east end of the Town adjacent to the Hammond River; and

- the Mud Lake Nature Park and Trails.

These primary existing trails are supplemented by a number of additional facilities such as the short trail in the Meenan's Cove Park and Beach area and the similar facilities at Ritchie Lake Park. These facilities are supplemented by concrete curb/sidewalks in some strategic areas of the Town. The primary sidewalks are located in or near the Central Business District and along the streets accessing the High School and Middle School.

There are also a number of streets / roads in the more rural segments of the community which have painted (white) shoulder lines which help facilitate pedestrian use, to some extent, on the shoulders of the existing roads. In many cases, however, the paved surface of the road / street is narrower than desirable in terms of providing safe access for pedestrians. Such efforts are, none the less, enhancing the provisions for safe movement of pedestrians.

Both the concrete sidewalks and the painted asphalt shoulders have been integrated into the proposed Long Term Trails Master Plan as key elements of the Plan. Provision for additional painted shoulders have also been integrated into the Trails Master Plan. The primary expansion of the painted shoulder concept is the proposed extension of this type of facility along the Gondola Point Road from the intersection of Quispamsis Road to the parking area at the Gondola Point Ferry Landing.

In addition to development of the proposed Trails Master Plan, the Town should ensure that as new subdivisions are developed, **the "Land for Public Purposes" policy be used to ensure that there is:**

- land for implementation of the proposed Trails network; as well as

- land for future recreation facilities in the new areas being developed.

This document provides a detailed plan for development of the Trails network. As subdivision plans are formulated, there should also be a conscious effort to ensure that the other basic recreation facilities in the new areas of the various regions of the community are developed in accordance with facilities standards recommended by the leading planning authorities in North America (i.e. the Canadian Institute of Planners and the American Planning Association). Other sources such as Ontario's *"Guidelines for Developing Public Recreation Facility Standards"* provide good guidance on this topic. As the first stage of this Trails Master Plan is implemented, it would be expedient to prepare a similarly detailed Recreation Facilities Master Plan for the Town.

3.3 Primary Constraints to Trails Development

The town has good potential for development of an extensive pedestrian trails network. However, the town is spread out over a large area which presents a challenge in terms of the magnitude of

the trails network needed to provide a reasonable level of service.

The Town exhibits some barriers to safe and convenient flow of pedestrian traffic (see **Figure 1**). The safe flow of pedestrian traffic is impacted primarily by:

- two major highways; and

- a main line railway.

A four-lane controlled access highway (Route #1 - MacKay Highway) splits the community into two parts in generally an east-west direction. This results in a generally rectangular area about 10.0 km wide by 5.0 km high on the north side of the Route #1 highway. On the south side of the Route #1 highway, there is another generally rectangular area about 4.5 km wide in an east-west direction and 4.0 km high in a north-south direction. The only existing safe crossing locations along Route #1 for pedestrians are near the east end of town at the Elliot Road overpass and the Stock Farm Road underpass.

The CN Rail main line also provides an additional separation of the town in an east-west direction. The rail line runs generally parallel to the Route # 1 highway about 1 to 2 km north of the highway.

There is also an obstacle to the safe flow of pedestrian traffic in an east-west direction through the community. This barrier is the Gondola Point Arterial highway (Route #119) which runs generally in a north-south direction between Route #1 and the Gondola Point ferry terminal. To provide a reasonably comprehensive trail network for all regions of the community, there should be at least two crossings of this arterial highway.

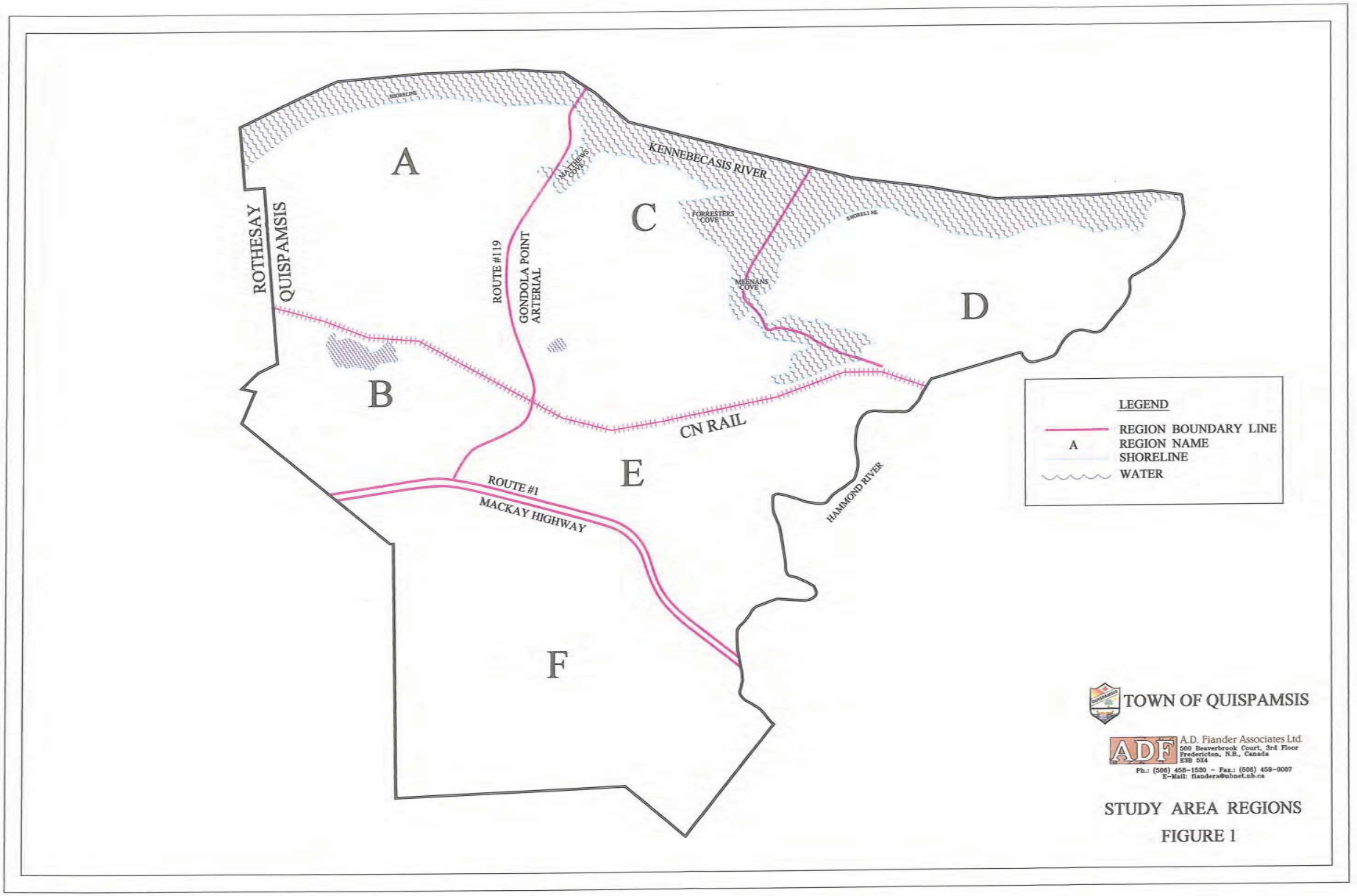
Some sections of the rail corridor in the western and central part of the community are fenced to prevent pedestrians from crossing. Other areas, such as the more rural areas at the eastern end of the town are not fenced. There are limited opportunities for safe crossings of the rail tracks which service several freight trains per day. The safest and most convenient crossings of the rail tracks for pedestrians are at:

- the at-grade signal controlled (with drop gates) crossing at Pettingill Road;

- the pedestrian overpass that links Old Coach Road and Quispamsis Road;

- the old Hampton Road (Route #100) underpass; and

- and the at-grade signal controlled Hammond River Road crossing about 2 km north of the Hammond River Market.



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STUDY AREA REGIONS

FIGURE 1

These potential pedestrian crossing opportunities are respectively spaced at about 1.3 km, 3.0 km and 3.25 km along the rail corridor. Consequently, they do provide for a reasonable spacing for potential trail network crossings of the rail line.

There is also a good potential crossing of the rail line at the Colton Brook Road - Shadetree Lane location. This location was a road crossing of the railway but the structure has been removed. However, the former bridge abutments are still in place and could probably be used as the abutments for a pedestrian crossing structure.

4.0 Proposed Trails Master Plan

4.1 Key Nodal Linkage Requirements

The proposed trail network would **integrate the following critical nodes of the community by linking:**

- residential neighbourhoods together;

- residential neighbourhoods to key recreation facilities;

- residential neighbourhoods to existing trail facilities;

- residential neighbourhoods to schools of all levels;

- residential neighbourhoods to other community facilities such as the Library, Town Hall, shops, neighbourhood parks, seniors facilities, etc.;

These primary linkages would also expand to regional linkages throughout the community in both east-west and north-south directions. These regional aspects of the network would provide for links across the primary impediments to pedestrian flow noted in **Section 3.3** of this report. (ie. the railway corridor and the major arterial highways:- Route #1 and Route #119).

4.2 Trails Plan Structure

The trails in each region of the community are structured to provide:

- for short, local routes within the immediate neighbourhood;

- direct links to adjacent neighbourhoods and nodes of interest;

- loops around and between neighbouring nodes so there are optional routes to provide a variety of walking experiences and reduce the need for backtracking on the same route;

- longer route options by taking a variety of links between neighbouring nodes and other more separated regions of the community.

Specific consideration has also been given to important links to potential trails in Rothesay on the west and over the Hammond River to the east. Details of the key elements of the trail linkages in all regions of the community and its surrounding areas are provided in **Section 4.3** of this report.

An important feature of the proposed Trails Master Plan is the inherent ability to provide the above noted service by a network of primarily new trails which will be, to a large extent, totally isolated from vehicular traffic. This will result in substantially expanded pedestrian facilities and a major enhancement in safety for pedestrians and bicyclists.

4.3 Definition of Trails Plan Regions and Primary External Links

4.3.1 Regions of the Community

The Trails Master Plan is summarized in terms of comments regarding each of the following regions of the community (**Figure 1** provides a schematic overview of the locations of the regions of the community):

- **Region A:** the area north of the CN Rail line and between the Rothesay Town boundary and the Gondola Point Arterial (Route #119);

- **Region B:** the area between the CN Rail line and Route #1 (MacKay Highway) and between the Rothesay boundary and the Gondola Point Arterial (Route # 119);

- **Region C:** the area east of the Gondola Point Arterial (Route # 119), north of the CN Rail line and west of the inner Meenan's Cove;

- **Region D:** the area east of the inner Meenan's Cove, north of the CN Rail line and between the Kennebecasis River and the Hammond River; and

- **Region E:** the area east of the Gondola Point Arterial (Route # 119), south of the CN Rail line, north of the Route #1 (MacKay Highway) and west of the Hammond River;

- **Region F:** the area south of the Route #1 (MacKay Highway).

The interconnections between these six regions of the community provide an expanded regional trail network covering the entire community. This also generates the potential for future links to communities around the perimeter of the Town. **Figure 2** provides a schematic overview of the

proposed Trails Master Plan. A larger scale, more accurate, plan at a scale of 1:12,500 is also provided as a supplement to this report.

4.3.2 Primary External Trails Links

To the west, the primary links to the town of Rothesay are:

- at the Millennium Drive pedestrian corridor;

- in the Longwood Drive area along the Ritchie Lake/Salmon Creek area;

- in the Central Business District along the sidewalks on the old Hampton Road (Route #100); and

- on the limited painted shoulder sidewalks along the Gondola Point road adjacent to the Kennebecasis River.

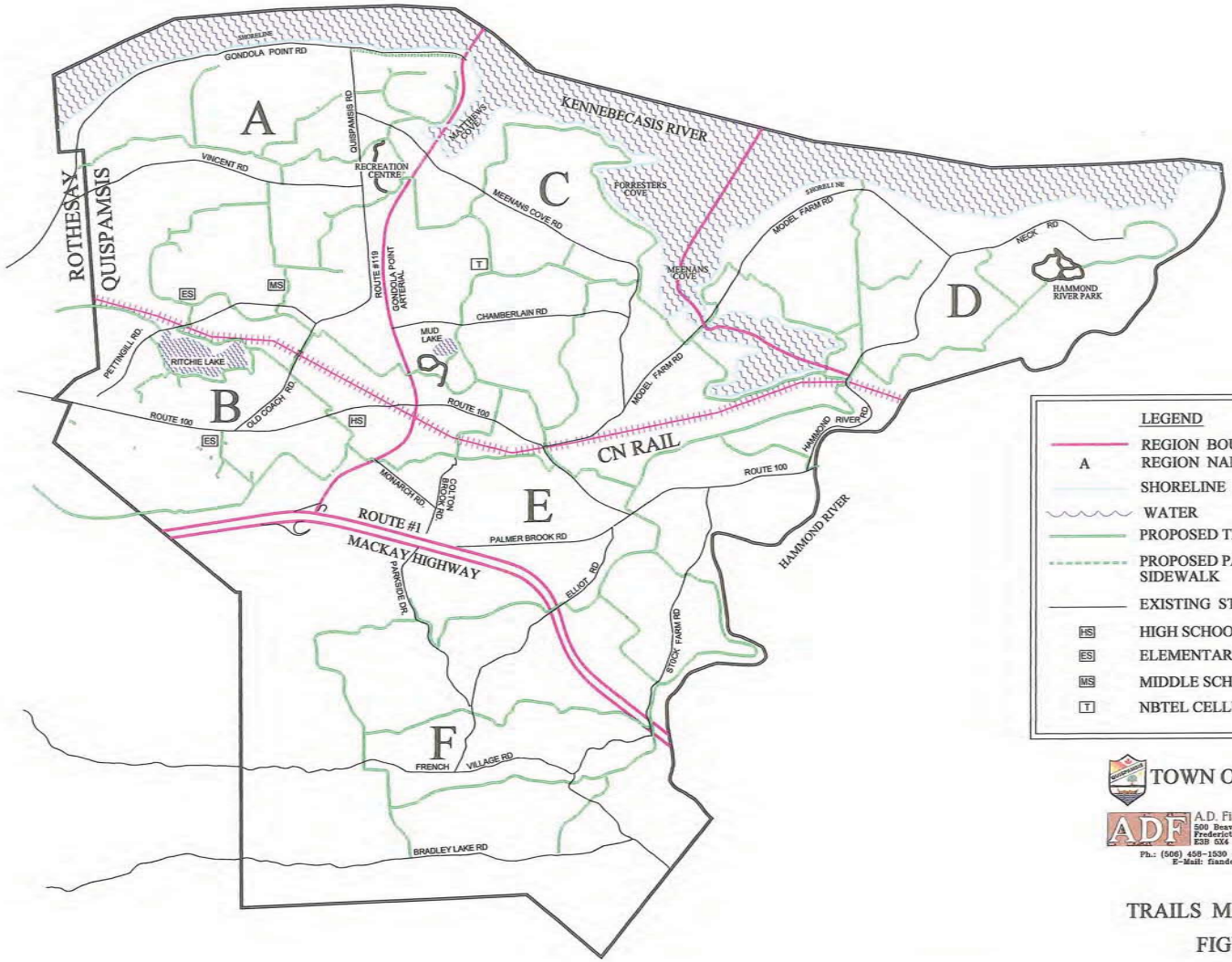
At the east end of Quispamsis, the possibilities for future inter-community links are limited to the existing bridge over the Hammond River on Route #100 by the Hammond River Market. This structure is not the most desirable in that there are no sidewalks. However, it is the only realistic existing crossing of the Hammond River within the entire Town limits.

4.4 Key Features of Proposed Trails Network in Region A

The key elements of the proposed trail network in Region A of the town (see **Figure 2**) are as follows:

- extension westward of the Saunder's Brook trail to connect the subdivisions north of Vincent Road and provide a link to the shoulder painted sidewalk along the Gondola Point Road in both Quispamsis and Rothesay. The shoulder sidewalk along the Gondola Point Road provides direct access to the spectacular views along the Kennebecasis River and is one of the four potential direct links to Rothesay. This link also provides direct access to the river front at four public access points between the Rothesay boundary and the beach near the Gondola Point Ferry Landing;

- north of Vincent Road, there is a link through the new subdivisions in the Klondike and Yukon Drive area and the height of land crossing Quispamsis Street near Riverview Drive and connecting to the Gondola Point Beach near the ferry landing. This trail loop is proposed to provide a convenient link to the existing trails at the Gondola Point Recreation Centre. This portion of the trail would be located in close proximity to the existing Waste Water Treatment facility at Meenan's Cove. This aspect of the trail plan assumes implementation of the



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TRAILS MASTER PLAN

FIGURE 2

proposed decommissioning and reclamation of this treatment facility;

- near the west end of Region A, provision is made for a trail between Gondola Point Road and Vincent Road. This trail element would also intersect with the Saunder's Brook Trail. Generally, this section of trail runs along the currently undeveloped land adjacent to, and west of, Robin Hood Lane.

- a critical crossing of Vincent Road is proposed along the municipal services easement at the east end of lots to the east of Alderbrook Drive. This crossing provides a link for the neighbourhoods north of Vincent Road to the Lakefield Elementary school and the Ritchie Lake area as well as directly to the Quispamsis Middle School;

- there is also a reasonably direct link between the Middle School and the potential future development to the east and northeast of the school and across Quispamsis Road to connect directly with the existing Matthew's Brook and Saunder's Brook trails south of the Gondola Point Recreation Centre. This will also provide for direct linkage to one of the proposed primary trail crossings of the Gondola Point Arterial near the Recreation Centre;

- north of Pettingill Road, there are trails connecting all surrounding subdivisions to the above noted elementary and middle schools. In this area, extensive use could also be made of the existing concrete sidewalks with raised curbs along the north side of Pettingill Road west of its intersection with Quispamsis Road by St. Augustines Anglican Church. This existing sidewalk extends westward from this location the full length of Pettingill Road, ending directly in the Central Business District (CBD) at the Kent Building Supplies facility;

- the north - south flow of pedestrians across the CN Rail line is accomplished by means of the signal controlled sidewalk on Pettinghill Road and the pedestrian overpass structure between Quispamsis Road and Old Coach Road;

- the east - west flow of pedestrians across the Gondola Point Arterial (Route #119) is proposed from the existing trails at the Gondola Point Recreation Centre (about 400 metres south of the intersection with Meenan's Cove Road) and at the Mud Lake Trail system. This latter crossing of Route #119, which provides direct linkage to the Elementary, Middle and High schools, is proposed to be located just south of the culvert under Route #119 leading from Mud Lake. The crossing of the brook could be achieved along the foreslope of the arterial route; and

- in addition to the primary trails proposed in this section for Region A, additional effort should be given to enhancing the painted shoulder line to create safer walking areas on the shoulders along the following streets;

- Gondola Point Road from the Rothesay town boundary to the Gondola Point Ferry Landing parking lot; and
- Vincent Road.

The Gondola Point Road provides good views of the Kennebecasis Valley and Vincent Road provides a good east-west corridor through a well established portion of the community.

4.5 Key Features of Proposed Trails Network in Region B

In Region B, the key elements of the proposed trail network are:

- the trail from the Old Coach Road / Quispamsis Road pedestrian structure over the rail line is linked directly to the High School;

- this link to the High School is also tied in to an expansion of the short, existing trail in the small park at the southwest corner of Ritchie Lake. This local trail would provide a route around the perimeter of Ritchie Lake;

- an important element of the trail network in this area is the connection between the existing trail from Ritchie Lake which crosses Cedar Grove Drive and passes along an existing easement directly to Lake Road. The proposed trail structure extends this existing trail along the western segment of Lake Road on to Firefly Crescent and along an existing municipal services easement to provide a link directly into the park being developed in conjunction with the new Town Hall Complex on Landing Place. This is one of the key links to the Town Centre and the public facilities at the Town Hall, Police Station and Library. It also provides direct access to the east end of the Central Business District (CBD);

- the other key pedestrian link from the north to the Central Business District is the connection along the existing concrete curb and sidewalks from Ritchie Lake along Pettingill Road to the intersection of the old Pettingill Road leading directly into the shops near the Kent Building Supplies facility;

- the existing sidewalk along Pettingill also provides the link to one of the proposed connections to the Town of Rothesay via the Longwood Drive corridor.

- within the Central Business District, the existing sidewalks along both sides of Hampton Road (Route #100) provide the primary opportunity for the pedestrian network. From the Rothesay boundary eastward, there are sidewalks on both sides of Hampton Road to Lake Road. East of Lake Road, a continuous sidewalk extends on the south side of the Hampton Road past the High School and on to Route #119 (the Gondola Point Arterial). There is also an existing concrete

sidewalk on the north side of the Hampton Road between McCarron Drive and Old Coach Road;

- on the south side of the Hampton Road in the Central Business District, several of the side streets (Donlyn, Clarwood and Peat Drives) have sidewalks on the east side of the streets leading into the older subdivisions between Hampton Road and the MacKay Highway (Route #1). There are also existing pedestrian corridors in this area such as the one between the Playground between Peat Drive and Cedar Ridge Boulevard, and between the Quispamsis Elementary School and Stonewood Court. These older, existing areas are reasonably well served in terms of intra-community links and access to the shops and facilities in the Central Business District and the schools. Furthermore, they exhibit limited opportunities to easily improve on the pedestrian facilities other than as noted; and

- the greatest potential for enhancing the trail facilities in this region of the community is along the Millennium Drive and the currently undeveloped residential land adjacent to the Business Park Zone in this area. The proposed treatment for the trails in this area is based on the pedestrian trail requirements in the By-law respecting a Development Scheme for the Millennium Drive area. This is supplemented by our proposed links from Millennium Drive to the Quispamsis Elementary School and directly to the High School The west end of the Millennium Drive trail is also one of the key potential linkages to possible future trails in the Town of Rothesay.

4.6 Key Features of Proposed Trails Network in Region C

The key elements of the proposed trail network for Region C of the community are:

- the primary east-west links to the areas west of the Gondola Point Arterial are at the two crossings of Route #119 to connect with existing trails near the Gondola Point Recreation Centre and at Mud Lake. The importance of these links are noted in the comments for Region A;

- the focus of the trails in this region are to provide as much direct access as possible to the shores of the Kennebecasis River and Meenan's Cove. This is supplemented with loop trails to the primary connector trails near the Gondola Point Recreation Centre and at Mud Lake. These internal loops integrate the existing and expanding subdivision nodes such as Kings View Subdivision and those along Chamberlain Road, Meenan's Cove Road and Misty Cove Lane. The proposed trail locations are primarily in currently undeveloped areas. These trails provide important local loops and a critical linear linkage between the community nodes west of the Gondola Point Arterial and the easterly limits of the community east of Meenan's Cove along the Model Farm Road and Neck Road to, and

including, the development adjacent to the Hammond River Park;

- at the east end of this region the links to Region D are provided by crossing the Meenan's Cove bridge and via a proposed trail south of the properties on the south side of Douglas Drive and along the south shore of the inner portion of Meenan's Cove east of the bridge (this latter portion of the trail would ideally be on the narrow strips of private properties adjacent to the CN Rail line right of way); and

- just east of the east end of this Region, the proposed crossing of the rail line is at the signal controlled, at-grade crossing of the Hammond River Road. Near the west end of this Region, there are two potential crossings of the rail line. One potential is at the underpass for the old Hampton Road (Route #100). This crossing has the advantage of separating the pedestrian traffic from the rail traffic. However, this crossing is at a location with a narrow opening for the vehicular road traffic. The stone abutments of the bridge force the elimination of the roadway shoulder and leave only a total opening of slightly in excess of 6 metres for the roadway lanes. This could provide for pedestrian flow along with the vehicular traffic, but it is certainly less than desirable in terms of the lane widths available at this location. A more desirable option for crossing the rail line in this area is at the Colton Brook - Shadetree Lane location. Originally, there was a highway bridge at this location; but, this structure has been removed. However, the technical feasibility of using the remaining abutments of the old road bridge should be examined as an option for a new *"pedestrian / bicycle only"* structure for the trail system.

4.7 Key Features of Proposed Trails Network in Region D

For Region D, the key elements of the proposed trail network are:

- the western links are through the Meenan's Cove Park and around the perimeter of the inner portion of Meenan's Cove east of the bridge on Model Farm Road. This inner cove is a beautiful natural asset. The proposed trail routing avoids the existing residential development which abuts directly on the cove. It also minimizes the exposure to traffic on the Model Farm Road by connecting through the Meenan's Cove Park and along an existing easement between the Park and Forresters Road;

- east of the inner cove, the trail splits to provide a link to the Kennebecasis River along a property base line which, at an earlier time, was apparently the location of a road to a former ferry landing on the Kennebecasis. The old ferry landing area provides for direct public access to the river. This generally north - south trail could also provide a connector link to the development along Keenan Drive. The main trail splits at the Hammond River Road just north of the rail crossing and

runs eastward to the Hammond River and then parallels this river running downstream along the east end of the subdivision bounded on the east by George Street. At this location, the trail could follow this street and then make connections between McAlpine Drive and the existing trails in the Hammond River Park;

- also connecting to the existing trails in Hammond River Park are links to the western end of Neck Road;

- at the east end of the Hammond River Park, there is a proposed loop trail around the spectacularly beautiful point of land immediately adjacent to the mouth of the Hammond River and connecting to the eastern end of Neck Road; and

- in addition to the primary trails proposed in this section for Region D, additional effort should be given to enhancing the painted shoulder lines to create safer walking areas on the shoulders along the following streets:
  - Model Farm Road from the Meenan's Cove Park to the intersection with Neck Road; and
  - along the full length of Neck Road.

These roads provide great views of the Kennebecasis Valley.

4.8 Key Features of Proposed Trails Network in Region E

The key elements of the proposed trail network in Region E of the town are:

- much of this region of the community is rural in nature. The key trail links across the rail line were noted in the two previous subsections;

- the other important inter-regional link within the Town is the proposed link across the Gondola Point Arterial (Route #119) to provide pedestrian access from the High School to the subdivisions along Monarch Road and Colton Brook Road. There is currently an unofficial looking connection provided by a gap in the chain link fence on the west side of Route #119 at the end of Millican Drive. This crossing should have improved signing and pavement markings to enhance the safety of pedestrian crossings. It is also proposed that the subdivisions along Monarch Road and Colton Brook Road be connected to the trails crossing the rail line to link with the regions north of the rail line. This could be achieved by either of the two options shown (ie. either the Route #100 underpass or the preferred potential pedestrian overpass providing for the Colton Brook - Shadetree Lane connection);

- this region would provide a ridge top trail from the vicinity of the Route #100

rail crossing (near Franklin Drive) and running generally parallel to the rail line and connecting with the inner Meenan's Cove loop trail at the signalized, at-grade rail crossing of the Hammond River Road northwest of the Hammond River Market. This ridge top, trail (providing potentially spectacular views of both the Kennebecasis River and Hammond River valleys) would provide a connecting trail down to the Hammond River Road at the intersection with Palmer Brook Road at the Hammond River Market. This eastern end of the trail would also be the potential connector to future trails development east of the Hammond River leading to the Nauwigewauk and Darlings Island areas; and

- other trails in this region provide linkage to the area south of Palmer Brook Road and west of Hammond River. This is achieved by a proposed crossing of Palmer Brook Road at the intersection with Route #100. This trail leads to a loop trail which encircles a rugged, and relatively isolated, segment of the Hammond River and then leads to a crossing of Route #1 via the Stock Farm Road underpass. The north end of this loop also provides direct access to a crossing of Route #1 via the Elliot Road overpass.

4.9 Key Features of Proposed Trails Network in Region F

Region F includes the large, mainly, rural area of the town south of the MacKay Highway (Route #1). The primary developed area in this region are the McNamara, Pine Valley and Hillcrest Park subdivisions adjacent to Route #1 and east of the interchange of Routes #1 and #119. Except for these subdivisions and a couple of small subdivisions along French Village Road and one on Kallars Hill Road, the development in this region is primarily strip development along the local roads.

The key elements of the proposed trail network for Region F of the community are:

- unfortunately this area is severely isolated from the rest of the community due to the four-lane, Route #1 highway. With the high volume and high speed of vehicles on Route #1, a direct crossing of Route #1 is not safe, practical, or cost-effective given the potentially low volume of pedestrian traffic which would be generated by the current limited population of this area;

- the focus of the trails proposed for this region is to provide a direct link between the existing development in this area and the natural features of the area.. Connections are also proposed to tie in with the loop trails along the Hammond River between Palmer Brook Road and Route #1. This also provides a direct link to all of the community trails via the link to Regions C and D (and beyond);

- key features of the trail network in this region are the two, safe crossings of Route #1 proposed by means of routing the trails along the Elliot Road overpass

and the Stock Farm Road underpass; and

- internal to this region, the proposed trails provide for local loops along Palmer Brook, Bater Brook and along ridges of land parallelling the French Village and Bradley Lake Roads. Two leader trails are proposed to link the ridge top and brook valley loops to the strip development along Bradley Lake Road. Final design of the trails in this area should be done in conjunction with the ATV groups who have already developed a pattern of ATV trails throughout this region. Efforts should be made to maximize the potential compatibility of the ATV and pedestrian trails in this area.

5.0 Trails Network Classification

5.1 Primary Classes of Trails

The proposed Trails Master Plan attempts to provide critical, safe pedestrian linkages between strategic nodes within the community as well as providing the basis for future integration with trail networks in adjoining communities. This is achieved by providing a network of trails which links adjoining nodes at the local level and at the same time provides a hierarchy of trails that expands from neighbourhood to neighbourhood and other key community nodes. The proposed trails network builds and expands upon the existing sidewalks and trails in the community. This network creates a system which ties the local elements into an integrated regional system. This can be achieved by using a range of trails in terms of their quality and standard of development. The proposed trail network would have the following levels, or types, of trails:

- **footpaths** with relatively limited surface preparation required (such as the majority of the paths in the Hammond River Park);

- **intermediate level trails** with a surface width in the 1.5 to 2.0 metre range (including a reasonable base with a crusher fines surface such as the better portions of the Saunder's Brook Trail); and

- **multi - use trails** which are of higher quality and could function as a facility capable of safely accommodating pedestrians and bicycles.

5.2 Characteristics of Each Trail Classification

The proposed classification system noted above for new trails is based on an assessment of general design standards from a number of jurisdictions. The proposed trails classification for Quispamsis is a blend of characteristics which appears to provide an appropriate range of trail facilities for this community.

Table 1 presents a number of key characteristics for the proposed trail network for Quispamsis.

TABLE 1

Proposed Trail Classifications and General Specifications

Trail Classification	Grades			Tread Width	Right of Way Clearing	Typical Surface Material	Minimum ROW Easement
	Normal	Maximum Sustained	Max. Short Pitch				
Footpaths	0% to 10%	15%	20% on 30m	50cm to 90cm	30cm to 60cm outside edges of tread Height = 2.5m	sawdust, shreaded bark, woodchips or crusher fines	5m
Intermediate Level	0% to 5%	10%	20% on 30m	1.5 to 2.0 m	30cm to 60cm outside edges of tread Height = 2.5m	100 - 150mm of 19mm crushed gravel/rock (top 25mm could be crusher fines)	10m
Multi - Use	0% to 5%	6% to 8%	15% on 30m	3.5m	70cm outside edges of tread Height = 2.5m	100 - 150mm of 19mm crushed gravel/rock (top 25mm could be crusher fines)	10m to 12m

This table summarizes the general specifications for each of the three proposed trail classifications.

At the lower end of the spectrum, the **Footpaths** are essentially what are often referred to as wilderness trails, backcounrty trails or frontcountry trails for hiking and walking. The trail widths are relatively narrow and minimal surface treatment is required. If desired, the surface treatment would be sawdust, shreaded bark or woodchips. If desired, crusher fines could also be used for the surface treatment. The trails can have steeper grades although the maximum length of sustained steep grades should be limited to reasonable lengths.

The **Intermediate Level Trails** have enhanced geometric characteristics which would accommodate 2-way walking and jogging traffic. The width of the trail walking surface should be in the 1.5 to 2.0 metre range. The surface tread width is wider and it should have a smooth surface for the full width. The surface course should a 100mm to150mm thickness of 19mm crushed gravel/rock (the top 25mm surface treatment could be replaced with crusher fines). The right of way width for trail land purchase or easements could be in the 6 to 10 m range. This will vary depending on the terrain (particularly, the cross slope). However, a 10m width for the easement should be adequate for most situations.

Multi-Use Trails would exhibit adequate design features to safely accommodate 2-way bicycle traffic as well as pedestrian activity. To maintain consistency and compatibility with the primary trail system being developed throughout the province (as part of the Trans Canada Trail System), it is recommended that this class of trail be compatible with the standards for the "NB Trail" system. **Table 1** incorporates the NB Trails characteristics for Level 1 to Level 3 trails under this provincial classification program. **Appendix A** illustrates typical cross section details prepared for the NB Trails system as prepared by the provincial Department of Natural Resources and Energy. This class of trail is similar to the Intermediate Level Trail but it provides for a wider surface width and provision for possibly a wider easement width. The maximum sustained grades and the maximum grades for short lengths are also somewhat more stringent than for Intermediate Level trails.

In all cases, the precise details of the alignments and gradients, as well as the ROW / Easement widths, will have to be determined at the design stage. This will be an integral part of the project specific adjustments which will be required at the detailed design stage.

5.3 Proposed Trail Characteristics by Trail Classification and Improvement Category

Table 2 summarizes the extent of proposed trail development by Classification type for each of Regions A to F inclusive. This table breaks down the lengths of trail for each of the three classes based on the amount of trail which:

- is new trail;
- involves upgrading of existing trails; or

TABLE 2

SUMMARY OF PROPOSED TRAIL LENGHTS FOR EACH TRAIL CLASSIFICATION AND IMPROVEMENT CATEGORY

REGION	Location	TRAIL CLASSIFICATION: Multi-Use (Bicycle \ Pedsetrian Trail) – Improvement Category: New	Multi-Use (Bicycle \ Pedsetrian Trail) – Improvement Category: Upgrade Existing Trail	Multi-Use (Bicycle \ Pedsetrian Trail) – Improvement Category: Along Existing Road / Street	Intermadiate Level Trail – Improvement Category: New	Intermadiate Level Trail – Improvement Category: Along Existing Road / Street	Footpath – Improvement Category: New	Footpath – Improvement Category: Along Existing Road / Street
		Length of Proposed Trail (km)						
A	Saunder's Brook Trail Extension and Upgrade	1.55	2.15					
	Gondola Recreation Centre to Route #119 Crossing	0.2	0.3					
	Saunder's Brook Trail to Middle School at Pettingill Road	1.3						
	Middle School to CN Rail line	0.5		0.3				
	St. Augustine's Anglican Church to Route #119 Crossing at Mud Lake	1.4						
	Middle School to Lakefield Elementary School				1.05			
	Lakefield Elementary School to Pettingill Road				0.2			
	Lakefield Elementary School to Linda Avenue				1.35			
	Linda Avenue to Lexington				1.25			
	Middle School to Gondola Point Recreation Centre				1.95			
	King Richard Drive to Riverview Drive				1.2			
	Country Crescent to Wakefield Lane				1			
	Gondola Recreation Centre to Gondola Point Ferry Landing						2.8	
	Painted White Line on shoulder of Gondola Point Road (Quispamsis Road to Ferry Landing)							1.2
	Subtotals	**4.95**	**2.45**	**0.3**	**8**	**0**	**2.8**	**1.2**
B	CN Rail crossing to Town Hall	1.35		1.3				
	Old Coach Road to High School	1						
	High School to Millenium Drive (to Town Line)	2.9						
	High School to Rte #119				0.3			
	Millenium Drive to Rte #100				1.1			
	North Side of Ritchie Lake Loop				0.4	0.6		
	Ritchie Lake to Longwood Drive				0.3	0.7		
	Subtotals	**5.25**	**0**	**1.3**	**2.1**	**1.3**	**0**	**0**

TABLE 2 (Continued)

SUMMARY OF PROPOSED TRAIL LENGHTS FOR EACH TRAIL CLASSIFICATION AND IMPROVEMENT CATEGORY

REGION	Location	TRAIL CLASSIFICATION						
		Multi-Use (Bicycle \ Pedsetrian Trail)			Intermadiate Level Trail		Footpath	
		Improvement Category						
		New	Upgrade Existing Trail	Along Existing Road / Street	New	Along Existing Road / Street	New	Along Existing Road / Street
		Length of Proposed Trail (km)						
C	Rte #119 at Recreation Centre to Mud Lake (via NB Tel Tower)	3.6						
	Mud Lake to Rte #119 Crossing		0.5					
	Mud lake to CN Rail Crossing - Option A: (via Colton Brook Road / Shadetree Lane)	1.25						
	Mud lake to CN Rail Crossing - Option B: (via Rte #100 Underpass)	0.9						
	NB Tel Tower to Meenan's Cove Bridge	2.65		0.3				
	Southern loop around inner Meenan's Cove to CN Rail crossing of Hammond River Road	2.5						
	Near Rte #100 Rail Underpass to Chamberlain Rd. Multi-Use Trail				1.85	0.1		
	Misty Cove Lane / Forresters Cove Loop Path						4.6	
	Subtotals: Rail Crossing Option A	**10**	**0.5**	**0.3**	**1.85**	**0.1**	**4.6**	**0**
	Subtotals: Rail Crossing Option B	**9.65**	**0.5**	**0.3**	**1.85**	**0.1**	**4.6**	**0**
D	Northern Loop around inner Meenan's Cove	1.6		1				
	Hammond River Road Rail crossing to Hammond River Park / Neck Road	3.2		0.6				
	Inner Meenan's Cove to old Ferry Landing				2.3			
	Link to Kenneth Drive				0.85			
	Loop around Piont at end of Neck Road						1.8	
	Subtotals	**4.8**	**0**	**1.6**	**3.15**	**0**	**1.8**	**0**
E	Ridge parallel to and southeast of CN Rail line	4.65		0.8				
	Link to Hammond River Market	1.1		0.15				
	Elliot Road to Rte #100 area Intersection of Ridge Multi-Use Trail				2.1	0.1		
	Link to Stock Farm Road				0.45			
	Hammond River Loop						2.4	
	Elliot Road to Stock Farm Road connector						1.4	0.45
	Subtotals	**5.75**	**0**	**0.95**	**2.55**	**0.1**	**3.8**	**0.45**
F	Parkside Drive to Rte #1				1.55	0.65		
	Palmer Brook / Bater Brook Footpath						5.65	
	French Village Road Ridge Trail						3.15	
	Bradley Lake Road Connector						1.75	
	French Village Road Connector						1.05	
	Subtotals	**0**	**0**	**0**	**1.55**	**0.65**	**11.6**	**0**
	Totals: Rail Crossing Option A	**30.75**	**2.95**	**4.45**	**19.2**	**2.15**	**24.6**	**1.65**
	Totals: Rail Crossing Option B	**30.4**	**2.95**	**4.45**	**19.2**	**2.15**	**24.6**	**1.65**

- requires utilization of existing roads or streets.

The new trails or upgrading of existing trails are relatively straight forward. The category of developing along existing roads/streets, could involve construction of concrete sidewalks or improved shoulders with provision for paved shoulders outside a painted white line delineating the limits of the travel lane and shoulder. **Significant effort is required at the design stage to provide for safe shoulder/sidewalk treatments which will be compatible with road/street design criteria established for pedestrians and cyclists by the Roads and Transportation Association of Canada and the Institute of Transportation Engineers.**

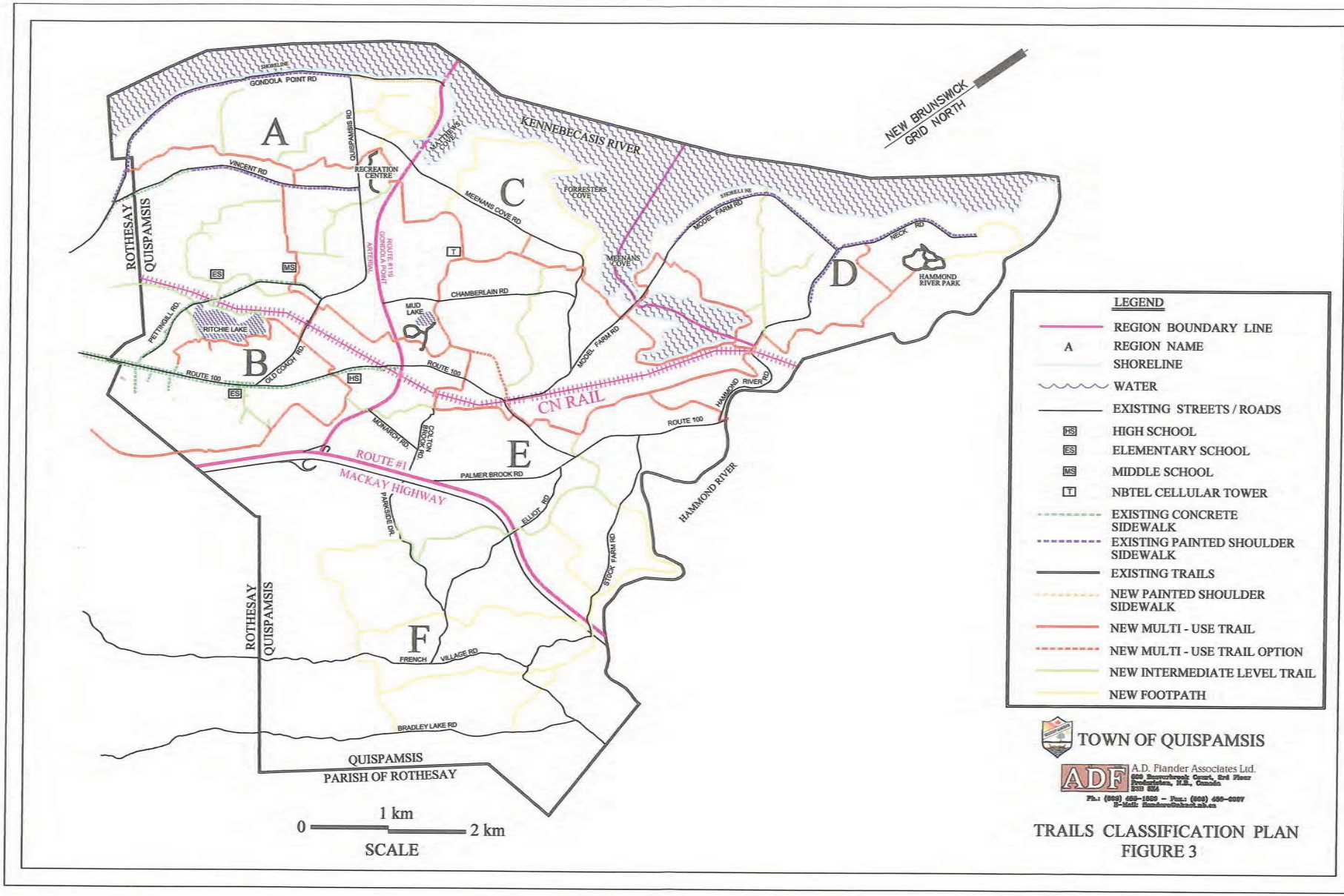
Table 2 breaks down the proposed trail networks within each region by providing a general description of the geographic location of all segments of the trail network for each class of trail. Subtotals for the length of each subgroup (i.e. new, upgrade or along existing road/street) of trail within each of the three major trail classifications are also provided in Table 2.

The location description relates the trail segment to existing street and road facilities as well as to the many nodes which are being connected by the trail system. For example, specific reference is made to nodes such as the Elementary Schools, Middle School, High School, Gondola Point Recreation Center, Mud Lake, Ritchie Lake, Town Hall, Central Business District, etc. By cross-referencing these location descriptions with the accompanying 1:12,500 Scale Master Plan (and to a lesser extent the enclosed **Figure 3**), the reader can identify each segment of the plan noted in **Table 2.**

The Trails Classification System presented in **Figure 3** provides for long term development of an integrated trails network which provides for:

- a core level of accessibility for pedestrian and bicycle traffic between key nodes and interconnecting with adjoining communities;
- a feeder network of intermediate level trails which provides supplementary connections between the core pedestrian/bicycle network. This intermediate level of trail also provides links to the higher level trails from various key nodes of development noted in the previous paragraph;
- footpaths to achieve general access in a less intrusive manner to a number of more isolated areas.

The hierarchy of trails focuses the primary, higher level trail elements, in the more developed areas of the Town while also linking the more rural areas dispersed throughout the large geographic area of the community.


A
B
C
D
E
F
GONDOLA POINT RD
VINCENT RD
QUISPAMSIS RD
RECREATION CENTRE
KENNEBECASIS RIVER
NEW BRUNSWICK
GRID NORTH
ROTHESAY
QUISPAMSIS
MEENANS COVE RD
FORRESTERS COVE
MEENANS COVE
MODEL FARM RD
SHORELINE
NECK RD
HAMMOND RIVER PARK
ROUTE #130
GONDOLA POINT
ARTERIAL
CHAMBERLAIN RD
MUD LAKE
PETTINGILL RD
RITCHIE LAKE
OLD COACH RD
ROUTE 100
CN RAIL
HAMMOND RIVER RD
MONARCH RD
DOLTON BROOK RD
ROUTE #1
MACKAY HIGHWAY
PALMER BROOK RD
PARKSIDE DR.
ELLIOT RD
STOCK FARM RD
HAMMOND RIVER
FRENCH VILLAGE RD
BRADLEY LAKE RD
QUISPAMSIS
PARISH OF ROTHESAY
ES
MS
HS
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1 km
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2 km
SCALE
LEGEND
REGION BOUNDARY LINE
REGION NAME
SHORELINE
WATER
EXISTING STREETS / ROADS
HIGH SCHOOL
ELEMENTARY SCHOOL
MIDDLE SCHOOL
NBTEL CELLULAR TOWER
EXISTING CONCRETE SIDEWALK
EXISTING PAINTED SHOULDER SIDEWALK
EXISTING TRAILS
NEW PAINTED SHOULDER SIDEWALK
NEW MULTI - USE TRAIL
NEW MULTI - USE TRAIL OPTION
NEW INTERMEDIATE LEVEL TRAIL
NEW FOOTPATH
TOWN OF QUISPAMSIS
ADF
A.D. Flander Associates Ltd.
TRAILS CLASSIFICATION PLAN
FIGURE 3

5.3.1 Multi-Use Trails

The following points highlight the rationale and key attributes of the higher level pedestrian/bicycle component of the trail network:

- In **Region A**, the existing Saunder's Brook Trail from the Gondola Point Recreation Centre would be upgraded and extended westbound to connect with the Gondola Point Road and provide a direct link to the Town of Rothesay. This provides good access to a number of neighbourhood nodes along this corridor.

- This multi-use trail network also goes overland across Vincent Road to the Middle School and across the Old Coach Road pedestrian structure over the CN Rail Line linking by Ritchie Lake and directly into the Town Hall area and the associated municipal facilities and services provided in this Central Business area.

- In **Region B**, the other key segment of the Multi-Use Trail diverts off the Old Coach Road Trail providing a direct link to the High School and onward to the Millennium Drive Trail which provides an additional potential high level future link to the Town of Rothesay.

- The Multi-Use Trail in **Region C** is connected to this network in Regions A and B, by crossings of Route #119 at the existing Mud Lake Nature Trail and Gondola Recreation Centre Trail networks. In both of these nodes, there would be need for upgrading of short segments of existing trail elements and provision of crossings of the Arterial Route #119. **These crossings should be designed to be consistent with standards recommended by the Transportation Association of Canada and the Institute of Transportation Engineers.**

  These two crossings are connected with a Multi-Use trail crossing Chamberlain Road and passing near the NB Tel Cellular Tower mid-way between Chamberlain Road and Meenan's Cove Road. This establishes an east west link throughout the community and ties into a loop between Mud Lake, the Gondola Point Recreation Center, all schools and the Central Business Area (as well as providing two east west trails via Saunder's Brook extension and the Mud Lake - High School - Millennium Drive routing.

- **Region E** includes a second east-west Multi-Use trail link on the south side of the CN Rail Line linking Mud Lake directly to inner Meenan's Cove. This also provides a desirable loop between the ridge of land south of the Rail Line, Meehan's Cove, Mud Lake and the NB Tel Tower area residential nodes. There is also a direct link to Palmer Brook Road, the Hammond River Market and a potential link over the bridge to Nauwigewauk and communities to the east.

- In **Region D**, the Multi-Use Trail loops around inner Meenan's Cove providing access to the Meenan's Cove Park (including access to the Meenan's Cove Beach and recreation facilities) and makes a direct link to the Hammond River Park and Neck Road.

A critical feature of the Multi-Use Trail System is that it provides a network of trails with a high level of safety for these vulnerable users. This is achieved because the trail network is almost totally separate from the road/street network and has limited crossings of the major road /street and rail corridors. In most limited cases where the Multi-Use Trail is on the street system it is in secluded residential areas with low traffic volumes.

5.3.2 Intermediate Level Trails

Figure 3 illustrates how the Intermediate Level Trails feed the Multi-Use Trail network and provide a collector system for the Multi-Use Trails.

In **Region A**, this Intermediate System:

- provides a link between Gondola Point Road and the Saunder's Brook trail extension;
- provides a link from the Saunder's Brook Trail in the Klondike Drive area through the newly developing areas to the north and linking the residential nodes off Lionell Drive and Quispamsis Road.
- creates a link from the Gondola Point Recreation Centre to the Middle School and a loop around the residential nodes west of the Middle School and to the Lakefield Elementary School.

Region B includes trails between the Millennium Drive Multi-Use Trail and the Quispamsis Elementary School and playground on the Old Hampton Road (Route #100) as well as an extension of the Ritchie Lake trail to a segment of the Town of Rothesay which could be linked along Longwood Drive. There is also a link between the High School and the residential development east of Route #119, along Monarch Drive and Colton Brook Road.

Region C has an intermediate trail between the CN Rail Underpass on Route #100 and the area east of the NB Tel Cellular Tower. This provides a linking across the Multi-Use Trail loop through Regions C and E.

An Intermediate Trail is provided in **Region D** to run from the east end of the inner Meenan's Cove loop trail to the area of the old ferry landing on Model Farm Road.

The rural oriented **Regions E and F** have Intermediate Level Trails to connect the concentration of residential development in McNamara, Pine Valley and Hillcrest Parks to the Multi-Use Trail along the ridge paralleling the CN Rail Line between the Route #100/Palmer Brook Road intersection and the Hammond River Market. These links provide for safe crossing of the four-

lane Route #1 highway by means of the Elliot Road overpass.

5.3.3 Footpaths

Footpaths provide the lowest level of service but are an essential component of the feeder system for the trail network. These trails are the least intrusive on existing and potential future development and are most economical to construct.

Region A includes a number of footpaths **(see Figure # 3)** to connect the residential nodes between the Gondola Point Ferry Landing and the Recreation Centre. These paths also link to the beach at the Gondola Point Ferry Landing.

A footpath is proposed in **Region C** to loop from the Multi-Use Trail running across this region near the NB Tel Cellular Tower. This loop would cross Meenan's Cove Road by the Electric Substation, run across Misty Cove Lane eastward paralleling the shoreline connecting back to Meenan's Cove Road and the Multi-Use Trail about 250 m north of the intersection of Meenan's Cove Road and Chamberlain Road.

Region D includes a proposal for a potentially beautiful loop from the existing trails in Hammond River Park around the eastern point of land at the juncture of the Hammond and Kennebecasis Rivers and connecting into the end of Neck Road.

Region F provides for a loop from the Intermediate trails across Stock Farm Road around a rugged point of land on the Hammond River. This is also a footpath connecting to Region F via the Stock Farm Road underpass of Route #1.

The primarily rural, **Region F**, has a loop and connector system of footpaths connecting the McNamara, Pine Valley and Hillcrest Parks subdivisions to the French Village Road and Bradley Lake Road areas. These footpaths parallel Palmer and Bater Brooks and run along the ridge of land overlooking these valleys and the Ridge between French Village Road and Bradley Lake Road.

5.4 Regional Summary of Proposed Trail Characteristics by Classification and Category

Table 3 summarizes the subtotals for the length of each category of trail for each of the three proposed trail classifications. As is the case for **Table 2**, this table shows the results for two options for crossing the rail line between Regions C and E. Option A (the preferred option, but more expensive due to the need for a pedestrian/bicycle overpass structure) would cross the rail line at the Colton Brook Road/Shadetree Lane location. Option B would utilize the cramped and relatively unsafe crossing (from a road/vehicle risk perspective) using the Route #100 underpass of the rail line.

Table 3 illustrates the proposed total lengths of each category of trail development for each of the

TABLE 3

REGIONAL SUMMARY OF PROPOSED TRAIL NETWORK

SUMMARY OF PROPOSED TRAIL LENGHTS FOR EACH TRAIL CLASSIFICATION AND IMPROVEMENT CATEGORY

		TRAIL CLASSIFICATION							
		Multi-Use (Bicycle \ Pedsetrian Trail)			Intermadiate Level Trail		Footpath		
		Improvement Category							
REGION	Item	New	Upgrade Existing Trail	Along Existing Road / Street	New	Along Existing Road / Street	New	Along Existing Road / Street	Regional Total
		Length of Proposed Trail (km)							
A	**Subtotals**	4.95	2.45	0.3	8	0	2.8	1.2	19.7
B	**Subtotals**	5.25	0	1.3	2.1	1.3	0	0	9.95
C	**Subtotals: Rail Crossing Option A**	10	0.5	0.3	1.85	0.1	4.6	0	17.35
C	**Subtotals: Rail Crossing Option B**	9.65	0.5	0.3	1.85	0.1	4.6	0	17
D	**Subtotals**	4.8	0	1.6	3.15	0	1.8	0	11.35
E	**Subtotals**	5.75	0	0.95	2.55	0.1	3.8	0.45	13.6
F	**Subtotals**	0	0	0	1.55	0.65	11.6	0	13.8
	Totals: Rail Crossing Option A (via Shadetree Lane)	**30.75**	**2.95**	**4.45**	**19.2**	**2.15**	**24.6**	**1.65**	85.75
	Totals: Rail Crossing Option B (via Route #100 Underpass)	**30.4**	**2.95**	**4.45**	**19.2**	**2.15**	**24.6**	**1.65**	85.4
	Trail Class Total: Option A (via Shadetree Lane)			**38.15**		**21.35**		**26.25**	**85.75**
	Trail Class Total: Option B (via Route #100 Underpass)			**37.8**		**21.35**		**26.25**	**85.4**

three trail classifications. Disregarding the minor differences which result depending on whether Option A or B is used for the Multi-Use Trail crossing of the CN Rail Line in the Colton Brook Road area, the following observations are noted:

- the total length of the trails network is about 86 km;

- this total is based on about:
  - 38 km of Multi-Use trail (45% of the total);
  - 21 km of Intermediate Level Trails (25% of the total); and
  - 26 km of footpaths (30% of the total);

- about 74 km (87%) of the total trails network involves new trail development;

- about 3 km (4.0%) of the network would involve upgrading of existing trails (i.e. on Saunder's Brook, in the Gondola Point Recreation Centre and the Mud Lake Nature Trail systems);

- nearly 8.5 km (10.0%) involves utilizing the edges of existing roads and streets; and

- nearly 30 km (35%) of the total trail distance is in Regions A and B. When Region C is added, the total length of trails proposed equals nearly 47 km which is about 55% of the total length of trails provided.

6.0 Implementation Plan

Table 4 summarizes the proposed implementation staging plan for the trails network.

Figure 4 presents a graphical illustration of the implementation staging priorities. The proposed plan establishes priorities for implementation based primarily on the six regions of the community. Recognizing the extensive nature of the proposed network, and the need to exercise fiscal responsibility, it is proposed that the trail system be developed over a 20 year time frame.

The **first priority** for development would be implementation of the three classes of trails in **Regions A and B**. It is proposed that this be done over a six year period. This represents about one-third (29.5 km) of the total length of the trails network proposed. It also focuses the initial trail development in the portions of the Town which has the majority of the town's population.

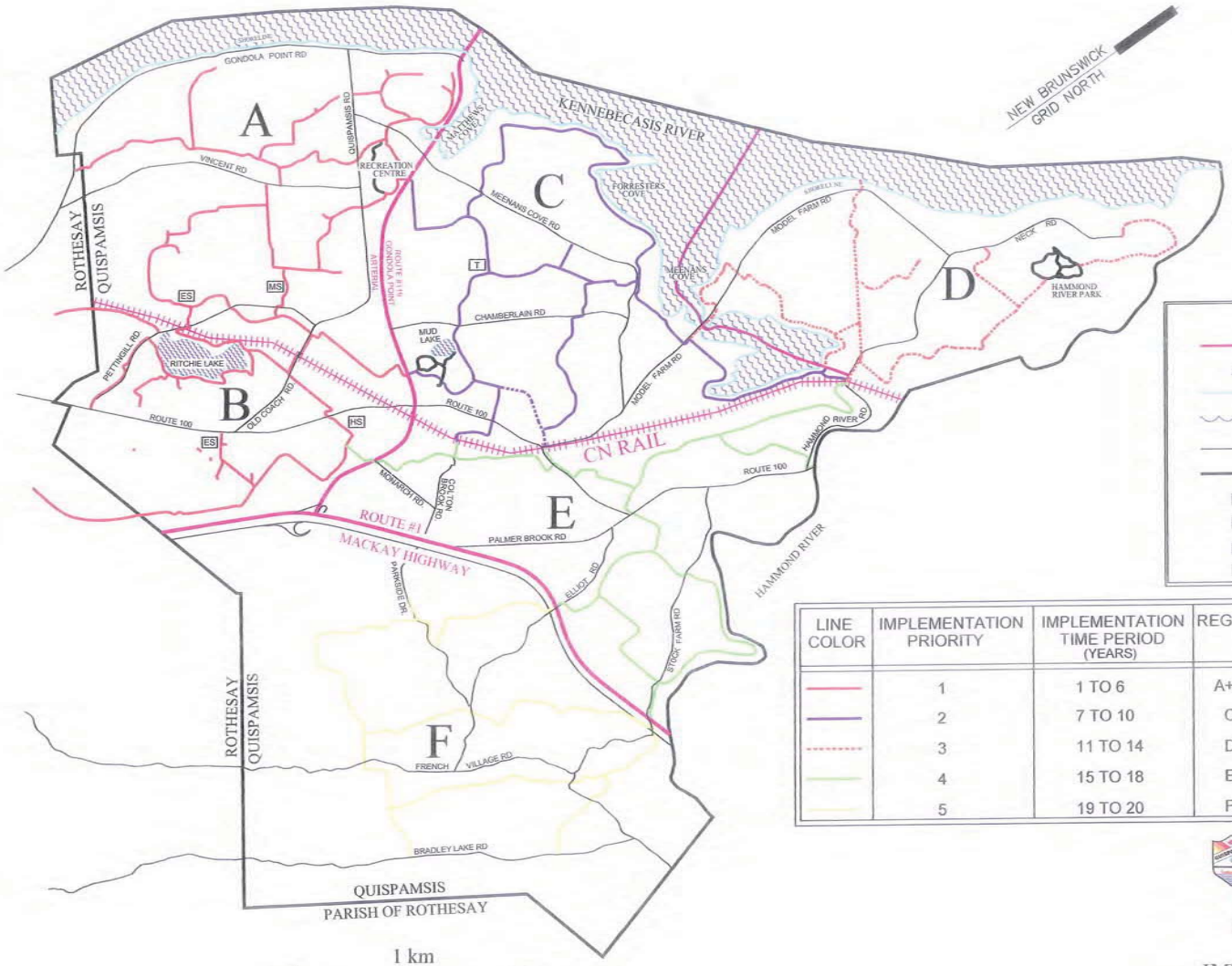
The **second priority** would be to develop the trails in **Region C**. This stage would add about 17 km of trails and is proposed for years seven to ten. This expands the network eastward from the Gondola Point Arterial (Route #119) to provide a link to the Meenan's Cove Park, and achieve a direct linkage between the Mud Lake Nature Trails and the Gondola Point Recreation Centre. This stage of development also enables completion of the loops in the Multi-Use Trails

TABLE 4

IMPLEMENTATION PLAN

FOR PORPOSED TRAIL NETWORK

Implementation Priority	Implementation Time Period	Region	Item	TRAIL CLASSIFICATION							Regional Total	Cumulative Total	Implementation Priority	Implementation Time Period
				Multi-Use (Bicycle \ Pedsetrian Trail)			Intermadiate Level Trail		Footpath					
				Improvement Category										
				New	Upgrade Existing Trail	Along Existing Road / Street	New	Along Existing Road / Street	New	Along Existing Road / Street				
				Length of Proposed Trail (km)							km	km		
1	Year 1 to 6	A	**Subtotals**	4.95	2.45	0.3	8	0	2.8	1.2	19.7	19.7	1	Year 1 to 6
		B	**Subtotals**	5.25	0	1.3	2.1	1.3	0	0	9.95	29.65		
			Subtotal of Regions A & B	**10.2**	**2.45**	**1.6**	**10.1**	**1.3**	**2.8**	**1.2**	29.65			
2	Year 7 to 10	C	**Subtotals: Rail Crossing Option A**	10	0.5	0.3	1.85	0.1	4.6	0	17.35		2	Year 7 to 10
		C	**Subtotals: Rail Crossing Option B**	9.65	0.5	0.3	1.85	0.1	4.6	0	17	46.65		
3	Year 11 to 14	D	**Subtotals**	4.8	0	1.6	3.15	0	1.8	0	11.35	58	3	Year 11 to 14
4	Year 15 to 18	E	**Subtotals**	5.75	0	0.95	2.55	0.1	3.8	0.45	13.6	71.6	4	Year 15 to 18
5	Year 19 to 20	F	**Subtotals**	0	0	0	1.55	0.65	11.6	0	13.8	85.4	5	Year 19 to 20
			Totals: Rail Crossing Option A (via Shadetree Lane)	**30.75**	**2.95**	**4.45**	**19.2**	**2.15**	**24.6**	**1.65**	85.75			
			Totals: Rail Crossing Option B (via Route #100 Underpass)	**30.4**	**2.95**	**4.45**	**19.2**	**2.15**	**24.6**	**1.65**	85.4			
			Trail Class Total: Option A (via Shadetree Lane)			**38.15**		**21.35**		**26.25**	**85.75**			
			Trail Class Total: Option B (via Route #100 Underpass)			**37.8**		**21.35**		**26.25**	**85.4**			



LINE COLOR	IMPLEMENTATION PRIORITY	IMPLEMENTATION TIME PERIOD (YEARS)	REGION	TOTAL TRAIL LENGTH (Km)	CUMULATIVE TOTAL TRAIL LENGTH (Km)
	1	1 TO 6	A+B	29.6	29.6
	2	7 TO 10	C	17.4	47.0
	3	11 TO 14	D	11.4	58.4
	4	15 TO 18	E	13.6	72.0
	5	19 TO 20	F	13.8	85.8

TOWN OF QUISPAMSIS

A.D. Flander Associates Ltd.
500 Beaverbrook Court, 3rd Floor
Fredericton, N.B., Canada
E3B 5X4
Ph.: (506) 458-1530 – Fax.: (506) 459-0007
E-Mail: flanders@nbnet.nb.ca

IMPLEMENTATION STAGING PLAN
FIGURE 4

encompassing all of **Regions A, B and C**.

The **third priority** (during years eleven to fourteen) would add close to twelve km of trails in **Region D**. This involves extension to the mouth of the Hammond River Park, the connection to Neck Road and completion of the loop around inner Meenan's Cove.

The **fourth priority**, (years fifteen to eighteen) would expand the network into **Region E**, thus completing the last major loop of the Multi-Use Trail along the ridge south east of the CN Rail Line. This would also include Intermediate trails and footpaths connecting with **Region F.**

The **fifth priority** for development (years nineteen and twenty) would provide the Intermediate Level Trails across Elliot Road overpass to McNamara, Pine Valley and Hillcrest Parks. This last stage of development would also provide an extensive network of footpaths from these subdivisions to the Palmer and Bater Brooks and along the ridge between French Village Road and Bradley Lake Road.

Each of the last three stages of development adds about 12 to 14 km of trails to the network..

7.0 Preliminary Construction Cost Estimates For Proposed Trails Network

Table 5 presents a detailed summary of the preliminary construction cost estimates for the proposed Trails Network. This table breaks down the costs on the basis of:

- the Region of the Town;

- the Classification of trail (i.e. multi-use, intermediate or footpath);

- the Category of improvement (i.e. new, upgrade of existing trail, or along existing road/street).

This estimate is preliminary in nature and is based on average unit costs per km for each of the three classes of trails. **No provision has been made for Engineering and Construction Services costs**. The final costs will vary depending on the results of more detailed design for each specific element of the trail network.

Some elements of the trails in each of the three class of trail will have varying levels of costs, but the general average shown in **Table 5** should be representative of what the costs would probably average assuming the work is put out to contract by the private sector.

If the Town were to utilize the variety of special government programs which are likely to be available during the implementation period, the actual costs could probably be reduced substantially from the values in Table 5. It is also possible that costs could be reduced through input and efforts which might be available from community groups and

TABLE 5

PRELIMINARY CONSTRUCTION COST ESTIMATES FOR PROPOSED TRAIL NETWORK

Implementation Priority	Implementation Time Period	Region	Item	TRAIL CLASSIFICATION							Regional Total	Cumulative Total	Implementation Priority	Implementation Time Period	Cost
				Multi-Use (Bicycle \ Pedsetrian Trail)			Intermadiate Level Trail		Footpath						
				Improvement Category											
				New	Upgrade Existing Trail	Along Existing Road / Street	New	Along Existing Road / Street	New	Along Existing Road / Street					
				Length of Proposed Trail (km) - Cost ($)							km	km			
1	Year 1 to 6	A	**Subtotals - km**	4.95	2.45	0.3	8	0	2.8	1.2	19.7	19.7	1	Year 1 to 6	
		B	**Subtotals - km**	5.25	0	1.3	2.1	1.3	0	0	9.95	29.65			
			Subtotal of Regions A & B - km	**10.2**	**2.45**	**1.6**	**10.1**	**1.3**	**2.8**	**1.2**	29.65				
			Unit Cost ($ per km)	*$20,000*	*$8,000*	*$5,000*	*$6,000*	*$3,000*	*$800*	*$200*					
			Cost ($)	***$204,000***	***$19,600***	***$8,000***	***$60,600***	***$3,900***	***$2,240***	***$240***					***$298,580***
2	Year 7 to 10	C	**Subtotals: Rail Crossing Option A**	10	0.5	0.3	1.85	0.1	4.6	0	17.35		2	Year 7 to 10	
		C	**Subtotals: Rail Crossing Option B**	9.65	0.5	0.3	1.85	0.1	4.6	0	17	46.65			
			Unit Cost ($ per km)	*$20,000*	*$8,000*	*$5,000*	*$6,000*	*$3,000*	*$800*	*$200*					
			Cost ($)	***$200,000***	***$4,000***	***$1,500***	***$11,100***	***$300***	***$3,680***	***$0***					***$220,580***
3	Year 11 to 14	D	**Subtotals - km**	4.8	0	1.6	3.15	0	1.8	0	11.35	58	3	Year 11 to 14	
			Unit Cost ($ per km)	*$20,000*	*$8,000*	*$5,000*	*$6,000*	*$3,000*	*$800*	*$200*					
			Cost ($)	***$96,000***	***$0***	***$8,000***	***$18,900***	***$0***	***$1,440***	***$0***					***$124,340***
4	Year 15 to 18	E	**Subtotals - km**	5.75	0	0.95	2.55	0.1	3.8	0.45	13.6	71.6	4	Year 15 to 18	
			Unit Cost ($ per km)	*$20,000*	*$8,000*	*$5,000*	*$6,000*	*$3,000*	*$1,000*	*$200*					
			Cost ($)	***$115,000***	***$0***	***$4,750***	***$15,300***	***$300***	***$3,800***	***$90***					***$139,240***
5	Year 19 to 20	F	**Subtotals - km**	0	0	0	1.55	0.65	11.6	0	13.8	85.4	5	Year 19 to 20	
			Unit Cost ($ per km)	*$20,000*	*$8,000*	*$5,000*	*$6,000*	*$3,000*	*$800*	*$200*					
			Cost ($)	***$0***	***$0***	***$0***	***$9,300***	***$1,950***	***$9,280***	***$0***					***$20,530***
			Totals: Rail Crossing Option A (via Shadetree Lane) - km	**30.75**	**2.95**	**4.45**	**19.2**	**2.15**	**24.6**	**1.65**	85.75				
			Totals: Rail Crossing Option B (via Route #100 Underpass) - km	**30.4**	**2.95**	**4.45**	**19.2**	**2.15**	**24.6**	**1.65**	85.4				
			Unit Cost ($ per km)	*$20,000*	*$8,000*	*$5,000*	*$6,000*	*$3,000*	*$800*	*$200*					
			TOTAL COST ($)	***$615,000***	***$23,600***	***$22,250***	***$115,200***	***$6,450***	***$20,440***	***$330***					
			TOTAL COST BY TRAIL CLASS			***$660,850***		***$121,650***		***$20,770***					
			STRUCTURE COST (at Colton Brook - Shadetree Lane)			***$150,000***									***$150,000***
			OVERALL TOTAL COST			***$660,850***		***$121,650***		***$20,770***					***$953,270***
										$953,270					
			Trail Class Total: Option A (via Shadetree Lane) - km			**38.15**		**21.35**		**26.25**	**85.75**				
			Trail Class Total: Option B (via Route #100 Underpass) - km			**37.8**		**21.35**		**26.25**	**85.4**				

volunteers. However, the overall Long Term budget **in Table 5 gives an order of magnitude of the total construction costs** required to implement the entire network throughout all six regions of the Town based on utilizing the private sector for construction.

A major factor affecting the costs is the potential pedestrian/bicycle bridge over the CN Rail line for the Colton Brook Road-Shadetree Lane option. The estimated cost of this structure is about $150,000. Depending on which option is used for this rail crossing, the construction costs for the Trails Network ranges from:

- about **$ 800,000.** for the Rail crossing Option B based on using the existing Route #100 underpass; to

- about **$ 950,000** for the substantially safer Option A which provides for a pedestrian/bicycle bridge over the rail line at the Colton Brook Road/Shadetree Lane location.

The average cost to implement the Trails Master Plan is in the $ 50,000 to $ 55,000 range per year for the first ten years of the 20 year implementation period. For years 11 to 18 of the implementation period, the average cost per year would be in the $ 30,000 to $ 35,000 range. During the last two years of the implementation period, the construction costs would reduce to about $ 10,000 per year.

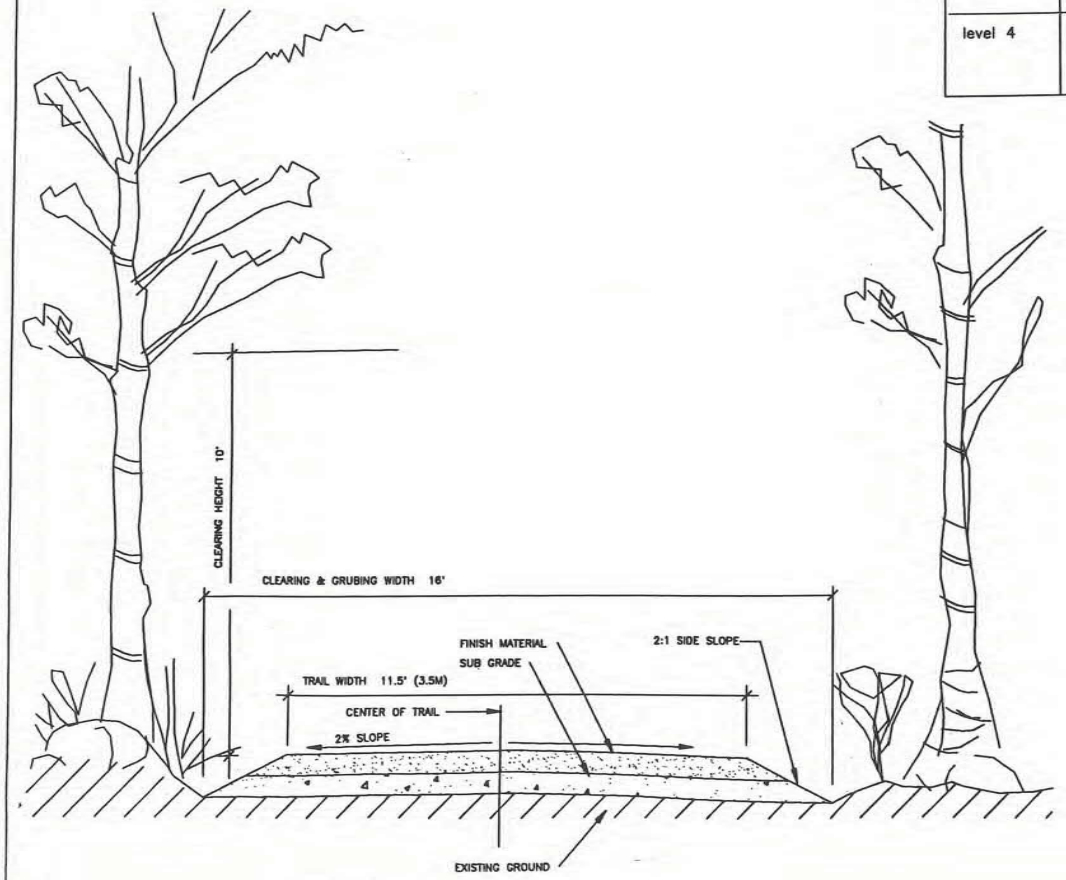
Successful implementation of the Trails Master Plan will be substantially impacted by the extent of adherence to the "Land for Public Purposes" Policy. The priority should be to take land along the corridors required for the Trails network. Cash in lieu of land should not be considered as an option.

APPENDIX A - NB TRAILS TYPICAL CROSS SECTION DETAILS

(Source: Natural Resources & Energy)

Levels of Trail Surface -- Minimum Standards

LEVEL	LOCATION	MATERIAL	SURFACE WIDTH
level 1	URBAN / INCORPORATED AREA	CRUSHER FINES SMOOTH FULL SURFACE	3.5 M
level 2	URBAN "SHADOW" (6 KM BEYOND LEVEL 1)	CRUSHER FINES OR CRUSHED GRAVEL SMOOTH FULL SURFACE	3.5 M
level 3	L.S.D. OR RAILWAY BEYOND URBAN SHADOW	CRUSHED GRAVEL OR ANYTHING FIRM PROVIDING SMOOTH FULL SURFACE	3.5 M
level 4	REMOTE LOCATIONS	3/4" MINUS OR ANYTHING FIRM PROVIDING SMOOTH WHEEL TRACKS	2.5 – 3.5 M



TYPICAL CROSS SECTION

NO.	REVISION	DATE
1	GENERAL REVISION	03/99

REVISIONS

PROVINCE OF NEW BRUNSWICK
NATURAL RESOURCES & ENERGY
PARKS & NATURAL AREAS BRANCH
SENTIER NB TRAIL PROGRAM

PROJECT

DWG. TITLE
TRAIL SURFACE & CLEARING DETAILS

DESIGN BY	APPROVED BY
DWG. BY DW	
DATE APRIL 1997	SHEET NO. 1 of 1
CAD NO. T-OF-12	DWG. NO. T-OF-12