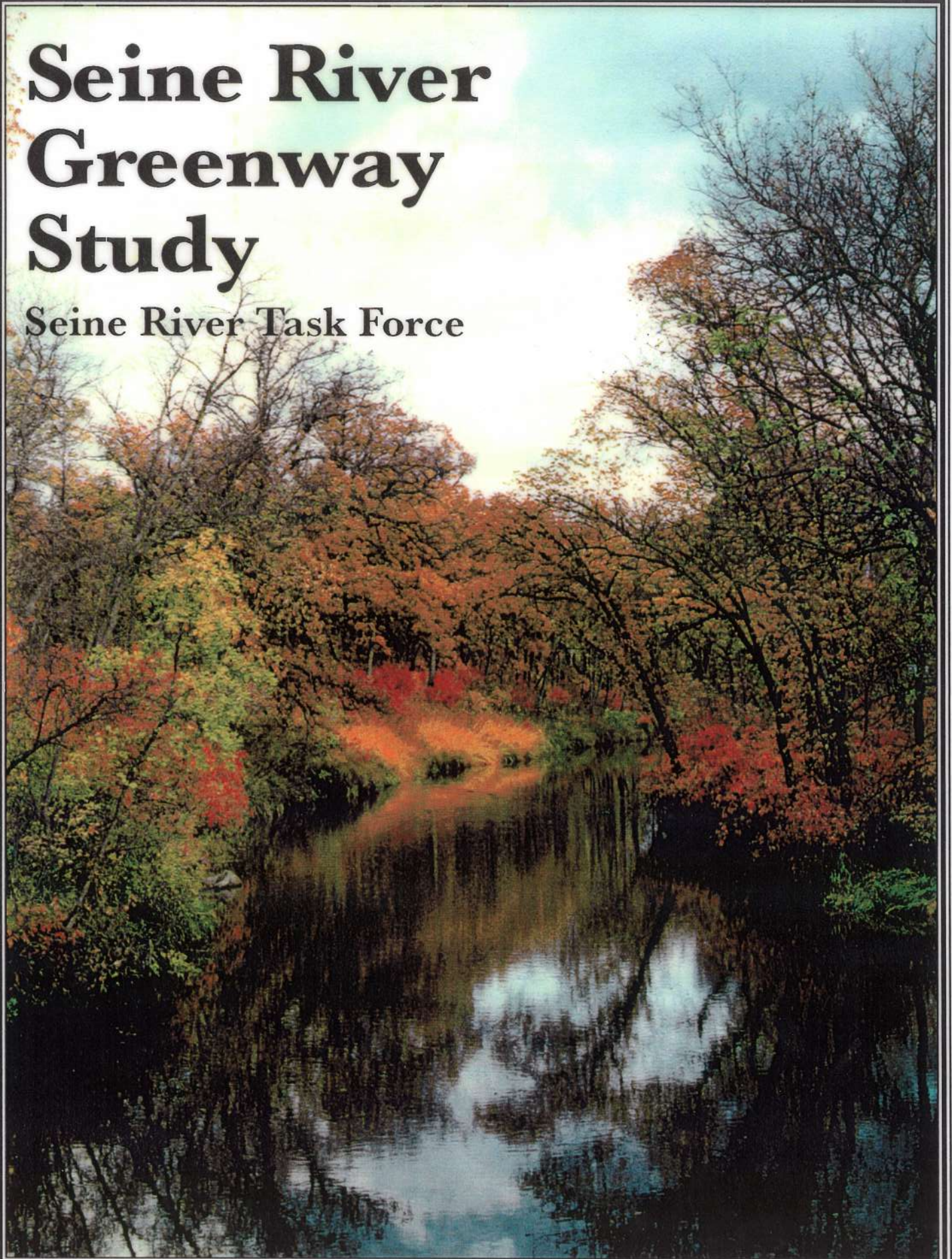


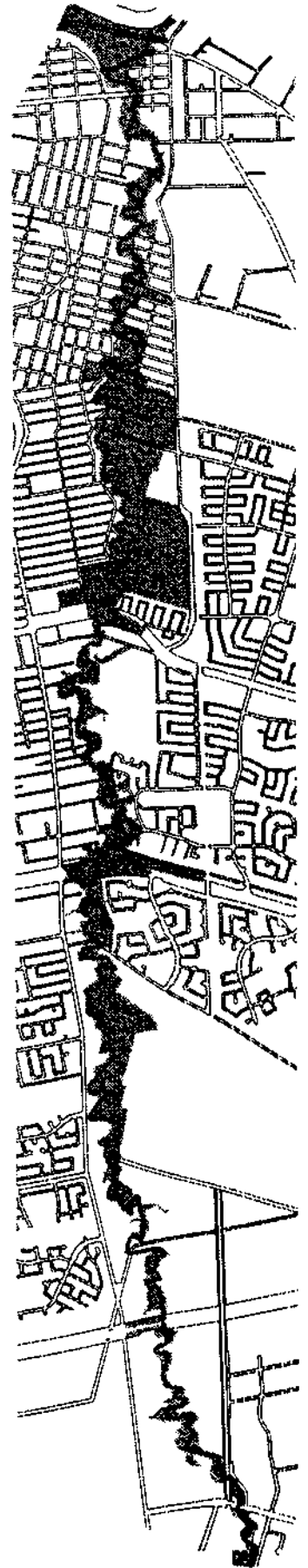
Seine River Greenway Study

Seine River Task Force



Seine River Greenway Study

Seine River Task Force



Glen Murray
Maire



Bureau du maire
Winnipeg (Manitoba) R3B 1B9, Canada

Hiver 2000

Citoyens et citoyennes de Winnipeg,

Nous sommes très heureux de vous offrir le Rapport de l'étude sur le couloir vert de la rivière Seine. Ce document, qui constitue le rapport définitif du Groupe de travail sur la rivière Seine, présente le cadre de planification de la vallée de la Seine pour le nouveau millénaire.

« Une ville ne peut rien faire de mieux que d'offrir à ses résidents les meilleures conditions de vie... »

Plan de la Ville de Winnipeg... Vision 2010

Le Rapport met l'accent sur le désir de la Ville d'intégrer les questions d'accès public et d'environnement de manière à nous permettre à tous et à toutes de jouir des attributs naturels intrinsèques du couloir de la rivière Seine sans qu'ils ne soient endommagés.

L'élaboration d'un cadre de planification de cette envergure exige le dévouement, le savoir-faire et le travail de nombreuses personnes. Nous tenons à souligner le travail du Groupe de travail sur la rivière Seine, la participation considérable de son Comité consultatif de citoyens et citoyennes et l'apport de la population de Winnipeg. Nous continuons à compter sur votre soutien pour la réalisation de ce merveilleux projet.

Le maire de Winnipeg,
Glen Murray

Glen Murray
Mayor



Office of the Mayor
Winnipeg, Manitoba R3B 1B9, Canada

Winter 2000

To the Citizens of Winnipeg

We are very pleased to provide the "Seine River Greenway" Document for your information. This document is the Final Report of the City's Seine River Task Force and it provides the planning framework for the river valley into the new millennium.

"A City's highest priority is the quality of life it provides its citizens."

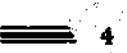
Plan Winnipeg—Toward 2010

The report emphasizes the City's desire to successfully integrate public access with the environment in a way that allows us all to enjoy, while not damaging the intrinsic natural qualities of the Seine River Corridor.

Preparing a planning framework of this magnitude requires the dedication, knowledge, and effort of many people. We wish to acknowledge the work of the Seine River Task Force, the significant involvement of the Seine River Advisors, and the input as provided by the citizens of Winnipeg. We welcome your continued support as we proceed to turn this planning framework into a beautiful reality.

A handwritten signature in black ink, appearing to read "Glen Murray".

His Worship Mayor Glen Murray



Acknowledgements

The Seine River Task Force would like to thank all of those that have contributed towards the completion of this Study.

Those requiring special acknowledgement are as follows:

To the Seine River Advisors who have volunteered considerable time and effort helping to guide the work of the Task Force over a three year period.

Carol Billet
Maurice Prince
Bill Pankiw
Robert Tinker

Jean-Pierre (J.P.) Brunet
Harold Thwaites
Bill Sparrow Jr.

Many thanks especially to Bill Sparrow Jr., who graciously offered the Norwood Hotel as the site of two Seine River Open Houses as well as hosting numerous Seine River Advisory Meetings.

Thank you to Jean-Pierre (J.P.) Brunet for his inspirational writing style and for his efforts with regard to the establishment of the Coalition for a Canoeable Seine River.

Also thanks to Robert (Bob) Tinker for the use of his photographs which are incorporated throughout this text.

To the members of the Save Our Seine River Environment Inc. for their dedication to their cause.

To former Lieutenant-Governor, His Honour the Honourable Yvon Dumont for his personal efforts and the leadership he demonstrated in cleaning up the Seine.

To the many individuals that contributed time on the various Sub-Study Steering Committees and those that attended Town Hall Committee meetings and provided input during the course of this Study.

To former Councillor Evelyn Reese for her determination to get the 1980 Seine River Study updated.

And finally, to the members of the Riel Community Committee, Councillors John Angus, Allan Golden and Daniel Vandal, for their guidance and support throughout the course of this Study.



SOS Cleanup



Former Lieutenant-Governor Yvon Dumont



Seine River Task Force

The Seine River Greenway Study is the product of a multi-disciplinary and inter-departmental Administrative Task Force made up of the following members:

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* *George Hayes and Don Pentland were the respective representatives until their retirement.*

Sub-Study Contribution

The following Task Force Members deserve special recognition for their additional responsibilities as follows:

Don Kingerski, *Riverbank Characterization Study*

Doug McNeil, *Hydrologic and Hydraulic Modeling of Flows and Levels of the Seine River*

Barry Yanchyshyn, *The Seine River Corridor: Its History and Suggestions for Its Interpretation*

Brian Lund, *Land Based Information System Mapping*

Don Pentland, *Neighbourhood Characterization Study/Analysis*

Other City Staff that have provided significant input into the Study are:

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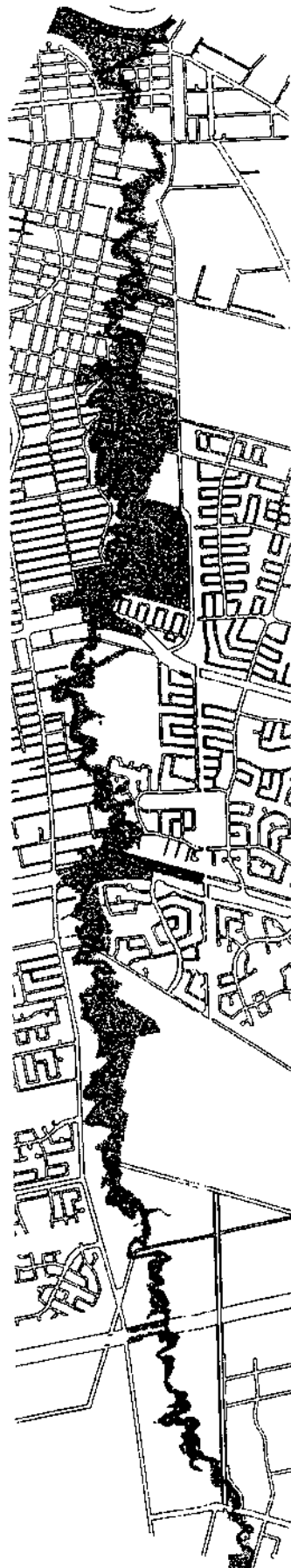
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Maintenance Management System (MMS) Costing

Mark Gendron, Parks and Recreation Department,
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Recommendations

Seine River Greenway Implementation

1. That due to the Seine's unique natural, cultural, and historical features and characteristics, the Seine River Parkway be renamed the Seine River Greenway. (Refer Chapter 5.1)
2. That the Seine River Greenway Concept Plan, Guidelines and Recommendations, be adopted by the City of Winnipeg.
3. That the City of Winnipeg's Administrative Coordinating Group (ACG) be made responsible for applying the guidelines and standards developed through the study planning process, and for incorporating the recommendations of this study in their deliberations over specific developer proposals and agreements on the Seine. (Refer Chapter 2.2 A)
4. That as new development occurs along the Seine, the incorporation and development of the Seine River Trail should be considered as a part of the Development Agreement.
5. That the City shall "lead by example," by ensuring that construction adjacent the Seine River is environmentally appropriate and sensitive to the Principles developed within this Study.
6. That at such time as implementation occurs across existing City owned riverbank properties not currently zoned as Public Reserve (PR), that they be considered for re-zoning to PR Designation.
7. That the City of Winnipeg will continue to actively encourage and partner with community groups and stakeholders such as the Save our Seine River Environment Inc. (S.O.S.), in order to promote and implement the Seine River Greenway.
8. That in the preparation and review of neighbourhood management strategies for St. Boniface and St. Vital, the guidelines, standards, and recommendations contained in this study be incorporated. (Refer Chapter 2.2 A)
9. That as the Seine River Greenway is impacted over time by urban growth and enhancement projects, the changes be recorded within the City's Land Based Information System (LBIS). (Refer Chapter 2.4)
10. That where conflict exists between a neighbourhood's interests in riverbank use and the regional greenway objective, the nature of the conflict be defined, the context be identified, and a separate community consultation and planning process be undertaken to resolve the issue(s). (Refer Chapter 2.2 A)

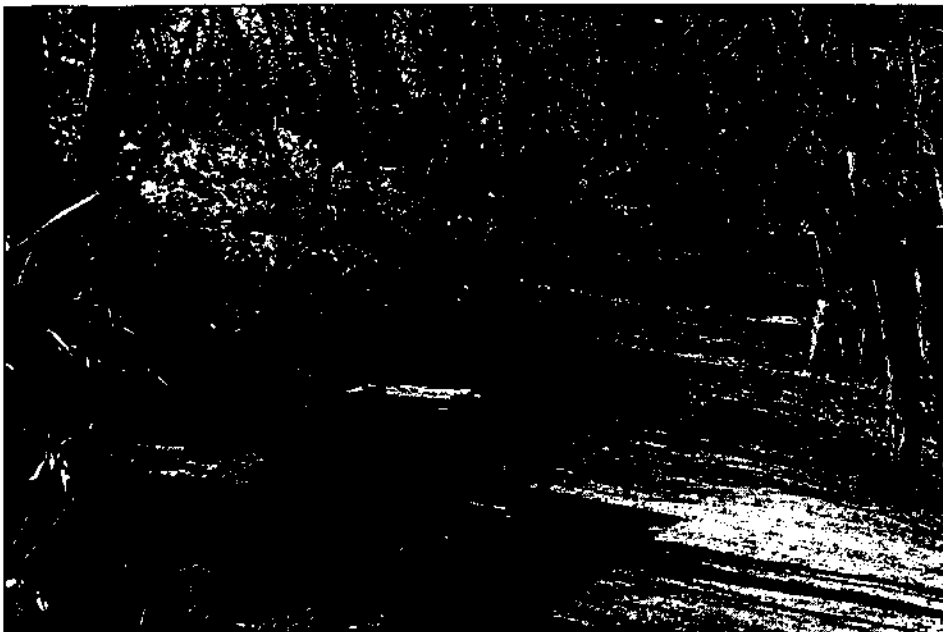
Further Reviews and Approvals

11. That an Administrative Working Group, in consultation with the Ward Councillors and stakeholders such as the S.O.S., establish performance standards with regard to future development along the Seine River.
12. That various methods of design guidelines (eg. expansion of the Boulevard Provencher 'BP' design controls) be investigated to determine appropriate means of ensuring that streetscape development adjacent the Seine River Greenway occurs in a manner consistent with the study objectives. (Refer Chapter 6.2.1)

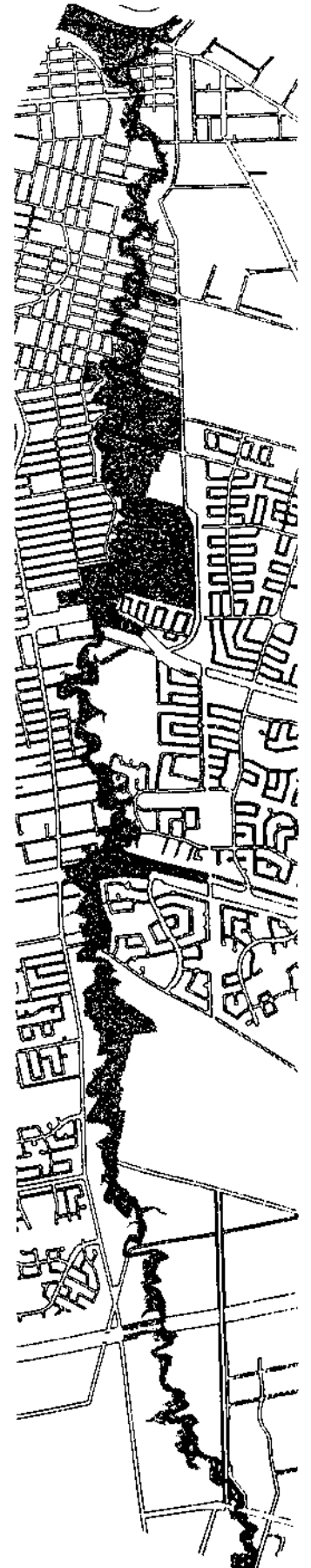
13. That a specific Seine River Greenway Maintenance Program be prepared and adopted. (Refer Chapter 7.2)
14. That in order to promote year-round use, the Seine River Trail be considered for maintenance on a year-round basis including winter snowclearing and/or cross-country trail grooming. (Refer Chapter 7.2)
15. That as the City's Riverbank Parkway and Seine River Greenway Systems become established, the City, in cooperation with the community, develop and implement a User Safety and Risk Management Program. (Refer Chapter 7.2)

Interdepartmental/Governmental Coordination

16. That the City Administration synchronize development of the Greenway Trails and the bicycle facility system and bridge crossings.
17. That as the Seine River Greenway trail systems are being developed, the City, in association with the Province, School Divisions, as well as Community Groups such as the S.O.S., develop and implement education and awareness programs to improve public safety, promote courteous use of the trails, and increase the awareness for the protection of the unique natural and heritage resources within the Greenway.
18. That in the ongoing efforts to reduce potential multi-jurisdictional 'bureaucratic inertia', departments and staff within all three levels of government continue to maintain communication on various issues, to facilitate partnership ventures (with elected officials, private interest groups, and the public administration), and to promote alignment and consistency of policy and programs amongst jurisdictions. (Refer Chapter 1.3)



Seine River Greenway Trail

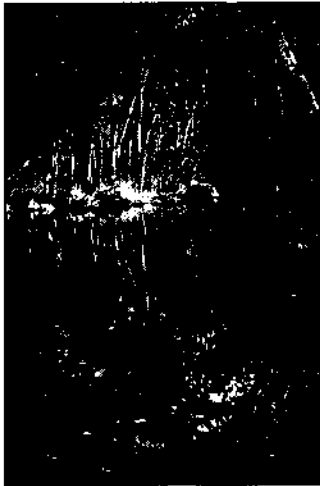


Executive Summary

Background

Despite the ravages of continued urbanization, the Seine River Corridor has the potential to be one of the most beautiful and valued landscapes within the City of Winnipeg. As the City currently owns approximately 44% (1997 figures) of the total riverbank, and will acquire significant additional properties through the purchase of Waterway Requirement as well as the acquisition of Public Reserve, it has a huge stake in the successful restoration of this resource.

The ultimate task of the Seine River Task Force and its Citizen Advisor's is to make this corridor an even better place to live, play, and visit. The purpose of this document is to define both the special character and resources of this place, and to communicate a strategy for the City and the community to adopt for the planned restoration and celebration of this natural asset. Only through citizen involvement in the management, preservation, and development can the Corridor's significant cultural, aesthetic, and recreational character be fully achieved.



Fall Reflections

The Blend of History and Nature

"Imagine a place only minutes from a busy downtown core, where you may be reminded of the history of First Nations peoples, the voyageurs, the Metis and the French Canadians including the legendary, Jean-Baptiste Lagimodiere and his wife Marie-Anne Gaboury—the first white woman to settle in the West. Imagine a place inextricably linked to Lord Selkirk and the beginnings of the Red River Settlement. A place that serves as testament to the difficult transition of the era of the fur-trade to colonization and agriculture as a way of life. A place which speaks of the multi-national mosaic of early Euro-Canadian settlement, the des Meuron Regiment and the Catholic Missions.

To hear the echoes of this place is to hear a Province being born. A place where the Metis leader and the Father of Manitoba, Louis Riel is born. A site where the Countess of Dufferin, the first locomotive in Western Canada is first delivered. Imagine a place whose history has not only helped to define St. Boniface, Winnipeg and Manitoba, but also Western Canada."

From J.P. Brunet, Save Our Seine River Environment Inc. (1997)

Imagine also a wilderness place in the middle of a city, where one can paddle down a quiet meandering river and encounter a bounty of birds, fish, turtles and animals. A river where in places, nature has healed over many of its manmade scars, while in others, the riverbanks remain virtually pristine. A place where children can play the archaeologist and scratch away at uncovering century old ruins. And a secret place where once entered, one can easily lose sense of being in the City at all. A serene restful place where one may forget for a while the stresses of urban life.

Now imagine that this place may soon exist as the Seine River Greenway. The Seine offers a nature preserve and a colourful past within an urban setting that with time, is sure to accrue in value and appreciation.

Four Major Sub-Studies were prepared by the Task Force as important components of the Seine River Study:

1. **Seine Riverbank Stability Characterization** – an inventory of various riverbank physical characteristics that influence the stability of a riverbank.
2. **Hydrologic and Hydraulic Modeling of Flows and Levels of the Seine River** – a study to identify and assess strategies for improving or augmenting low flow conditions on the Seine River.

3. **An Assessment of Vegetation and Wildlife Habitat Quality for the Seine River Parkway** – an inventory of the vegetation and wildlife, a documentation of the composition of natural communities and a ranking of these natural communities with respect to the quality of vegetation and wildlife habitat.
4. **Seine River Corridor Interpretive Study** – an inventory of the cultural, historical and archeological resources of the Seine River Corridor as well as an overview of eight thematic areas to guide a future interpretive program.

Natural Area Highlights

During the course of the Planning Process, the Seine River Task Force has determined:

- that approximately 58% of the total riverbank area of 52 km (26 km of river) is of exceptional habitat value (A or B quality)
- that over 180 different species of plants were identified, 78% of which are native
- that 34 trees found were judged to merit possible "heritage" status, being extraordinary examples of their species
- that over 20 different mammals were observed including white-tailed deer, fox, mink and muskrat
- that an estimated population of 75 beaver made their home along the Seine within the City of Winnipeg
- that 103 species of birds were recorded



Geese

The Seine River Task Force and its Citizen Advisors adopted the use of the 'Greenway' to more appropriately describe the Seine River Corridor (formerly named Seine River Parkway).

'Within the developed landscape, greenways serve a dual function: they provide open space for human access and recreational use, and they serve to protect and enhance remaining natural and cultural resources.'

Greenways allow us to treat land, water, cultural and natural resources as a system; as interlocking pieces of a puzzle and not as isolated entities.'

Flink, Charles A. *Greenways: a guide to planning design, and development*, Island Press 1993

The Seine River Task Force and it's Citizen Advisor's adopted the following Vision and Principles and believe it essential that they be utilized in the determination of future land use and development adjacent the Seine.



Hikers along the Seine

The Vision

The Seine River and its adjacent banks provide a unique and valued “urban wilderness” heritage greenway within the City of Winnipeg. It should be nurtured, protected and enhanced for the enjoyment of present and future generations through responsible management practices to prevent exploitation, destruction and neglect of this valued resource.

Principles

- a) Consult the Public
- b) Preserve and Enhance the Natural Environment
- c) Conserve and Interpret Cultural and Heritage Resources
- d) Emphasize passive Recreation and Environmental Education
- e) Mitigate Land Use Conflicts

Greenway Concept

The final Seine River Greenway Concept Plan was prepared by applying the Task Force’s overall goals of Preservation and Conservation of the natural resource while expanding opportunities for Public Access and Passive Recreation.

The Task Force adopted a very low key realistic approach to the Greenway Concept by recommending that the City protect what is good about the river corridor, restore what has been damaged, promote pedestrian and wildlife linkages throughout, while minimizing capital outlays for development and operating budget funding for maintenance.

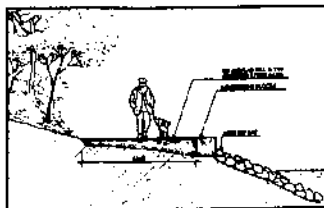
The Greenway Concept proposes:

- Approximately 20 km of new Seine River Trails (approximately 12.5 km on City-owned riverbank and 7.5 km on adjacent safe existing streets such as Egerton Road);
- Several additional km of riverbank trails would be added as new housing development occurs and additional public reserve is created;
- Five new pedestrian bridges;
- Six new public canoe launch sites;
- Sixty-three historic points of interest and eight themes for Historic and Natural History Interpretation to be developed into an Interpretive Program;
- Sixty-four specific areas for Wildlife Enhancement or Vegetation Restoration (many on Private Property)
- Four preferred strategies for supplementing Seine River Water Flows with the most ecologically and cost effective strategy being the construction of fifteen (15) Pool and Riffle Structures.

A Capital Cost of \$2,966,000 (1999 dollars) has been identified to construct the Seine River Greenway with an annual operating budget of \$22,100 required to maintain the Greenway once established.

Recognizing that significant Capital funding for the Seine River Greenway is not likely, the Task Force recommends that incremental implementation occur over time utilizing a number of different sources of funding including: Capital funds, Private Sector Donations and Grants, Cash-in-Lieu of Land Dedication, Development Agreements, and Government Grants. The construction of the Greenway may also be aided by Volunteers and by Summer Student Employment Programs.

It is anticipated that a relatively modest amount (\$25,000–\$50,000) allocated on an annual basis, could be leveraged by community-based organizations such as the Save Our Seine, to enable the ongoing significant progress towards the realization



Seine River Trail (from Core Area Initiative Program)

of the Greenway Concept. However, the “lifeblood” of the Seine River Greenway initiative must continue to be drawn from volunteer energy and landowner support.

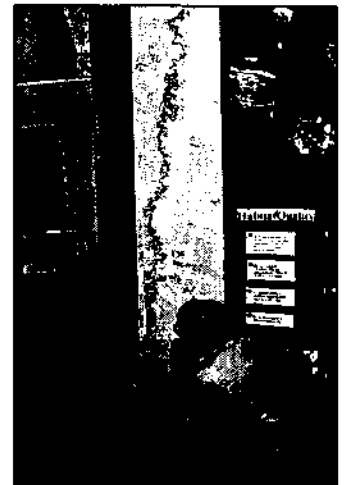
This document and its companion four Sub-Studies on: Hydrology, Wildlife Habitats and Vegetation, Riverbank Characterization, and Historic Interpretation, are designed in such a way to encourage understanding and implementation by community groups such as the S.O.S. All documents must be utilized to guide future land use and development decision making along the Seine.

Study ‘Value’

Beyond the obvious value of this study, The Seine River Task Force and its Citizen Advisor’s believe that the Planning Process is an excellent model for how City’s Future should be determined:

1. At the outset, a strong political mandate and commitment at the Senior Administrative Levels for the project must be given.
2. Inter-Disciplinary Teams of Professionals need to be involved to bring different perspectives, ideas and techniques to the project.
3. Inter-Departmental (and Inter-Governmental in this instance) involvement on the Team is required to provide cross-functional communication to convey intent and to co-ordinate the necessary action across administrative jurisdictions.
4. Citizen Advisor Participation and Public Review ensures that the public have effective input into the planning process, so that they gain an understanding of civic functions, responsibilities, and priorities, and as a result, the public will assume a greater collective responsibility for the success of the implementation of the plan.

The Seine River Study identifies a future Vision for the Greenway and a Plan that allows ‘the Community’, be it business, community groups, or individuals, the ability to implement the Vision over time.



Planning Process



Kavanagh Park Trail constructed August 1997



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Introduction

The Seine River is an enigma. Widely recognized as an important 'land drainage feature' within the City and parts of southern Manitoba, the Seine has somehow evaded much of the effect of previous engineering doctrine that has altered rivers throughout North America; to channelize, to reinforce, to coerce underground into pipes. While most contemporary studies of rivers focus on the complete watershed, the Seine is quite unique having been effectively bisected and physically removed away from the source of its essential character.

The Red River Floodway, a flood diversion project aimed at controlling the spring ravages of the Red River floodwaters cuts the Seine River in two as it enters the City from the south. The Seine is forced meekly through a U-shaped pipe (inverted siphon) that passes underneath the floodway while spilling 'excess capacity' into the floodway itself.

The combined effects of flood diversion projects, 'improved' agricultural drainage, and urbanization have irreversibly altered the natural hydrology of the Seine River and its watershed. In the face of man damming, diverting, intercepting, channelizing, siphoning, slicing with roads and bridges, discharging effluent from sewage lagoons, and being jabbed with land drainage sewers, as well as the prolonged droughts of the late 1980's, the Seine somehow manages to maintain a sense of history, natural beauty and resilience that is deserving of our community's care, nurturing and pride.

The Save Our Seine River Environment Inc. as well as former Lieutenant Governor Yvon Dumont have played an essential role in raising the awareness of the troubles that have beset the river, as well as faithfully acting as both watchdog and steward.

It is hoped that this Study helps to increase the momentum that will serve to restore this river to some of its former glory.

Background

On July 16, 1980 City Council approved the Seine River Park Study and requested that an Implementation Task Force be established to prepare a Five Year Budget for park development.

The 1980 Seine River Parkway Study was generally viewed as overly ambitious and has not been implemented except as a guide to land acquisitions over the past seventeen years. The 1980 Concept plan envisioned a future 220 ha Regional Park with fifteen new facilities, numerous sports fields and courts, and forty-five new pedestrian bridges. The Capital Cost for implementation was \$15,000,000.00 (1978 costs) with Operating Costs approaching \$1,600,000.00/year (1978 costs)! It is little wonder why the plan received little public or political support over the years.

Following extensive public discussion, on January 19, 1983, Council adopted a report modifying the comprehensive Parkway Concept to that of a linear park-waterway strategy, with development comprised of passive parks, recreational areas, and limited access natural area preserves.

Although considerable riverbank properties have been acquired over the years, with the exception of a short segment of Parkway developed under the former Core Area Initiative, no capital funding has been approved for the development of a parkway for public use.

On February 18, 1993 the Riverbank Management Committee passed the following motion:

'That the Seine River Parkway System be reviewed and updated for report back to Riverbank Management Committee'

Chapter

1



Yvon Dumont Cleanup

In December of 1993, the City of Winnipeg Board of Commissioners approved the composition and work plan for the Seine River Task Force as well as budgetary provision of \$85,000 to undertake an extensive study of the Seine River within the City limits.

1.1 Study Purpose

To obtain City Council approval of a comprehensive Planning Document that addresses how best to manage, protect, and enhance the Seine River Parkway.

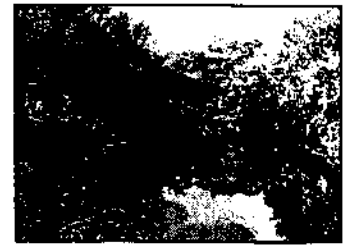
Study Terms of Reference

1. To research and document, into a format compatible with the Land Based Information System (LBIS), the existing conditions concerning the Seine River Basin including:
 - a) Biophysical Inventory (Natural Factors)
 - water quality
 - vegetation
 - geology
 - hydrology
 - soils
 - habitat type
 - slope characterization
 - land drainage
 - b) Built Environment Inventory
 - land ownership and acquisition opportunities
 - zoning, existing land use and compatibility
 - circulation (vehicular/pedestrian)
 - neighbourhood characterization (demographics, ethnicity etc).
 - flood risk limits
 - c) Historical Inventory
2. To develop a land use plan for local, community and regional parks, commercial and industrial (use) relocation and land reclamation for park and residential expansion.
3. To define, standardize, and document the planning, engineering, and environmental terminology utilized. (ie. naturalization vs revegetation vs restoration etc.).
4. To define and document the definitive City position regarding jurisdictional roles and responsibilities.
5. To define and document the issues and needs from the Regional, Community, and Stakeholder perspectives.
6. To establish and maintain a legitimate Community/Stakeholder/Political Consultation Process:
 - tri-governmental liaison
 - citizen advisory group liaison
 - stakeholder input
 - public open houses
7. To update and have approved the existing Council approved Seine River Parkway Concept Plan including:
 - a) Parkway Implementation Strategy
 - phasing strategy for development
 - capital cost estimate



Birders

- b) An Ecological Management Plan
 - river enhancement and natural area protection and restoration opportunities
 - operations and maintenance strategy/budgets.
- c) Programming Strategy
 - identifies the activities, functions, and experiences that are planned.
- 8. To define additional requirements that may be required for future implementation:
 - Secondary Plan development including Planning Control Mechanisms.
 - consultant studies
 - tri-level Operations and Maintenance Strategies.



Riparian Vegetation to be Preserved

1.2 Study Methodology

Acting upon the request of Riverbank Management Committee, the Task Force outlined a strategy that included the use of multi-disciplinary and inter-departmental staff as well as identifying a comprehensive planning program and a budget requirement of \$85,000.00.

Several factors guided the Task Force in the development of the new Study Terms of Reference:

1. Public participation and consultation in the process was critical to ensure the final study would be publicly and politically supportable.
2. That in order to protect valuable natural and cultural resources along the Seine River while at the same time encouraging public access for recreational purposes, the City would first have to understand and document the bio-physical resources, the existing built environment conditions, as well as the historical and cultural features found within the corridor.
3. Knowledge that the City currently owned approximately 44% of the existing Seine Riverbank properties with further lands assured to come under City ownership as and when development occurs (especially to the south of John Bruce Road).
4. The understanding that the Save Our Seine River Environment Group Inc. was formed because of issues including low summer water levels, perceived poor water quality, and public neglect and abuse.
5. Knowledge that the citizens of Winnipeg support City Policy that calls for acquisition of riverbank to allow for improved public access and development of recreational trails.
6. That the study be undertaken on a part time basis by civic staff supplemented by an innovative use of paid assistance. (ie. University of Manitoba Engineering Staff and Summer Graduate School Students)
7. That the study be a prototype for the City. A similar study contracted privately would have been difficult to justify financially.
8. The realization that the City of Winnipeg is faced with a prolonged period of fiscal constraint that when coupled with other higher priority Parkway projects, make it highly unlikely that the City would commit large capital amounts to implement development along the Seine River.
9. That the study would be time consuming due to the comprehensive public participation process as well as the digital (LBIS) data conversion. (Short term pain for long term positive consequences).

The goal of the strategy was to reach consensus among competing interests, to determine the best way to Protect, Manage and Enhance the Seine River, while giving City Council and Senior Administrators the chance to endorse the Study.

1.3 Study Limitations

Two significant and related limitations of the Seine River Study are the lack of a **Watershed Planning approach** and the inability of the Task Force to bring about change to the fragmented **Jurisdictional Structure** responsible for various aspects of the Seine River.



Seine during Low Flow (fall)

Watershed Planning – Current river planning and management doctrine tends to focus on the entire Watershed of the river rather than just a small segment. Despite the fact the Seine is severed at the Red River Floodway and physically removed from its upstream watershed, the river remains ‘connected’ to its source. Diversions and irrigation affect river flows, land use, farming practices (ie fertilizers, pesticides), livestock operations, and sewage lagoons affect the water quality of the river, while fish, invertebrates, and other wildlife migrate along and within the river itself.

Given the Provincial designation and responsibility for the remainder of the Watershed Lands and the mandate of the Civic Task Force, most aspects of the Seine’s watershed other than the rivers hydrology and hydraulics, were not investigated within this study. However, many of the principles and management guidelines identified within the study could be applied to the Watershed as a whole.

Jurisdictional Structure – This is the major reason why Watershed Level planning is seldom done. Refer Table 1 for an overview of the different legislative and jurisdictional structure for the rivers within the City of Winnipeg. The City of Winnipeg obviously has no jurisdictional role nor responsibility outside of the City limits.

Current planning theory suggests that the jurisdictional issue may not be a major impediment to action if all of the responsible agency policies are aligned.

Interdepartmental coordination and more holistic and environmentally sympathetic planning, design, and development application reviews are some of the benefits that the City has achieved as a result of the Task Force sub-studies and the final study document.



Discovering the Seine

Seine River Study Planning Process

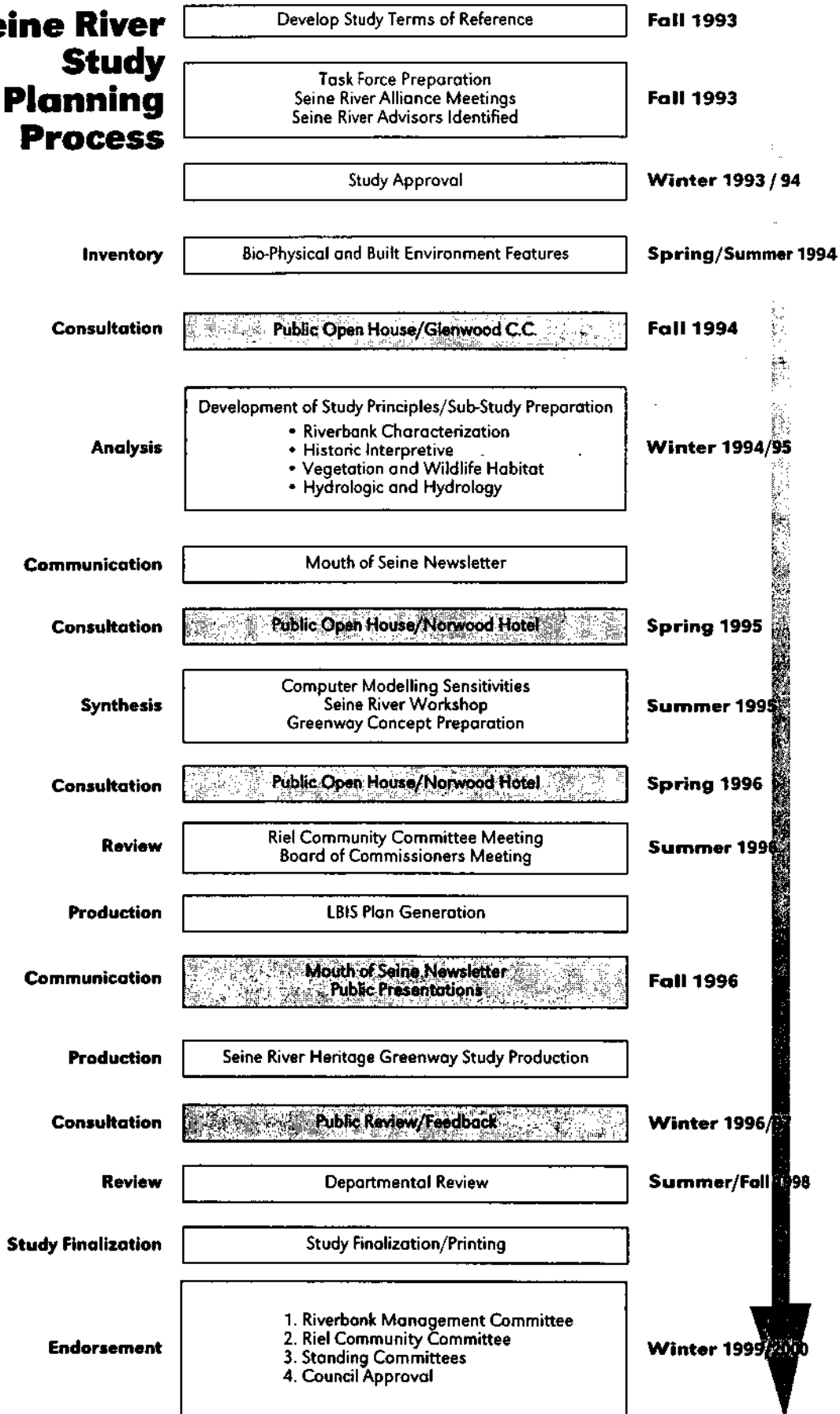


Table #1

Levels of Jurisdiction—Rivers

Responsibility	Regulatory Body	Applicable Legislation	Structure/Process/Enforcement
1. Enforcement of Federal laws	Federal Government	Young Offenders Act, Canada Shipping Act (Small Vessels Regs.) (Boating Restrictions Regs.)—Speed Limits enforced	R.C.M.P. Police Dept./Harbour Master Coast Guard
2. Enforcement of Provincial Laws	Province	Liquor Control Act Fatality Enquiries Act	Police Department
3. Enforcement of City By-Laws	City Council	City of Winnipeg Act	Liaison between City Depts. to coordinate enforcement of appropriate by-law
4. Emergency/Recovery/Rescue	City Council	City of Winnipeg Act	Police and Fire Departments
5. Skating known unsafe ice	City Council	City of Winnipeg Act	Police Dpt./Harbour Master
6. Public Use of Rivers including frozen surfaces	Federal Government City Council Province	Navigable Waters Protection Act (currently under review) City of Winnipeg Act - Authority to pass by-laws regulating frozen surfaces Crown Lands Act - ownership of riverbeds	Police Dpt./Harbour Master Coast Guard/Transport Canada
7. Land Use Policy on River-banks	City Council	City of Winnipeg Act	Property and Development Services
8. New Developments on River Bank	City Council	City of Winnipeg Act	Administrative Coordinating Committee (ACG)
9. Pollution Control -Marinas -Water Quality	City Council/ Federal Government	City of Winnipeg Act Canada Shipping Act Fisheries Act Environment Act	Within Water and Waste Dpt. /Manitoba Environment - regulate and enforce
10. To regulate the throwing or depositing of litter on private and public property	City Council	The Anti-Litter By-Law No. 1075/75 Solid Waste By-Law No. 1340/76	Community Services Dpt.
11. River Stability	City Council	Waterway By-Law	Property and Development Services
12. Flow Impedence	City Council	Waterway By-Law	Property and Development Services
13. Use & Diversion	Province	Water Resources Admin. Act	Water Resources Branch
14. Vertical and horizontal clearance of bridges	Federal	Navigable Waters Protection Act (NWPA) (currently under review)	Public Works Coast Guard/Transport Canada
15. Flood Protection	City of Winnipeg Federal/Provincial Province of Manitoba (Dyking Commission, Water Resources Branch)	City of Winnipeg Act Manitoba Regulation 266/91 (under the City of Winnipeg Act)/FloodProofing Measures Canada Manitoba Flood Damage Reduction Agreement Dyking Authority Act Water Resources Administration Act	Property and Development Services Water & Waste Dpt. - design, operation and maintenance of primary line of defense. (primary dykes)
16. Riverbank Parks	City Council	City of Winnipeg Act Parks By-Law No. 3219/82	Public Works in conjunction with Property and Development Services where applicable
17. Maintenance of services pertinent to riverbanks a) Dutch Elm Disease Control b) Weed Control c) Insect Control	City Council	City of Winnipeg Act Parks By-Law No. 3219/82	Public Works

Planning Stream

Inventories and Data Analysis

The Seine River originates in a marshy and wooded area in the vicinity of Marchand, a village approximately 80 km southeast from Winnipeg. Eventually, following a meandering path, the Seine empties into the Red River just south of the Louise Street Bridge in Winnipeg. On its journey to Winnipeg, the Seine passes through land uses including: mixed farming, intensive livestock and dairy operations, forage cropping, aggregate extraction, peat soil removal, as well as the towns of Ste. Anne and Lorette.

The Seine was designated as a provincial Waterway in the 1970's in recognition of its importance as a regional drain for rural and urban purposes. Extensive hydrologic alterations to the watershed have occurred including agricultural drainage improvements, irrigation, water control structures and diversions, the Red River Floodway as well as urbanization. These modifications have served to exacerbate historic low flow conditions on the Seine and have contributed to water quality problems, the inability of the river to meet the demands of existing licensed water users, as well as weaken the ability of the Seine River ecosystem to repair itself.

In 1991, the Provincial Government estimated that irrigation use would double over the next decade with most of the demand coming from new market garden operations, residential development, and golf courses. ¹

The Inventory and Analysis phase of the study lays the foundation of the Greenway Plan. Bio-physical, built environment, and historical and cultural background and resources provide the physical parameters for the design.

2.1 Bio-Physical Inventory

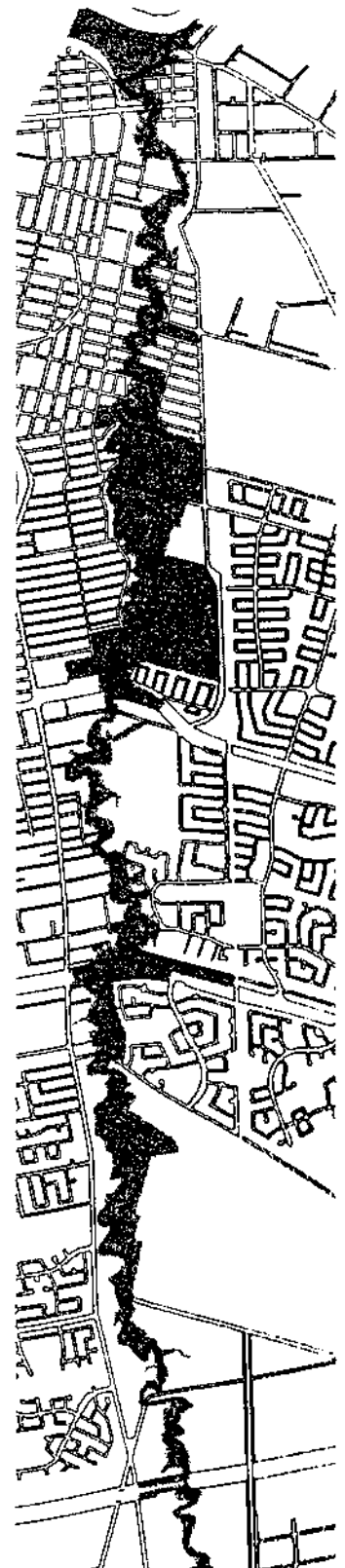
Bio-physical information is required to identify and define the quality of the natural areas and ecological functions within the Seine River Corridor. Ultimately, the information helps to determine the 'carrying capacity' of the ecological system, and whether it's able to support the activities that are proposed.

Bio-physical inventory information was gathered as follows:

- **Riverbank Stability Characterization** – a geotechnical analysis incorporating features of soil, slope, location, and vegetative cover. Refer to 'Riverbank Stability Characterization Study of the Seine River in Winnipeg Manitoba'.
- **Hydrological/Hydraulic Data** – Hydrology is an analysis of the physical processes that contribute to stream flow while hydraulics is the relationship between the rate of flow in the river and the water depth. Refer to "Hydrologic and Hydraulic Modeling of Flows and Levels of the Seine River."
- **Wildlife Habitat/Vegetation Quality** – Refer to "An Assessment of Vegetation and Wildlife Habitat Quality for the Seine River Parkway".
- **Riparian Vegetation** – is that vital transition zone between the land (terrestrial) and the flowing water (riverine). Riparian zones are essential for the maintenance of the integrity of the riverine - riparian ecosystems and biodiversity. Riparian zones serve to:
 - Moderate flow – riparian plants slow the velocity of the water especially during flood events. The slower flow helps to contribute to the local water table recharge and discharge.

¹ Gurney, Sharon *Red and Assiniboine Rivers and their tributaries within the Downstream of the City of Winnipeg, 1991*

Chapter 2





Minnows

- Nutrient and Sediment Filtration – riparian plants filter nutrients and other harmful chemicals and soil particles from surrounding urbanization and agricultural practices.
- Temperature Regulation – overhanging and near-stream vegetation lowers water temperatures by blocking solar energy. Without the shade, many species will not survive because they are adapted to cooler water temperatures and warmer water holds less dissolved oxygen than cool water.
- Bank Stabilization – the tangled mass of roots from the riparian vegetation traps soils and protects them from the eroding forces of flowing water.
- Food and Habitat for Aquatic Communities – overhanging vegetation and debris provides the source of almost 100% of nutrient protection for aquatic species vertebrates and fish.
- Genetic Diversification – riparian vegetation is a vital source of genetically different resources and biotic populations which may have to recolonize our ecosystems of the future.

Although these riparian zones including bottomland forest represent only a small fraction of the prairie landscape, they are home to much of our wildlife.

- Fisheries (From information as supplied by Laureen Janusz, *Fisheries Technician*, Manitoba Natural Resources)



Bullheads

A recent study by University student Bernard Gaudet, identified 26 species of fish on the Seine including northern pike, white sucker, central mudminnows, fathead minnows, blacknose dace, tadpole madtom, blackside darter, carp, and bullheads.

In March of 1992, the regional biologist classified the fisheries habitat of the Seine River as a waterbody with severe limitations to the production of fish but with the capability of being improved to a waterbody with moderate limitations to fish production. The limitations: temperature, dissolved oxygen and low nutrient levels are a reflection of available water. Adult/juvenile habitat quality has deteriorated due to excessive siltation, bank erosion and collapse, channelization, and other channel modifications imposed on the surrounding Seine River watershed. Water quality is also an issue. Fish kills from pesticide poisoning and other toxic substances as well as natural causes have occurred.

Recommendations to improve the quality of the fish habitat include the development of healthy stream bank vegetation as one of the most effective enhancement measures. This should help in dealing with bank erosion and therefore sedimentation and water quality problems attributed to surface run off. Rock rip rap is another alternative in those areas which require greater protection than can be given by vegetative cover.

With regard to the issue of water levels due to low flow, Morley Smith and the Seine River Task Force's Hydraulic Study conclude that the construction of riffle weirs are the most viable and cost effective alternative for maintaining water within the river. Riffles have been used successfully on a number of river and stream restoration projects, most recently on both Sturgeon and Truro Creeks within Winnipeg.

- Water Quality (From information as supplied by Sharon Gurney, *Environment Officer*, Manitoba Environment)

"Clean water is essential for the health of the aquatic life in the river. Although the quality of the river is generally good, at times water quality is degraded by human activities. Water pollution in the Seine River watershed originates from a number of sources. During rainfall or snow melt, contaminants such as pet feces, oil, soil, litter, lawn fertilizers and pesticides, are carried off Winnipeg streets and deposited



'Yellowfish' Painting Program

into the river through storm sewers. Before the river reaches the City, it travels through a large agricultural region. During rain storms, livestock waste, fertilizers and pesticides can be washed into the river. In addition, treated wastewater from town lagoons (Lorette) are deposited into the river during the ice-free period.

Within the City of Winnipeg extensive encroachment of the Seine River has resulted in increased pollution loading. Recent environmental concerns have been identified with respect to the river being used as a dumping ground for construction material and residential garbage. Low flow conditions in the river have exacerbated the water quality problems along its reach.

Although it is unlikely the Seine River can be restored to pristine conditions, we must ensure that human influences do not unacceptably impact the quality of the water in the river. The abundant insect and fish life in the river assure us that the quality of water is generally good".²

In 1991 Manitoba Environment established water quality objectives for the Red and Assiniboine Rivers and their tributaries within and downstream of the City of Winnipeg. The Seine is classified for Class 2B Cool Water Aquatic Life and Wildlife, Class 3 Industrial Consumption, Class 4B Field Crop Irrigation, Class 4D Livestock Watering, and Class 5B Secondary Recreation.³



Water Testing



Sewer Outfall

2. Gurney, Sharon *Red and Assiniboine Rivers and their tributaries within the Downstream of the City of Winnipeg*, 1991

3. *ibid*

2.2 Built Environment Inventory

The Built Environment Inventory including socio-economic, land ownership, and recreational facility and use data helps to provide a physical framework and a planning context for the Greenway Study.

Built Environment Inventory information was gathered as follows:

A – Neighborhood Characterization

Principle: Park development along the Seine River should protect and enhance the integrity of all neighbourhoods adjacent to the corridor.

Study Methodology

The inventory of neighbourhood character along the Seine River Corridor was undertaken by Community Planning Division staff of the City's Community Services Department.

The Corridor was first differentiated into five planning units relating to the time period in which each area developed (NOTE: Each unit contains a number of neighbourhoods):

1. Mouth of Seine River to Marion St. – INITIAL
2. Marion to Fermor Ave. – PRE 1950
3. Fermor to Bishop Grandin – RECENT
4. Bishop Grandin to Perimeter – CURRENT
5. Perimeter to Floodway – FUTURE

The greatest conflict between existing neighbourhoods and other adjacent land uses, and, between local versus regional interests likely occurs in the older developed areas of the Corridor. Here, ownership patterns and patterns of use have, over time, resulted in more highly-privatized/locally-territorial attitudes of neighbourhoods to "their" riverbanks.

Consequently, two town hall meetings were organized with residents of Old St. Boniface, Glenwood and Niakwa Park (1960's) in the late fall of 1994. The purpose of the meetings was to discuss common issues, regional issues and any disagreements arising in anticipation of identifying:

1. Existing development which is incompatible with housing or with parks;
2. Neighbourhood boundaries which provide 'protection' and those which create unwanted barriers;
3. "Things" to be left alone and those which should be changed/developed; and
4. The appropriate intensity/character of development of the Seine riverbanks from its mouth to Fermor.

Subsequently, staff assembled a description of segments of the Seine riverbanks between its mouth and the Floodway which documented the following characteristics:

1. Greenway "Ownership" Potential

- a) exclusive to the adjacent neighbourhood
- b) isolated from the adjacent neighbourhood
- c) shared between the local residents and regional users

2. Redevelopment Potential

- a) desirable or not
- b) if desirable, change to what use

3. Linkage Potential

(i.e., desirable or not)

Planning/Design Guidelines

As a result of the community consultation, the neighbourhood characterization data has been used in the design phase for the greenway as follows:

1. Where existing parks are considered to be part of a neighbourhood, the intensity of development of those parks will determine whether they continue to be part of the neighbourhood or form a new neighbourhood boundary. Park development should maintain the character of boundaries which provide protection to neighbourhoods, and where it is feasible, the park may be used to bridge undesirable barriers between neighbourhoods. The Seine River itself may sometimes be a barrier which protects neighbourhood character, and changes to existing parks should not weaken such a boundary. Where barriers are created by different land uses, high traffic volumes, or sheer distance, park development may include the creation or restoration of pedestrian connections between neighbourhoods.
2. Park development should not create land use conflict within neighbourhoods, and where feasible, should reduce existing conflict. A significant change in the intensity of park development is a change in land use (i.e., a local park is different use than a community or regional park with different effects on housing). Any conflict between park development and neighbourhoods should be resolved in favour of neighbourhoods (i.e., the designation of community or regional parks should not impose conflict on neighbourhoods).
3. Streets are a land use to access to regional and community parks. Local streets should not be utilized to access regional and community level sites. The intensity of development may depend on the simple difference between pedestrian and vehicular traffic. (NOTE: Intensity includes expanded access and traffic volumes generated by development).
4. The acquisition of additional lands for the Greenways should be directed to reducing existing conflicts (i.e., other things being equal, monies should be directed to acquisition of incompatible non-residential sites in order to enhance neighbourhoods as well as the park/waterway). Where park development alone cannot reduce land use conflict to an acceptable level, and land acquisition is not feasible, zoning regulations may be changed to promote a gradual reduction of incompatibility, including operational changes and higher development standards (e.g. landscape buffers, fencing, etc.).

Recommendations:

The town hall meetings conducted by Community Planning Division staff with three (3) resident groups living in proximity to the Seine River during the fall of 1994 generated the following recommendations which will apply in all cases where development/redevelopment is being considered:

1. That, where conflict exists between a neighbourhood's interests in riverbank use and the regional Greenways objective, the nature of the conflict be defined, the context be identified and a separate community consultation and planning process be undertaken in the area(s).
2. That various methods of Development Controls (e.g. expansion of the "BP" design controls, land use and zoning regulations, higher development and operations standards, development agreements, etc.) be investigated to determine appropriate means of ensuring that development occurs in a manner consistent with the study objectives.

3. That acquisition of property be pursued where land use activities are incompatible with surrounding residential land uses, and the conflict cannot be reduced through development control mechanisms.
4. That the Administrative Coordinating Group (ACG) be made responsible for applying the guidelines and standards developed through this planning process and for incorporating the recommendations of this study in their deliberations over specific developed proposals.
5. That the presentation of a Neighbourhood Management Plan for St. Boniface incorporate the guidelines, standards and recommendations contained in this study.

Further Study

Further study is required for six sites (see Recommendation #1) which require additional community consultation. The community discussions must take into account the findings from all of the other study inventories as well as the following points before final recommendations can be formulated:

1. Lagimodiere Gaboury Homestead (former) Market Garden Site

This site was purchased to address the shortage of public open space in the neighbourhood. The current plan is to develop a community level soccer field on the site, although the historic significance of the Lagimodiere homestead and the canoe launch potential of the riverbank could become a regional attraction accompanied by increased parking area requirements. Based on this potential and the existing attractions in Whittier Park, linkages for canoeing, walking and cycling should be encouraged between the two (2) areas.

A Master Planning and public consultation process for the site was completed in the summer of 1999. Phase One Construction on the site occurred in the fall of 1999.

2. Provencher Crossing

Pedestrian crossing of Provencher Boulevard in the vicinity of Des Meurons, the Belgian Club and the Seine River is particularly difficult due to the high volume of vehicular traffic. The Provencher crossing should likely be maintained on the east side of the river since the west bank is considered prime habitat. (north of Provencher)

There are additional points of interest on the west side of the river including the Belgian Club and War Memorial. This would suggest a need for safer crossing of Provencher on the west side of the Seine River. Finally, there is an ongoing review of the "BP" Boulevard Provencher District regulations in effect between avenue Tache and rue Langevin. The review could investigate in consultation with the community, the extension of the boundaries towards the Seine River to manage the character of development including design controls and both permitted and conditional uses.

3. Gaboury to Dufresne Corridor Segment

Use of the riverbank on the east side of the river adjacent to the Dufresne neighbourhood is considered by residents to be theirs exclusively. The industrial lands on the west side of the river are currently isolated from any neighbourhood although residential redevelopment of these lands is desirable. The acceptability of the proposed pedestrian bridge location should be determined in consultation with local residents. Perhaps, for example, it may be more appropriate for the regional pathway to be confined to the west bank, the proposed bridge to be located at Goulet or Marion and the Dufresne neighbourhood served by a local, dead-end pathway connecting to the Youville-Goulet-Evans regional system.

4. Yardley to Gareau Corridor Segment

Riverbank usage is considered by both the Archwood neighbourhood residents on the east side of the river and by the Norwood East residents opposite to be exclusive

to their local needs. Riverbank lands are publicly owned except in the cases of the St. Boniface Golf Course and the Heather Curling Club which, although quasi-public, reserve the riverbank land for the private use of their members and guests. From the perspective of the residents of both neighbourhoods, it may be preferable to link the east and west riverbanks with a pedestrian bridge connecting the regional cycle trail along Youville, through the Heather Curling Club riverbank and through the Archwood Community Club site to the Evans Street regional bicycle trail. (NOTE: Resolution of the Evans Street riverbank failure should be included in conjunction with this discussion).

5. Alpine Place Multiples

The Alpine Place Neighbourhood is among the most open space deficient neighbourhoods in the city. Existing medium to high-density residential developments concentrated on the west side of the river are not oriented to the riverbank. Consequently, without compromising the outdoor privacy requirements of these residents, a regional recreational corridor along the west bank of the river may also serve to provide some of the local open space needs of each multiple between Niakwa and Wingham Avenues.

6. Sadler Avenue Linkage to Southbridge Drive

Riverbank usage in the Lavalee neighbourhood area on the west side of the river is considered exclusive to that neighbourhood. Usage of the east side riverbank is shared between the Niakwa Place residents and regional interests. The proposed pedestrian bridge at the end of Sadler Avenue could become an intrusion into the local Lavalee territory. It may, therefore, be preferable to reposition the proposed bridge further south to Beliveau Road where the west bank residents are more open to sharing riverbank use with regional interests.

B – Parks and Recreation Sites and Facilities

Much of the city-owned properties within the Seine River Corridor are for the most part 'undeveloped'. A few older parks including Kavanagh, Happyland, Falcon, Morier, and King George Parks exist mainly within the St. Boniface/St. Vital Communities.

Outdoor pools exist at Happyland and King George Parks. Happyland Park, in particular, suffers from low attendance and high maintenance costs. A little used wading pool also exists at Happyland Park.

Several of these older parks are being upgraded under the Glenwood/East Norwood, Manitoba/Winnipeg Community Revitalization Plan.

The Archwood Community Center, which lies directly north of the St. Boniface Golf Course, has undergone recent renovation to the facility. The facility is, however, land locked with no opportunity to develop athletic fields adjacent to it. There has been some suggestion of developing sports fields across the river at the rear of the deep river lots on Seine St. Property acquisition and a bridge are required to make this proposal realistic.

Three Golf Courses; one semi-private (St. Boniface), one public (Windsor), and one private (Niakwa) exist along the Seine within City limits. Negative aspects of the golf courses include the lack of public access in summer months, canoeing safety from errant golf balls and low bridges, irrigation demands during hot dry spells when river flows are low to non-existent, and impacts on water quality from fertilizer and chemical applications. Positive aspects of the golf courses include the preservation of valuable wildlife habitat and river bottom forest, layouts and setting which are aesthetically pleasing for golfers, canoeists, and adjacent homeowners, and the courses allow for cross-country skiing during winter months. The Windsor Golf



Royalwood Subdivision Trail

Course becomes the Windsor Ski Centre, one of the finest facilities in North America during the winter season.

The only developed portions of the Seine River Trail System are short stretches north of Provencher (east side) to Rue La Verendrye and the Royalwood Subdivision Trail south of Bishop Grandin. Short sections of the Trail were developed in the late fall of 1997, immediately south of Provencher (west side) and north of Kavanagh Park (east side).

C – Streets and Transportation

The Seine River presents a significant impediment to vehicular circulation within the S.E. Quadrant of the City. A number of vehicular bridges have been developed along major movement corridors:

- Provencher
- Marion
- Fermor
- Bishop Grandin
- Perimeter Highway

Bridges should act as ‘windows’ to our rivers and creeks. While older bridge design has been driven by safety and maintenance criteria, new bridges are required to address additional needs such as pedestrian access and aesthetic issues. As bridges within the City are renovated or replaced, pedestrian walkways and amenities, and ‘bridgescaping’ design become fundamental program elements to be addressed through the planning, design, and construction of these structures.

Although bridge structures are preferable to box culverts due to public access, canoeing, and visibility perspectives, cost is a major consideration in favor of the box culvert design.

Current transportation plans call for upgrading, replacement and/or new vehicular bridges for the proposed South East Transit Corridor (adjacent the CNR Redditt Mainline bridge and the CNR Sprague bridge at (Rue Deschambault), Marion/Goulet (proposed new bridge span), the Southglen Avenue Extension, as well as for Warde Avenue. (The need for both Southglen and Warde Ave. bridges has been the subject of much current discussion.)

Smaller scale vehicular bridges have also been developed along:

- John Bruce Road
- Creek Bend Road
- Prairie Grove Road

These bridges may be closed to vehicular traffic as subdivision development proceeds southward and new bridges are constructed.

In February of 1993, the ‘Winnipeg Bicycle Facilities Study’ final report⁴ was completed. The study provides an overview of the need for further cycling facilities in Winnipeg and identifies a conceptual plan as well as design standards for future implementation. The Bicycle Facilities discussed throughout this report and illustrated on the Greenway Plans are as recommended within this study. The Seine River Trail serves to supplement the Bicycle Facilities identified within the Riel Community.

The need for future streets and transportation facilities is currently being discussed and may be determined in the Transplan 2010 Transportation Planning Exercise.

4. Marr Consulting and Communications, *Winnipeg Bicycle Facilities Study, Final Report*, February 1993

D – Railroads

Rail bridges currently cross the Seine at its Mouth (CNR Redditt/Main Line), at Deschambault (CNR Sprague), and at Prairie Grove Road (CPR Emerson).

No plans are known for future rail line and/or bridge replacement or upgrading.

E – Utility Corridors

The Seine River Corridor has and will continue to play an important role for a variety of utility and municipal infrastructure. Most commonly, land drainage sewer outfalls have been constructed emptying into the river. The Seine plays an important role as the major land drainage feature within the entire South East portion of the City. Currently, only one land drainage outfall is a combined sewer. This sewer is located near the confluence with the Red River.

Water mains, telephone lines, electrical transmission corridors and pipelines commonly cross or follow along the river edge. In addition to the construction, these utilities periodically require repair or upgrading, interrupting the wildlife habitat and vegetation restoration process.

For example, the land drainage outfall at Kavanagh recently underwent major construction to stabilize a bank failure. The riparian vegetation along this stretch of river needed to be removed as a result.



Kavanagh Construction

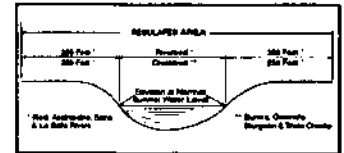
F – Land Ownership (Public/Private)

The City currently owns approximately 44% of the property along the Seine River Greenway. The majority of the city-owned properties are located within the developed residential portions of Winnipeg. In the less developed areas such as properties south of John Bruce Road where subdivision has not occurred, the majority of lands are privately owned.

Where portions of the Greenway are privately owned, some development restrictions are in place as a result of a Winnipeg Waterway By-law as administered by the Property and Development Services Department. This By-Law identifies regulated waterway areas and establishes a procedure for dealing with Waterway permits and orders within the regulated areas of the City.

A Waterway Permit is required to protect the public from construction which may endanger the stability of the riverbank, impede water flow, or adversely affect the waterway.

All new riverbank development is reviewed in the context of possible land dedication pursuant to City Policies. The timing of possible acquisition through subdivision is dependent upon the plans of the individual owners which in turn depends upon market forces and land development economics.



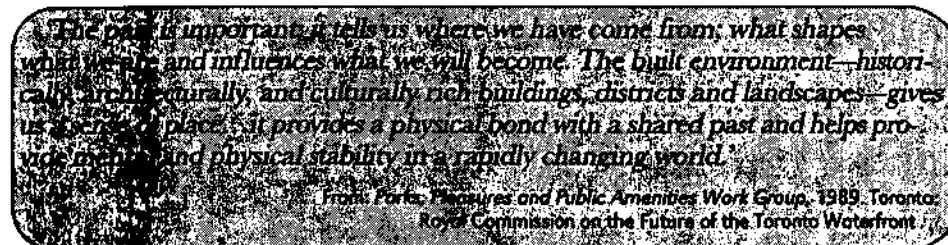
Waterway Permit to Regulated Area

(Source: City of Winnipeg Land and Development Services "Construction Regulations along Waterways")

2.3 Historic and Cultural Inventory

The Seine River Corridor is rich with history.

Refer to section 2.5 – D for more information on the Seine River Corridor Interpretive Study and its results.



Archaeological Site

2.4 Land Based Information System

– B. Lund

Principle: *The City's computerized Land Based information System (LBIS) has been designed to provide departments with a set of tool's to better access, mange, share, and display geographically referenced information.*

Background

The Land Based Information System (LBIS) of the City of Winnipeg was developed to facilitate information management in the City through the correlation of various data and databases which contain a geographic component. LBIS has the potential to expedite information analysis, maintenance and retrieval.

The Seine River Greenway Study has begun to realize some of this potential through the extensive use of LBIS to facilitate the gathering of data along the Seine River from its confluence with the Red River to the Floodway, some 26 kilometres south at the City limit (river based kilometres). The Seine River Study was the first use of the LBIS in an ecologically based planning study. Modeling the complex geographical relationships which exist between the various types of gathered data permitted the Project Task Force and the various stakeholders to more easily understand the environmental, built environment, social, and geotechnical elements which influence the Seine River Greenway.

Process

Starting with a computerized base map of the Seine River Greenway comprised of streets and ownership parcels, a layer of topographic data was added from aerial photography. This topographic data included such features as building footprints, pavement, trees and contours. Field inspections of the Seine River were carried out to gather data which provided additional layers of information about areas of concern such as riverbank stability, water quantity and flow, natural habitat and vegetation, and demographic and cultural history. To this was added existing computerized data such as zoning, public land ownership and neighbourhood boundaries.

Product

The LBIS facilitated the computer aided analysis of all of this data in a variety of combinations, scales, and map products. Individual reports incorporated the map data. Maps showing combinations of data were presented at Open Houses, allowing the public to better understand the issues relating to land use, riverbank access, as well as opportunities and constraints for the future development of the Seine River Greenway Corridor.

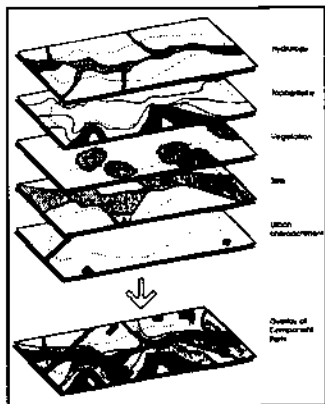
As an example, the LBIS now allows for the overlay of factors such as bank instability with areas of prime habitat. Should such conditions co-exist, 'enhancement' of one of these site characteristics would require a more detailed compatibility review.

Recommendation

As the Seine River Greenway is impacted over time by urban growth and enhancement projects, the changes should continue to be recorded in the LBIS. City staff should continue to extract this information to support ongoing analysis regarding new development proposals and accordingly, direct the appropriate and sustainable use of the land along the Seine River Greenway.



Land Based Information System Mapping



LBIS Overlay Mapping

2.5 Major Sub-Studies

A – Seine Riverbank Stability Characterization Study

– D. Kingerski, P. Eng/K. Gawne

Principle: The City seeks to maintain and enhance the potential of the Seine River as a community asset.

Riverbank Characteristics Inventory

The Seine Riverbank Stability Characterization Study, completed by the Winnipeg Rivers and Streams Authority in 1994, consists of an inventory of various riverbank characteristics that influence the stability of the riverbank. These characteristics were assembled from a field reconnaissance investigation and are presented in a graphical format of maps and charts. They include the identification of the following riverbank characteristics:

Complex Banks	Banks which have been modified or altered by human activity.
6H:1V or Steeper Banks:	Banks that are of overall gradient steeper than or equivalent to 6H:1V:
Probable Activity:	Banks where observations suggest that past bank movements have taken place.
Observed Failure:	Location of evidence of definite bank movements within bank section of probable activity.
Height of Bank:	Greater than 6m: Elevation difference between the top of bank and the channel bottom exceeds 6m.
Few Trees:	Banks with relatively sparse tree cover.
Significant Erosion:	Banks exhibiting consistent erosion as identified by more than 75 cm of exposed face.

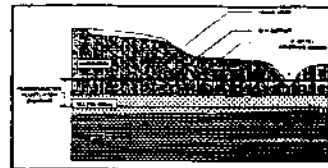
General Observations

From this study, the following general observations are made regarding the Seine Riverbanks:

1. Upstream banks generally appear to be more stable than riverbanks closer to the Red River.
2. The majority of the observed failures are along the outside bends of the river.
3. The majority of the observed failure areas exhibit a number of the study characteristics that adversely relate to the stability of the riverbank.
4. The majority of the bank movements appear to be of intermediate depth.

Future Site Specific Investigations

The report provides the geotechnical framework for future planning of any preservation, restoration or development works along the 26 km corridor of the Seine River. In general, sections of the riverbank where there is an overlapping of riverbank characteristics highlight areas of focus or concern with respect to bank stability affecting their development potential. It should be recognized, however, that further investigation including site drilling, installation of geotechnical instrumentation, surveying and rigorous stability analysis, would be required for significant development activities.



Riverbank Failure



Observed Failure: Evans St. Riverbank



Complex banks—Concrete rubble from demolished early 20th century buildings and streets



LBIS Mapping

Recommendation:

1. That this report be applied as a resource document in conjunction with the Seine River Greenway Implementation Plan, future waterway construction, and resource management:

B – Hydrologic and Hydraulic Modeling of Flows and Levels of the Seine River

- D. McNeil, P. Eng/Department of Civil and Geological Engineering University of Manitoba/Steering Committee (mostly S.O.S. representatives)

Principle: The City seeks to maintain and enhance the potential of the Seine River as a community asset

Stream Flow

One of the more significant issues facing the Task Force was the lack of consistent water flow within the Seine during the summer months. During extended periods in the summers of the late 1980's, the Seine was often left a "stagnant algae choked mosquito breeding cesspool and lifeless ditch" (Save Our Seine). Previous studies (Smith 1992, PFRA 1987, 1989) had investigated various methods to provide a more reliable source of water throughout the summer months.

The Seine River and its watershed have a long history of human intervention to adapt them to the needs of the people affected by them. Some of these changes have aggravated the problem of low flows and low water levels. For example, the 'natural' Seine River watershed has been reduced by 20% from 1470 sq. km to 1190 sq. km. through diversion (Red River Floodway/Seine River Diversion 300 km) and interception (Lake Riviera Dam 110 km). The Red River Floodway, completed in 1968, effectively bi-sects the Seine River at the city limits, and reduces the influence of 92% of the watershed to the flow that is accommodated through an inverted siphon that runs underneath the floodway. (Designated to carry a max. flow of 4.3 cubic meters per second/cms-150 cubic ft. Per second/cfs). Flow excess to the capacity of the inverted siphon is discharged into the Floodway

History

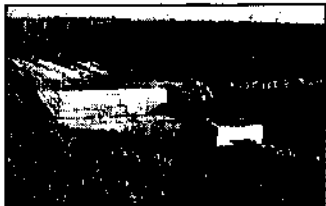
In 1978, a hydrology study was undertaken on the Seine River, as part of the 1980 Seine River Parkway Study. The objective of the 1978 study was to determine the flood risks along the channel from high river flow conditions, which is a typical objective in most hydrology studies. The purpose then was to determine the land requirement along the Seine River for City ownership of a waterway that would convey runoff flows from a 100 year summer rainstorm. The reason was that natural drainage courses suffer from encroachment and subsequent flooding problems, despite legislation restricting or regulating construction in the Floodway and Floodway fringe areas, respectively.

On July 16, 1980, City Council concurred in the recommendations of the Seine River Parkway Study report, dated March, 1980, which included acquisition of the waterway lands (floodplain) for their use as a drainage channel. Council also recommended, among other things, that the "costs incurred for the purpose of preserving the Seine River watercourse by land acquisition be recovered from benefitting developments through a land drainage trunk service rate". That Waterway Requirement rate was determined to be \$145 per acre, and was based on the total estimated cost of acquiring the waterway lands divided by the Seine River watershed area within the city.

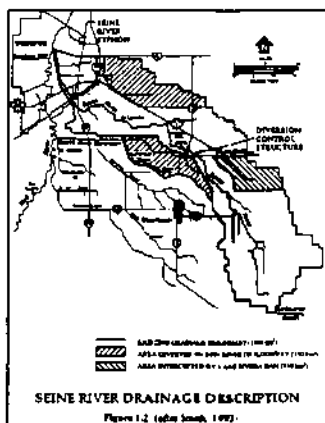
On June 19, 1983, City Council adopted a continuing program of land acquisition of the waterway lands along the Seine River to provide long term economical drainage.



Low Flow (fall)



Floodway Weir



Seine River Watershed

Low flow conditions were apparent during the relatively dry summers in the late 1980's, when discharge in the Seine River through the City of Winnipeg was essentially non-existent at times.

Current Study

The objective of the current Seine River hydrology study was to identify and assess strategies for improving or augmenting low flow conditions on the Seine River. The study was undertaken by Mr. Tim Lock, a Master's student in the Department of Civil and Geological Engineering at the University of Manitoba, under the supervision of Dr. J. C. Doering, P. Eng. Over the course of the study from July, 1994 to June, 1995, a steering committee of interested stakeholders met with the study team to review progress, share information and provide direction. The members of the steering committee were:

- Jean Dunmire, Chairperson of the Save Our Seine (SOS) group
- Harold Thwaites, SOS and Seine River Advisory Group
- Ellen Cram, Manitoba Naturalist Society
- Frank Barlishen, P Eng, Manitoba Department of Natural Resources, Water Resources Branch
- Lorry Broatch, Manitoba Department of Natural Resources, Water Resources Branch
- Aubrey Hope, P. Eng, Former City of Winnipeg Operations Department (South East District)
- Sheldon Drobot, University of Manitoba geography student
- Doug McNeil, P. Eng, Steering Committee Chairperson, City of Winnipeg Water and Waste Department

A starting point for the study from which to investigate the hydrologic and hydraulic processes and issues of the Seine River was a 1992 Master of Natural Resources Management practicum by Mr. Morley Smith⁵. The practicum addressed a number of water resource management strategies for the Seine River in Winnipeg. Strategies for improving the low flow conditions of the Seine River as addressed by the Prairie Farm Rehabilitation Administration (PFRA) of the Federal Department of Agriculture were also investigated in this study.

To quantify the problem of low flows and assess the effect of mitigative strategies, sophisticated hydrologic and hydraulic computer models were utilized. A hydrologic model of a watershed models the physical processes that influence and contribute to streamflow. It requires precipitation, evaporation, wind speed, air temperature, dew point and solar radiation data as well as parameters describing the physical characteristics of the watershed. The model produces rates of flow in the river for given conditions.

A **hydraulic model** was required to determine the relationship between rate of flow in the river and the water depth (depth of flow). Physical parameters that were input to the model included river channel slope, roughness and cross-section data.

The hydrologic and hydraulic models assisted the researchers in making the following observations regarding low flow and low water conditions on the Seine:

1. Improved Agriculture drainage south of the City has accelerated the normal run-off response of non-cultivated soils (ie. it shortens the length of time that rainfall contributes to flow in the river).
2. The entire watershed of the Seine lies within 120 km of Winnipeg and is subject to localized weather patterns. When Winnipeg experiences a drought, typically the entire watershed is also affected.

⁵ Morley John Smith, *Water Management Strategies for the Lower Seine River*, 1992



St. Anne Diversion Projects

3. Flow on the Seine will peak 1–2 days after a large rainfall and then steadily decline until the next rainfall.

The low flow problems that are experienced on the Seine are influenced largely due to historical weather patterns and to a far lesser extent by man's interventions.

Through the course of the study, it was determined that the minimum or target flow for the Seine River should be that flow which permits canoeing while also supporting a healthy ecosystem (if possible). A water depth of at least 0.3 metres (one foot) was determined to be required for canoeing which corresponds to a flow of approximately 0.28 cubic metres per second (10 cubic feet per second). This exceeds the minimum flow determined by others of 0.04 cms/1.5 cfs (source: Morley Smith, 1992) to meet the in-stream flow requirements for supporting a healthy ecosystem and therefore was adopted as the target flow for the Seine River.

To put this information into perspective, the study hydraulic model determined that it is not uncommon for the Seine to have between June 1 and the end of September, 40 days with less than .28 cms and 20 days with less than .04 cms. The problem is compounded because the period of lowest flows are typically also the times for highest vegetation and irrigation demands. Three golf courses operate within the City boundaries (Niakwa, Windsor, and the St. Boniface Golf Courses) and all utilize irrigation water from the Seine in order to maintain their courses.

Streamflow is often inadequate to supply the existing licensed and riparian (historical users) water users. It is anticipated that demand for irrigation will increase because of the growth of market gardens and residential development along the Seine.

Strategies for improving or augmenting low flows can be classified as either **managing the water supply** or as **managing the water demand**. When supply does not meet demand, supply must be increased and/or demand must be decreased. When flows are low, the option of managing demand is probably the most feasible and least expensive. However, when the flow of the Seine River is essentially zero throughout the watershed, including in Winnipeg, the only option is to increase water supply.

In total, 18 possible strategies for supplementing flow were investigated, evaluated and costed.

Strategies

The study recommended four strategies to pursue depending on funding available and flow condition desired or accepted. These strategies are:

1. Construction of a water diversion from the Red River to the Seine River by utilizing the Red River Floodway. This strategy can provide a continuous supplemental flow of 0.28 cubic metres per second (10 cubic feet per second) at an estimated capital cost of \$534,000.00.
2. Construction of a series of small weirs in Winnipeg, referred to as pool and riffle structures, which would create reservoirs but also permit overflow. Low flow conditions cannot be prevented and would have to be acceptable when they occur. The estimated capital cost is \$75,000.00. (most ecologically and cost effective solution)
The S.O.S. are currently planning to implement a pilot program for riffle construction during the winter on 1999–2000.
3. Pursue management strategies with the Manitoba Water Resources Branch, such as prioritizing in-stream flow needs or advising licensed or riparian users of cut-off withdrawal levels. The benefits may be reduced impact of withdrawals during low flows. The cost would be manpower and resources of the Manitoba Water Resources Branch. Low flow conditions cannot be prevented and would have to be acceptable.



Canoeist on the Seine



Weir Ste. Anne

-
-
4. Do nothing and accept the natural occurrence of periodic dry conditions throughout the Seine River basin coupled with the man-made influences that create low flow conditions. There is no monetary cost and the summers in which low water levels occur are opportune times to clean the lower river banks and bottom of debris.

Conclusions

With respect to high flows, and further to the previous approvals of Council, it is still in the interest of the City to provide an adequate waterway to accommodate the 100 year summer storm as this represents the critical dynamic condition of the river in terms of erosion, property damage and flooding. This is the condition of the Seine River that the City is continuing to plan for in terms of the regional land drainage system and therefore the channel (floodplain) should be controlled by the City in a similar manner to a storm sewer pipe. Accordingly, the lands up to the elevation of the waterway, as originally defined in the 1980 Seine River Study, and as shown on the attached maps, should continue to be acquired by the City.

A companion report recommends an increase in the Land Acquisition Charge to reflect current costs.

With respect to low flows, it has been concluded that:

- Low flows and levels in the Seine River inhibit recreational activities and stress flora and fauna.
- The computer models used in the current study were successfully established and calibrated to assess strategies for improving or augmenting the low flow conditions on the Seine River.
- It is estimated that a flow of approximately 0.28 cubic metres per second (10 cubic feet per second) is required to permit canoeing on the Seine River in Winnipeg. This is based on the determination that a depth of at least 0.3 metres (one foot) is required for canoeing. This flow rate may also meet the in-stream flow requirement for supporting a healthy eco-system and licensed and riparian withdrawals.



Sturgeon Creek Riffle Weirs

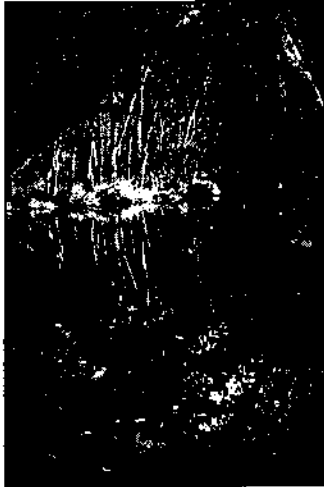
C – An Assessment of Vegetation and Wildlife Habitat Quality for the Seine River Parkway

- A. Cowan/C. Heming

Principle: The City seeks to ensure the proper, environmentally responsible management of natural and sensitive lands along the Seine River

Study Objectives:

In 1994 staff from the Environmental Services Branch of the Parks and Recreation Department undertook an inventory of vegetation and wildlife habitat along the Seine River. This inventory was part of an extensive study designed to produce a comprehensive planning document that addressed how best to manage, protect, and enhance the Seine River Greenway. The goal of the inventory was to provide the Seine River Task Force with information that would assist in the development of this planning document. Specifically, the objectives of the study were to (1) identify and catalogue vegetation (native and non-native), and wildlife along the Seine; (2) document the specified composition of distinct natural communities or natural areas, and (3) rank such communities or natural areas with respect to the relative quality of vegetation and wildlife habitat. These objectives were coarse filters that provided a baseline of information from which general guiding principles about design and future management of the Seine River Greenway could be developed.



High Quality Vegetation

Methodology

Using various maps and aerial photographs a number of areas along the Seine River were identified for field investigation and vegetation surveys. Plants and animal species along with indications of animal species observed were recorded for each site. Additional information on the forest inventory and assessment was gathered by canoeing and walking the length of the river within the City. The fifty identified sites were assessed for quality of habitat and placed in one of four categories. (A, B, C or D) based on sensitivity to disturbance. "A" quality habitat is the best quality and is most sensitive to disturbance while "D" quality habitat is the lowest quality and least sensitive to disturbance.

General Observations

Within Winnipeg, the Seine River consists of a wide variety of native plant species, plant communities, and wildlife. Communities ranged from wetland and river bottom forest to upland forest and tall grass prairie.

- In total, 180 different plants were observed within the study area with 141 being native to Manitoba.
- That the percentage of properties that currently contain high quality habitat (A and B Quality) are approximately 20% City owned and 37% privately owned.
- Upland forest communities and bottomland forest communities exist along the study area.
- Many good examples of bottomland vegetation exist throughout the study area.
- Wildlife observations in the study area revealed that large mammals and a wide variety of birds use the Seine River within the City.
- Wildlife habitat quality was observed to be relatively high in general with large parcels of native wildlife habitat remaining, particularly in the southern reaches of the study area.
- The potential for improving wildlife habitat was determined to be high.
- Disturbed areas were present throughout the study area but were more common in the northern reaches.



Turtle

Planning/Design Guidelines

Several guidelines for the design of the Seine River Parkway based on the ecological information collected were suggested. The design of the greenway should improve wildlife habitat as well as take into account recreational activities of people. There is little doubt that a greenway along the Seine could be developed that would allow for a wide variety of recreational activities and the continuation of the river as an important wildlife corridor. The guidelines are summarized as follows:

- A greenway plan should consider potential impacts on habitat size and possible fragmentation of a high quality area.
- Design and management of the Seine River Greenway should minimize fragmentation of remaining vegetation by planning recreational activities and infrastructures around and along the outer edges of large riparian patches.
- Large patches of riparian habitat should be maintained throughout the parkway and designated as wildlife preserve areas.
- Greenway design and activities should be based around enhancing width of riparian vegetation where determined to be appropriate and desirable.
 - Design of the greenway should incorporate the area between the floodway fringe lines into parkway activities and infrastructures. This zone could be designated as a wildlife management zone along the parkway. More intense activities could occur outside of the wildlife management zone.
 - Adjacent wildlife corridors, such as Bishop Grandin, should be connected to the Seine River Greenway system
 - Areas of high quality habitat should be maintained. Efforts to enhance those lower quality areas immediately adjacent to these sites should also be considered.

There are a number of tools that can be used to reach the desired objectives for maintaining and enhancing vegetation and wildlife habitat along the Seine River. These include, the use of zoning to protect and enhance sensitive areas, the establishment of a Conservation District (Provincial Legislation required), and the use of City of Winnipeg policies toward managing sensitive lands.

Recommendations

In addition to the above guidelines, it is recommended that:

1. The enhancement and restoration projects should continue to be carried out. These projects should use native plant stock and be done in such a way as to maintain ecological integrity.
2. Trail development should be carried out in such a way as to enhance the public's experience while minimizing impact on vegetation and wildlife.
3. Management issues such as beaver damage to trees, purple loose-strife and Dutch elm disease need to be addressed to ensure healthy riparian habitat.

D – Seine River Corridor Interpretive Study

– B. Yanchyshyn/Trigo Associates/Steering Committee
(representatives from 3 levels of Government as well as Francophone and Metis Community.)

Principle: Significant heritage resources which contribute to public awareness, and increased understanding and appreciation of the Seine River, its people and institutions should be conserved and interpreted in a manner compatible with adjacent development

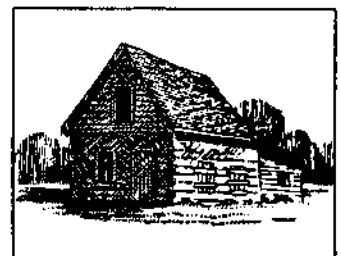
The Seine River Corridor Historical Interpretative Study was undertaken by TRIGO Associates (Lucien Chaput, Manager) with the help of Lynne Champagne



Dutch Elm Disease



Beaver



Pilon House



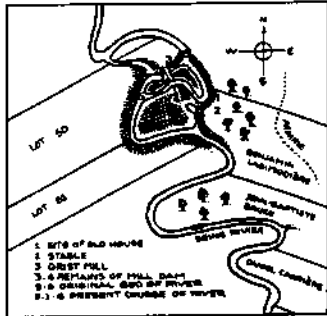
Gabrielle Roy House

(historical research) and Real Berard (illustrator and canoe route guide) under the direction of the Seine River Corridor Historical Interpretive Study Steering Committee composed of representatives of various community groups and the three levels of government.

Steering committee members

The members of the steering committee were:

- Augustine Abraham, Union nationale metisse de Saint-Joseph;
- Jean-Pierre Brunet, Save Our Seine River Environment Inc. (SOS);
- Bruce Donaldson, Historical Resources, Province of Manitoba;
- Claude Forest, Union nationale metisse de Saint-Joseph;
- Phillippe Mailhot, Musee de Saint-Boniface;
- Alfred Monnin, Société historique de Saint Boniface;
- Diane Payment, Parks Canada - Heritage Canada;
- Barry Yanchyshyn, Community Services, City of Winnipeg

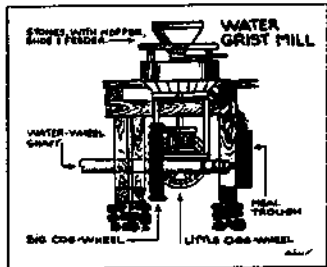


Former Riel Grist Mill Site

Study Objectives

The study objective was not to focus on only a few sites of major historical significance, but rather, to provide an overview of development along the Seine River Corridor between Des Meurons – Ste. Anne's Road to the west and the CPR Emerson Line to the east throughout St. Boniface and St. Vital from the Floodway to its confluence with the Red River.

A preliminary list of cultural, historical and archeological resources was compiled based primarily on existing published sources. Some original research was undertaken to fill the gaps in the historical record. Sixty three historic points of interest were identified.



Water Grist Mill

Study Themes

Based on the specific findings, a thematic history of the Seine River Corridor was compiled with the following topics:

- Aboriginal peoples
- Metis settlement and history
- Francophone culture and artisans
- Catholic missions, parishes and institutions
- Old Red River Parishes, river lots and land concessions
- Transportation, industrial and economic development
- Urban and suburban development with a special emphasis on the older neighbourhoods
- Natural history of the Seine River Corridor

Recommendation:

Specific recommendations relating to each topic are presented in the report. Along with the report's findings, they could serve as a basis for future interpretive work related to:

- the production of walking tour guidebooks and local history brochures;
- identification signs and street signage;
- canoe route development including maps, guideposts, canoe launches;
- Historic plaques and monuments; and,
- specific conservation and restoration projects.



Interpretive Plaque

Public Consultation Process

Chapter 3

3.1 Background

The reconvened Seine River Task Force was aware that the Seine was recognized for its potential to serve as a regional Parkway connecting parks, natural preserve areas, cultural features, and historic sites, with residential neighbourhoods and commercial areas. The results of the Parks and Recreation Department's Winnipeg Leisure Needs Survey concludes that there is a strong desire of Winnipeggers for more bicycle and walking paths for fitness and pleasure, preservation of natural areas, and public access along the City's rivers and creek systems.

However, there was also demonstrated public concern associated with increased public use of waterways relative to safety, vandalism, theft, and trespassing; as well as for reduced property values of privately owned lands adjacent to waterways and compromised quality of life styles of affected residential properties.

Environmentalists cautioned that 'enhancement' of the natural waterway corridors may impact negatively on sensitive ecosystems and serve to reduce wildlife habitat. Moreover, the 'Save our Seine' (S.O.S.) Resident Group contended that water flow, water levels and water quality are major issues which needed to be resolved specific to the Seine River.

In order for any civic planning process to gain maximum public and political acceptance, it is essential to adequately involve affected residents, key local organizations (stakeholders) as well as the general public in the overall process. In light of the City's fiscal constraints coupled with the significant contributions that organizations such as the Save Our Seine River Environment Inc (S.O.S.) have made, the Task Force focused on creating a common vision, a community consensus, as well as a community commitment to work toward that vision.

The stated Task Force Philosophy was therefore:

A recipe for failure is to allow the vision to slip out of the hands of citizens and become the sole property of experts.

Dictating regeneration from above by governments and their consultants almost guarantees the loss of public support and stifles valuable initiative. Neighbourhood and citizens/groups already practice restoration locally; planting trees, cleaning up ravines and acting as watchdogs to stop chemical spills and vandalism of nature. They must become part of a coordinated process for watershed regeneration.

Regeneration is defined as a healing process that restores and maintains environmental health, as well as anticipating and preventing future harm.

from: "Recommendations for a Sustainable Watershed and the Sustainable City Final Report."



Public Open House



SOS Cleanup

3.2 Seine River Advisors

From the beginning, seven Riel Community Committee appointed Seine River Advisors were formed to be responsible to liaise with the Community Committee, review technical and planning information, and provide comments and suggestions to the Administrative Task Force.

- Ms. Carol Billett
- Mr. Maurice Prince
- Mr. Bill Pankiew
- Mr. Bob Tinker
- Mr. J. P. Brunet
- Mr. Harold Thwaites
- Mr. Bill Sparrow Jr.

In excess of fifteen meetings were held with the Advisors over the course of this study.



SOS Greening

3.3 Seine River Alliance

The Seine River Alliance, a consortium of private, public, and environmental organizations including School Division personnel, golf course representatives, the Manitoba Naturalists Society, Metis and Francophone organizations, as well as the French and English Chambers of Commerce were invited to participate in meetings and were kept apprised of the Study process by regular mailing.

Three major Seine River Alliance Meetings were held at 219 Provencher (1) and the St. Boniface Golf Course (2).

3.4 Save Our Seine River Environment (S.O.S)

Once calling the Seine River a “stagnant algae choked mosquito breeding cesspool and lifeless ditch”, the Save Our Seine River Environment Inc. (S.O.S.) was officially formed at a general meeting on September 5, 1990. Since their inception, the S.O.S. have effectively played a vital role as advocates, watchdogs, and environmental activists.

This community organization has expressed concern over the low flows in the river, the poor water quality, the amount of golf course irrigation allowed, as well as the garbage littering the river valley.

Since the establishment of the S.O.S., they have:

- Been represented on the Seine River Citizen Advisory Committee
- Facilitated stakeholders (Seine River Alliance) Round tables
- Organized natural/historic inventories and outings
- Mapped river obstructions
- Carried out water testing
- Prepared an Interpretive Trail Report Provencher to Marion—The basis for a Winnipeg Development Agreement Application
- Organized Yellow Fish education Programs in St. Vital Schools
- Organized Seine River “Greenings” (reforestation)
- Organized River Clean Ups
- Organized the Coalition for a Canoeable Seine
- Opposed inappropriate development
- sponsored Morley Smith’s Practicum on Water Management Strategies
- received \$25,000 in grant funding for Kavanagh Park Vegetation Restoration
- contributed to the removal of the concrete block obstructions at the Beaver Bus Lines
- coordinated and managed Urban ‘Green Teams’ cleaning up the Seine River
- sponsored a Fish Research
- actively exploring the implementation of fish riffles on the Seine
- successfully fundraised for the implementation of the Seine River Nature Trail between Provencher and Marion (total \$260,000 cash and in-kind services cost)

In excess of fifteen meetings were held with the SOS during the course of this study.



S.O.S.



Tree Wrapping—Green Team

3.5 Coalition for a Canoeable Seine

In 1995, the S.O.S. facilitated the creation of a coalition of over forty (40) Educational, Scouts and Guides, Historical, Recreational, Community, Commercial, and Environmental Organizations all committed to the 'intelligent exploitation of the natural and recreational potential of the Seine River, for the benefit of citizens and the benefit of the environment'.

All the organizations signed a declaration sent to the City of Winnipeg and the Province of Manitoba as follows:

That the idea of transforming the Seine River into a Canoe Park/Corridor is:

- 1) desirable to the citizens of Winnipeg
- 2) will enhance the quality of life
- 3) and will at the same time help the Seine River Environment ⁵



Cleanup-Green Team

3.6 Community Residents Groups

Throughout the Seine River Study, the Task Force consulted with Neighbourhood Organizations (refer Neighbourhood Characterization), Steering Committees that provided guidance to two of the Major Sub-Studies (refer Hydrologic and Hydraulic Modeling of Flows and Levels of the Seine River and the Seine River Corridor Interpretive Study), as well as the Glenwood and East Norwood Manitoba/Winnipeg Community Revitalization Program (M/WCRP) Resident Committees.

Again, the intent was to ensure that all significant interests (stakeholders) were represented and respected, to harness local knowledge, to identify issues, solve problems, and encourage action.



Concrete Block Removal

3.7 Newsletters

Four 'Mouth of the Seine' newsletters were prepared and distributed throughout the course of this study. A mailing list of approximately 300 individuals and organizations was maintained for newsletter distribution. The last newsletter distributed in December 1996, was sent to approximately 25,000 households throughout the Riel Community Study area.

3.8 Public Open Houses

Three major public open houses hosted by the Seine River Task Force were advertised and held at key times during the study process as follows:

Site/Date	Purpose
1. Glenwood C. C. September 27, 1994	<ul style="list-style-type: none">• Introduce the Seine River Task Force/Terms of Reference• Advise of the Advisory Group/Stakeholder Planning Process• List public concerns and issue
2. Norwood Hotel April 18, 1995	<ul style="list-style-type: none">• presentation on the Inventory & analysis information collected as well as the sub-studies completed to date.
3. Norwood Hotel March 4, 1996	<ul style="list-style-type: none">• stakeholder presentations (including Save Our Seine and Coalition for a Canoeable Seine)

5. SOS/Coalition for a Canoeable Seine Declaration

3.9 Public Displays

Prior to the completion of the Study, the Task Force with the concurrence of the Riel Community Committee Councillors, set up bilingual Public Displays throughout the Riel Community in order to provide opportunity for public review and comment. Six Displays were set up between January 13 and February 14, 1997 at the four area Library Branches as well as at the Riel Community Committee Offices at 219 Provencher and the East Norwood/Glenwood Manitoba/Winnipeg Community Revitalization Program site office at 604 St. Mary's Road.

Pre-addressed bilingual Questionnaires, with room for written comments were placed at each of the displays in order to promote comment. Approximately 30 Questionnaire responses were received.

The comments were overwhelmingly in support of the Concept Plan, the six Principles, the Goals of Preservation, Conservation, and Passive Recreation, as well as for the Greenway trails, bridges, canoe launches, historic interpretation, wildlife enhancement and vegetation restoration, and the introduction of riffle weirs.

3.10 Surveys

The former Parks and Recreation Department, in partnership with the University of Manitoba's Health, Leisure, and Human Performance Institute, conducts an independent statistically sound survey sample of 2,400 households called the Winnipeg Leisure Survey (WLS). The WLS was conducted between 1991 and 1997, to obtain both satisfaction levels of the public with our services, and to get input on future direction for the Department.

Some of the general WLS and a survey run in 1997 specifically dealing with the Seine River indicated the following:

1. "Lineal" forms of recreation (walking, jogging, cycling) are the top year round leisure activities enjoyed by Winnipeggers.
2. Participation rates for walking, jogging, and nature study are near constant year round.
3. Bicycle/walking trails and parks associated with rivers, creeks and natural sites should be the Parks and Recreation Department's highest priorities for new development. This is based upon the value of fitness and recreation as well as an increased awareness and valuing of natural habitat.

Winnipeg, not unlike most other North American cities, has an aging population whereby citizens are demanding more access to informal, passive and independent leisure activities as well as increased access to nature.



Seine River (S.O.S.) Clean-up

Planning & Management Principles

Chapter 4

4.1 Background

Following the inventory and analysis phase, the The Task Force developed issues as identified by advisors, stakeholders, and the general public. The issues, in conjunction with a review of City Policy and associated planning documents from other jurisdictions, assisted in the development of a statement of Vision and planning Principles which were established to guide the preparation of the Seine River Greenway Concept Plan.

Vision

The Seine River and its adjacent banks provide a unique and valued "urban wilderness" greenway within The City of Winnipeg. It should be nurtured, protected, and enhanced for present and future generations through responsible management practices to prevent exploitation, destruction and neglect of the valued resource.

Principles

a) Consult the public

- encourage public participation in planning, design and implementation process
- balance local/community/regional interests

b) Preserve and enhance the natural environment

- ensure preservation, conservation, appropriate use, and environmentally sound development of resources
- encourage environmental stewardship with property owners
- promote environmental legislation, regulation, and enforcement efforts
- ensure conservation and management of flora and fauna
- protect, maintain, and enhance landscape features, visual continuity, and the aesthetic quality of the greenway experience as well as the opportunity for self-guided nature interpretation

c) Conserve and interpret cultural and heritage resources

- Significant heritage resources which contribute to increased public awareness, understanding and appreciation of the Seine River, its people and institutions should be conserved and interpreted in a manner compatible with adjacent development.

d) Emphasize passive recreation and environmental education

- encourage year round, low intensity, informal, unstructured activities
- promote public awareness of benefits of environmentally sustainable development
- programming to be limited to passive environmental education and direct experience as well as self-guided historic interpretation
- enhance inter-agency watershed management cooperation/coordination

e) Enhance connections

- between flora, fauna, historic, cultural, and recreational features
- between publicly owned properties and facilities
- across the river to link neighbourhoods where appropriate

f) Mitigate land use conflicts

- conflict between park development and neighbourhoods should be resolved in favour of neighbourhoods (i.e. the designation of community or regional parks should not impose conflict, such as noise and traffic on neighbourhoods)
- park development, and especially the acquisition of additional lands, should be directed to reduce any existing conflicts (i.e. other things being equal, monies should be directed to acquisition of incompatible non-residential sites in order to enhance neighbourhoods as well as the park/waterway)



Skiers-Windsor Golf Course/Ski Centre

Greenway Concept Plan

Chapter 5

5.1 Background

At this point in the study process, the Task Force had a good understanding of the river ecology, the historical, cultural, and natural resources of the Seine River, as well as the issues of importance to residents, stakeholders, and the general public.

The Task Force recommends the use of the term Seine River 'GREENWAY' as being more appropriate than the term Parkway which was utilized previously. The definition of a Greenway is as follows:

Greenway—a linear protected open space connecting parks, nature preserves, wildlife habitat, and cultural and historical sites with each other, and managed for conservation and recreation purposes.

Unlike the sixteen different Assiniboine and Red River Parkways which are components of much larger river systems, the Greenway Concept of recognizing and protecting the natural, cultural, and historic resources applies to the entire Seine River Corridor within the City of Winnipeg.

Utilizing the digital overlay capabilities of the LBIS, plans of the Seine River Greenway were prepared to reflect the opportunities and constraints of the Planning area as follows:

- | | |
|----------------------|---|
| Opportunities | <ul style="list-style-type: none">• City, owned properties/facilities• A and B Quality Wildlife Habitat• Historic Points of Interest• Neighbourhood/Political Boundaries |
| Constraints | <ul style="list-style-type: none">• Flood Fringe Line• Future Transportation corridors• Riverbank Failures• Areas of Probable Riverbank Activity |

These plans were used as the basis for the 2 day Task Force Concept Planning Workshop that was held to formulate the Seine River Greenway. Overall goals for the Greenway Concept were established as follows:

- **Preservation** through protection of high quality natural environments;
- **Conservation** through management strategies to improve riparian and flood-plain native vegetation communities; and
- **Promoting Passive Recreation** through improving pedestrian linkages within the corridor and between neighbourhoods, enhancing canoe and winter cross country skiing opportunities, and advancing historical, cultural and natural interpretation of the River.

The Task Force adopted a very low key realistic approach of protecting what is good about the river corridor, restoring what has been damaged, promoting pedestrian and wildlife linkages throughout, while minimizing capital outlays and the need for property acquisition.

5.2 Highlights of the Concept Plan

The concept plan proposes: (see Maps in Appendix A)

- Approximately 20 km of new Seine river trails bordering the Seine (approximately 12.5 km on City-owned riverbank and 7.5 km on adjacent safe existing streets such as Egerton Road); Several additional km of riverbank trail will be added as new development occurs and public reserve is created, mainly south of Bishop Grandin Blvd.



-
-
- Five (5) new pedestrian bridges;
 - Six (6) new canoe launch sites;
 - Sixty-three (63) Historic Points of interest for recognition;
 - Eight (8) Thematic Areas for Historical and Natural Programs (including: Aboriginal Peoples; Metis Settlement and History; Francophone Culture and Artisans; Catholic Missions, Parishes and Institutions; Old Red River Parishes River Lots and Land Concessions; Transportation; Industrial and Economic Development; Urban and Suburban Development; and Natural History);
 - Sixty-four (64) specific areas for Wildlife Enhancement or Vegetation Restoration (many on private property).
 - Eighteen (18) possible strategies for supplementing Seine River Water Flows with four (4) of these strategies being recommended for the City to pursue. The preferred strategy was for the construction of a series of fifteen (15) small riffle weir structures at a cost of approximately \$75,000.00.
 - That the Seine River Trail and supporting recommendations be incrementally implemented over time utilizing a number of different sources of funding including; Capital funds, Private Sector Donations and Grants, Cash-in-Lieu of Land Dedication, Development Agreements, Government Grants, as well as by Volunteers and under Summer Student Employment Programs.

Specifics of the Seine River Greenway Concept Plan are outlined in Chapter Six, River Reach Planning.



Kavanagh Park Walkway

6.1 Background

The Task Force has identified seven different Planning segments as follows:

1. Mouth of the Seine to Provencher Blvd.
2. Provencher Boulevard (Rue des Meurons to Rue Archibald)
3. Provencher Boulevard to Marion Street
4. Marion Street to Fermor Avenue
5. Fermor Avenue to Bishop Grandin Boulevard
6. Bishop Grandin Boulevard to the Perimeter Highway
7. Perimeter Highway to the Red River Floodway

Each Planning segment is bordered by a major street thoroughfare, the Greenway terminates at each of the Red River (downstream) and the Red River Floodway (upstream).

All Planning segments were considered individually with regard to the following:

- a) Geographic Description
- b) General Comments
 - i) Existing Land Use
 - % City Owned Riverbank
 - other land uses
 - park and recreation facilities
 - ii) Vegetation
 - % of high quality habitat
 - number of wildlife habitat/vegetation restoration areas
 - number of possible heritage trees
 - iii) Riverbank Characterization
 - number of observed bank failures
 - % of complex banks
 - iv) History
 - number of historic points of interest
 - significance of historic sites
 - v) Transportation facilities
 - existing/proposed facilities
 - proposed bicycle/pedestrian facilities
 - vi) Hydraulic Feature
 - proposed riffle weirs
- c) Major Issues
- d) Proposed Improvements
- e) Cost Estimates

1. Mouth of the Seine to Provencher Boulevard

a) Geographic Description

The confluence of the Seine River at the Red River, running south to Provencher Blvd., and bounded on the east by Rue Archibald and on the west by Rue Thibault.



Lagimodiere/Gaboury
Homestead

b) General Comments

Over 95% of the riverbank properties are under City ownership with undeveloped portions of Whittier Park and the Old Market Garden Site (currently under consideration as the possible birthplace of Louis Riel), dominating the western side of the river. Park properties developed under the former Tripartite Core Area Initiative Program line much of the east side of the River. The area contains a small park (playground/athletic field) as well as developed open space at Rue Maisonneuve. The Community has identified a need for additional Community Level soccer fields as a result of the displacement of two fields within Whittier Park due to the development of the baseball facility.

Much of the adjoining area is single family residential characterized by only 50% owner occupation. A commercial strip lines Provencher Blvd. Over 63% of the population is of French origin with a fairly transient population. (50% of the households experienced a move between the years 1986–1991.)

Approximately 50% of the riverbank is characterized as high quality habitat (B Quality). Much of the habitat is Bottomland Forest. No Heritage Trees were identified. Five sites have been identified as Wildlife Enhancement and Vegetation Restoration Areas (mainly on City owned property). The city owned riverbank adjacent the Belgian Club has been negatively impacted by parking lot and bowling facilities.

One large bank failure was observed within the Former Market Garden Property. The entire planning area is characterized by complex and steepened banks largely due to filling operations over the last century (to reduce flooding and increase the developable area of the property).

Nine Historic points of interest are contained within the subject area. This area is literally filled with significant historic sites and events that are worth referring to the Chaput/TRIGO Document directly.

The proposed South East Transit Corridor would eventually run both to the north of the CNR Reddit Highline as well as to the east of the CNR Sprague line. This bus exclusive roadway would have significant implications for the character of the mouth of the Seine as well as further segregate the Former Market Garden from the North St. Boniface Neighbourhood. Rue Notre Dame, Rue Thibault, Rue La Verendrye, and Provencher Blvd., have been identified as Bicycle Routes (integrated with traffic), while the CNR Sprague Rail Line ROW has been identified as a Bicycle Path (separate pathway) by the Winnipeg Bicycle Facility Study.

The 9.23 ha (23 acre) Old Market Garden Site currently referred to as the Lagimodiere/Gaboury Homestead was;

- Purchased by the City in 1992 for \$600,000.00 to accommodate community level Soccer fields which were displaced due to the development of the baseball diamond within Whittier Park.
- Prior to City purchase, filled with 3 to 4.6m (10–15 ft.) of fill.
- Determined by the Federal Government's Historic Sites and Monuments Committee, that there is no substantive evidence that clearly establishes the exact location of the Lagimodiere/Gaboury homestead (the birthplace of Louis Riel).
- Identified by the Province of Manitoba as well as Francophone and Metis Stakeholders for the pursuit of an Archaeological excavation of the site in order to determine the exact location of the homestead.

c) Major Issues

Lagimodiere/Gaboury Homestead – A Master Plan for the site was prepared during the summer of 1999. Phase One Construction on the site occurred during the summer/fall of 1999.

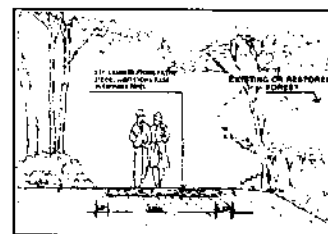
Obviously the historic significance of the site as well as its canoe launch potential could make this site a regional attraction accompanied by increased vehicular traffic and parking area requirements.

La Société du Patrimoine Lagimodiere-Gaboury is currently attempting to achieve Federal Historic status for the site.

Easements would be required to access under both sides of the CNR Reddit High Line Bridge in order to access the mouth of the Seine.

d) Proposed Improvements

- Provide new granular Seine River Trail:
 - extending north of the existing pedestrian footbridge leading to Rue Maisoneuve along the west side bank through the Lagimodiere/Gaboury Homestead (former Market Garden Property), underneath the CNR Redditt highline to the Seine River/Red River Confluence and west into Whittier Park.
 - extending north from Rue La Verendrye, underneath the CNR Redditt highline to the Seine/Red River Confluence, and east along the Red River towards the Louise St. Bridge.
- Pursue the necessary easements/notification to property lessees as required.
- Facilitate the planning and public consultation for the Lagimodiere/Gaboury Homestead (former Market Garden Property) and proposed Municipal Heritage Site. A Steering Committee has been set up to discuss the planning, program and design of the site.



Granular Trail (from Core Area Enhancement Program)

The Property and Development Services Department would like to accommodate the following uses:

- Historical interpretation and commemoration
- Community level soccer field development (2)
- Parking
- Canoe Launch
- Pedestrian walkways/circulation
- Maintenance and enhancement of the riparian vegetation.

Four Wildlife Habitat Enhancement and two Vegetation Restoration areas are found within the subject area.

e) Cost Estimates

1. New 2.4 m width granular Seine River Trail on east side of river to the mouth of the Seine		\$10,000
2. Trail signage and amenities (site furnishings)	budget	\$5,000
3. Easement requirements (Legal Survey Costs)		Not Included
4. Lagimodiere/Gaboury Homestead Site Development (\$700,000)		Not Included
5. Wildlife Habitat Enhancement/Vegetation Restoration Sites (6)		\$30,000
Total Budget Segment 1		\$45,000

2. Provencher Boulevard (Rue Des Meurons to Rue Archibald)

a) Geographic Description

The Provencher Boulevard R.O.W. between Rue des Meurons and Rue Archibald.

b) General Comments

Pedestrian crossings across Provencher are particularly difficult due to the high volume of vehicular traffic. Haphazard commercial development along Provencher have contributed to the decline of a consistent and attractive streetscape east of Rue des Meurons.

The Belgian Club parking and bowling facility have considerable negative impact on the riverside condition. The Streets and Transportation Department rehabilitated the Provencher Bridge (box culvert) in 1989. The Public Works Department has not identified a need for any additional work in the capital forecast. Three Historic Points of interest are contained within the subject area.

c) Major Issues

The need and impact of a widened bridge facility is an issue of the Old St. Boniface Resident's Association. The S.O.S. are firmly opposed to any new development that does not sympathetically address the Seine River.

There is an ongoing review of the Boulevard Provencher (BP) District regulations between Avenue Tache and Rue Langevin. The review could investigate the extension of the boundaries towards Archibald to control the character of development including design controls and both permitted and conditional uses in consultation with the community.

d) Proposed Improvements

- Improve pedestrian crossing situation at Rue Thibault and Rue Nadeau.
- Consider the implications of extending Provencher Boulevard Streetscape/Design Controls from Des Meurons to Archibald.
- Seek to improve the riverside condition at the Belgian Club adjacent the bowling facility by enforcing the provisions of the existing lease with the City.
- Ensure that any future Provencher Bridge upgrading program includes pedestrian access beneath the bridge.

e) Cost Estimates

1. Installation of a pedestrian crosswalk at Rue Nadeau	\$20,000
Total Budget Segment 2	\$20,000

3. Provencher Boulevard to Marion Street

a) Geographic Description

Generally, Provencher Boulevard to the north, Archibald to the east, Rue Des Meurons to the west, and Marion Street to the south.

b) General Comments

Approximately 25% of the riverbank property is owned by the City of Winnipeg. Industries including Beaver Bus Lines, I.K.O., Westeel, and AFG Glass own much of both sides of the riverbank in the middle of the subject area. The riverbank property on the east side of the Seine south of Plinguet and north of Kavanagh has been zoned Industrial. The Petit Seminaire owns a large semi-public open space north of Plinguet Street. Kavanagh Park is the only developed (playground/play fields) city-owned park site within this segment.

On the east side of the river, the Tissot Neighbourhood with approximately 60% of the population being of French origin has suffered considerable population decline (28%) between 1986–1991. The Dufresne Neighbourhood is characterized as fairly transient with 195 single family residential households, 64% of which houses are owned and 40% of the residents have moved between 1986–1991. Only 25% of the population is of French origin. The Central St. Boniface Neighbourhood is also characterized as being fairly transient with only 50% home ownership and 50% of the population being 'movers'. Sixty percent of the population is of French origin.

The SOS River Environment Inc. have undertaken an extensive study for a low impact Interpretive Trail within the subject area. As a part of the study, they conducted a survey, facilitated an Open House, and applied for funding for the Trail through the Winnipeg Development Agreement as well as other sources of private and public funding.

A new single family residential subdivision has been approved north of Bertrand St. and east off of Rue Youville. Proposals for future single or multi-family residential development are also proposed for the primarily industrial area to the north and west of the new subdivision. Both the City of Winnipeg and the neighbourhood are supportive of new residential development in this area.

Less than 10% of this segments riverbanks are covered in high quality Wildlife Habitat. (B Quality). Fifteen Wildlife Enhancement and Vegetation Restoration areas are found throughout. The majority of these areas are on privately owned properties, however, much of this riverbank is currently accessible to the public although no formal easement agreements currently exist with their owners. Eight possible Heritage Trees are found along this segment.

In order to develop the Seine River Greenway Trail as recommended, five easements would be required mainly across Industrial properties where owners have conditionally accepted public access to their riverbanks.

Seven bank failures were observed mainly on privately owned properties. A significant bank failure that threatened a Land Drainage Outfall west of Kavanagh Street has caused the Water and Waste Department to spend over \$400,000 on rock filled columns and restoration works to stabilize the riverbank. Substantial clearing of the riparian vegetation and riverbottom forest has occurred affecting the wildlife habitat as well as the aesthetics of the area. The budget for the project is reflective of the potential costs required to maintain and protect essential infrastructure on unstable riverbanks. Despite the large cost for these stabilization works, the budget for restoration of the riparian vegetation and riverbottom forest was less than \$20,000, which is not sufficient to restore the self-sufficiency of the riverside condition.

Much of the riverbank is typical of the northern reaches of the Seine River. Most of these complex banks have been filled with concrete rubble in order to reduce the impact of flooding and to increase the developable area of this property.

The proposed South East Transit Corridor is planned to be developed along the CNR Sprague R.O.W. including a new bridge crossing at Rue Deschambault. As part of a long range bicycle facilities system for the City, the WBFS has proposed that rue Des Meurons serve as a Bicycle Route (cyclists integrated with vehicular traffic), the CNR Sprague/CPR Emerson Subdivisions accommodate Bicycle Paths and Marion Street accommodate a Bicycle Lane east of the Seine River and serve as a Bicycle Route west of the Seine River.

There are sixteen Historic points of interest within the subject area. Of note, is the Canadian Novelist, Gabrielle Roy's House (1905) at 375 Rue Deschambault. The house is of interest to the Destination St. Boniface Group that wish to create a Tourism focus for North St. Boniface.

c) Major Issues

The Westeel Fabricating Company on Desautels is viewed by the adjoining residential community as an incompatible land use due to the heavy truck traffic the plant requires.

The S.O.S. have provided the leadership and funding for the removal of the large concrete blocks in the river channel behind Beaver Bus Lines.

The industrial nature of the middle of this planning segment should allow for public access via easement however, because of the lack of visibility (especially on weekends when most business is closed), may have implications on safety and security for Greenway Trail users.

Three easements are required, one of which crosses a resident's property.

Use of the riverbank on the east side of the river adjacent to the Dufresne neighbourhood is considered by residents to be theirs exclusively. The acceptability of the proposed pedestrian bridge location (north of Kavanagh) should be determined in consultation with local residents.

The future Goulet Bridge as proposed by the Public Works Department will have significant impact on the residential character of the Dufresne Neighbourhood.

d) Proposed Improvements

- Support the Save Our Seine River Environment Inc. (S.O.S.) Proposal for the Seine River Interpretive Trail.
- Provide new granular Seine River Trail (also identified in the S.O.S. plan):
 - Along the west side of the Seine from Provencher Boulevard south to Youville east of Gaboury Place.
 - Along the east side of the Seine from Kavanagh Park south to Dufresne Avenue.
- Pursue the necessary easements as required.
- Provide a new pedestrian bridge crossing at a location east of Gaboury Place and west of Kavanagh Park.
- Ensure that the future Goulet Bridge/Marion Bridge upgrading includes pedestrian access beneath the bridges.

e) Cost Estimates

1. New 2.4 m width granular Seine River Trail including clearing and grubbing. (S.O.S./city funded)		under construction
2. New bark mulch Interpretive Trails		\$4,000
3. Trail Signage and Amenities	budget	\$10,000
4. New Bridge (1)	budget	\$450,000 *1
5. New Canoe launches (1)	budget	\$6,000
6. Easement Requirements (Legal Survey costs)		Not included
7. Wildlife Habitat Enhancement/ Vegetation Restoration Sites (15)	budget	\$75,000 *2
Total Budget Segment 3		\$545,000 *3

*1 Estimate based upon current S.O.S. proposal

*2 Several of these sites occur on private property.

*3 The S.O.S. has applied and received significant funding under the Winnipeg Development Agreement as well as other sources of private and public funding in order to carry out the Seine River Greenway Trail.



Trail - Provencher

4. Marion Street to Fermor Avenue

a) Geographic Description

Generally, Marion Street on the north, Archibald Street on the east, Youville Street/Rue Des Meurons on the west, and Fermor Avenue on the south.

b) General Comments

The north end (Archwood) and the western portions (Norwood East/Glenwood) of this planning segment are single family residential properties. The Archwood and Glenwood neighbourhoods are characterized by high home ownership (84–89%) and 35–41% movers. Norwood East has only 57% home ownership while 43% were movers between 1986–1991. The number of people of French origin were, Norwood East (52%), Archwood (33%), and Glenwood (25%) respectively.

Most of the riverbank property (75%) within this planning segment is currently under civic ownership. Approximately half of the riverbank properties are high quality (A and B) quality habitat. Over 50% of the high quality habitat is characterized by Bottomland Forest. The majority of the remaining high quality habitat is characterized as Upland Forest. (Mainly found on the St. Boniface/Windsor Park Golf Course properties). Two small wetlands are found south of Dubuc and at the northern end of Windsor Park Golf Course. Seven possible Heritage Trees are found within this planning segment.

There are nine observed bank failure areas with complex and steep banks dominating much of the riverbank between St Luc Street (west) and Guilbault Street (east) and northward to Marion. A significant bank failure is located near the corner of Evans Street and Cusson Street which has caused the closure of Evans Street. The Red River normally influences the Seine River to approximately Happyland Park (backwater effect). The S.O.S. and the City have identified the potential for 15 Riffle Weirs beginning at Happyland Park and running upstream (south) to the Red River Floodway.

Major Parks and facilities, including the St. Boniface and Windsor Park Golf Courses, Happyland Park, Falcon Park, the Archwood Community Centre, and King George Park are located adjacent the Seine. Many of these parks and facilities were improved under the Manitoba/Winnipeg Community Revitalization Programs (M/WCRP). Each of the Glenwood and East Norwood M/WCRP Program Areas had \$3 million apiece to address social, economic, physical and recreational issues within these areas. A survey of these neighbourhoods has indicated a strong desire by residents to clean up the Seine River, improve the area for bicycles, and add more park type features along the river.⁶

There are twelve historic points of interest and sites within the planning segment.

An existing high level (street level) pedestrian bridge is located between Edgewood and Tremblay Street. The Winnipeg Bicycle Facilities Study has identified Youville Street and Rue Des Meurons as future Bicycle Routes (integrated with traffic).

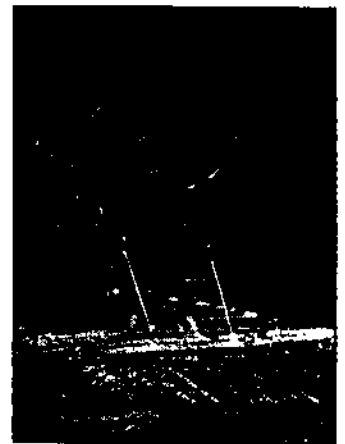
The St. Boniface Golf Course is City owned and leased to a non-profit group. The lease expires in 2020. The Windsor Park Golf Course is City-owned and operated. During the winter months, the Windsor Golf Course becomes the Windsor Nordic Ski Centre with approximately 20 km of groomed and lit trails. The Ski Centre is a partnership with the Recreational Cross Country Ski Association of Manitoba. The facility is generally acknowledged to be one of the finest in North America mainly due to our long winters with guaranteed snow. A charge is levied for use of the facility's trails.



Evans St. Closure



Windsor Nordic Ski Centre



Cross-Country Skiing

6. East Norwood/Glenwood Neighbourhood Stage 2: Priorities City of Winnipeg Parks and Recreation Department, Planning and Marketing Branch 1994)





Niakwa Park Pedestrian Bridge

Improvements have been proposed for both Golf Courses. The St. Boniface Golf Course and the Windsor Park Golf Course have been linked to possible residential redevelopment proposals while the Windsor Park Golf Course also has been identified for new tee and green improvements that may impact on the high quality habitat found along the river. Because of the issues of pedestrian access, as well as safety, and liability due to golf balls, pedestrian paths have not been recommended along the riverbank portions of the golf course.

Canoeing along this stretch of river is highly rated, however, diminished by the low bridges and safety and liability concerns of the golf courses (ie errant golf balls). One of the bridges within the Windsor Golf Course is a hazard to navigation.

The existing pedestrian bridge location adjacent to Niakwa Park has been identified as being a source of concern for residents due to vandalism and partying. Residents have recommended moving this bridge to the south closer to Fermor Avenue.

c) Major Issues

Aging outdoor pool and wading pool facilities at Happyland Park have been targeted for possible closure due to low use and high operating costs.

The riverbank failure that has caused the closure of Evans Street just north of Cusson has caused some disruption of local neighbourhood traffic patterns. The results of a geotechnical riverbank investigation commissioned by the City have indicated that the most cost effective method of stabilizing the riverbank and reopening Evans Street would be to move the channel of the river to the west, and regrading the failure prone area to a lesser gradient of slope. Riverbank properties on the west side of the Seine have been purchased by the City in order to facilitate the proposed works. The S.O.S. have voiced concerns over this solution from an environmental perspective.

During the review of the previous (1980) Seine River Parkway Study, residents' especially on Egerton Road were extremely vocal due to the City's plans for incorporating pedestrian walkways along the river within their backyards. Vestiges of this concern have been voiced throughout the Study process. The current Seine River Task Force recommends that Egerton Road itself be used as the pedestrian linkage between Youville, and Windsor Park Golf Course.

Golf Course irrigation is a concern of residents, especially during the heat of summer when Seine River flows are low or intermittent.

d) Proposed Improvements

- Provide new granular Seine River Trail:
 - Along the riverbank east of the Seine between St. Catherine Street and Tremblay Street.
 - Along the riverbank south of Deniset Street to Evans Street.
 - Along the riverbank west of Evans between Cusson Street and the Archwood Community Centre.
 - Along the riverbank west of the Seine and south of Yardley Street to rue Youville.
 - South of Avondale Road along the dike to Rue des Meurons.
- Provide park/riverbank enhancements to:
 - Archwood Community Centre
 - Heather Park
 - Blenheim Park
 - King George Park
- Ensure that the Evans Street Reconstruction/Riverbank Stabilization Project receives full public consultation with more than one Engineering Solution to be discussed.

- Provide a new pedestrian bridge crossing at a location adjacent to the Archwood Community Centre.
- Provide a new canoe launch site adjacent either to the Archwood Community Centre or Heather Park (utilizing the Heather Curling Club Parking Lot).
- Ensure that the scheduling of water withdrawal from the Seine River for irrigation purposes of the golf courses is coordinated and sensitive to periods of prolonged drought/low flows. The golf course greens should be the only places receiving irrigation.
- Establish Egerton Road as a recognized bicycle route with new signage (i.e. closed to traffic on Sundays the same as Wellington Crescent/Scotia Street).
- Examine the feasibility of continuing the Seine River Trail on the west side of the River and south of Fermor Avenue.
- Examine the feasibility of Save Our Seine River Environment Inc.'s proposal re: Riffle Weirs along the Seine. Three Riffle Weirs are proposed for this segment of the Greenway (Refer Section on Riffle Weirs).
- Improve the headroom offered to canoeists when bridges require replacement on the Golf Courses.

e) Cost Estimates

1. New 2.4 m width granular Seine River Trail including clearing and grubbing		\$50,000
2. New bark mulch Interpretive Trails	budget	\$1,000
3. Trail Signage and Amenities (Site furnishings)	budget	\$8,000
4. Trail Signage along Rue Youville /Des Meurons/Egerton	budget	\$3,000
5. New Bridge (1)	budget	\$450,000
6. New Canoe Launch (1)	budget	\$6,000
7. Wildlife Habitant Easement/Vegetation Restoration Sites (19) 19 sites @ \$5,000.00 per site		\$95,000 *1
Total Budget Segment 4		\$613,000

*1. Several of these Enhancement/Restoration sites occur on private property.

5. Fermor Avenue to Bishop Grandin Boulevard.

a) Geographic Description

Generally, Fermor Avenue on the north, the CPR Emerson Rail Line on the east, St. Anne's Road on the west, and Bishop Grandin Blvd. on the south.

b) General Comments

Virtually 50% of the west side of the river is characterized by high rise condominiums and apartment blocks. Two properties are owned by the Manitoba Housing Authority (public property). The remainder of the properties are single family residential. The east side of the river is dominated by the Niakwa Country Club/Golf Course. New detached condominium developments, upscale single family residential, and a high-rise Senior's Complex (Agape) currently under construction are located to the south of the golf course. As new development occurs, the Waterway Requirement and any further public reserve as may be desirable to facilitate the Greenway may be purchased by the City.

The relatively small geographic area called Alpine Place is home to over 2,200 households, 95% of which are rented, and 64% of which moved between 1986 and



High Rise Development

1991. Many of the residents are young children or seniors. Since many of these high rises are not oriented to the river, and their parking lots typically line the riverbanks, it is anticipated that the Seine River Greenway Trail could be located on the riverbank without compromising the outdoor privacy requirements of these residents.

Less than 20% of the riverbank is currently City owned. The number and size of high quality (A + B) habitat is limited.

The northern portion of the higher quality habitat areas is characterized by bottomland forest while the southern high quality habitat areas are upland forest. Four small wetlands are found, two of which are south of Sadler and two of which are south of Dogwood Cove. Fifteen sites have been identified for either Wildlife Habitat Enhancement or Vegetation Restoration. While most of the sites are currently on private property, the area on the east side of the river south of Niakwa Golf Course and the large publicly owned areas on both sides of the river directly north of Bishop Grandin are currently in need of enhancement/restoration. Furthermore, much of the area in the north west portion of the planning segment, where the City is interested in pursuing easements, is also in need of enhancement restoration. Five possible Heritage Trees were also identified within this planning segment.

Public park and recreational opportunities are extremely limited within this segment with Ducharme Park and Morantz Park providing much needed park facilities while Lavalee and Guyot School grounds providing athletic fields.

There are three observed bank failures, one on privately owned property and two on city owned properties associated with drainage features (ie. Navin Drain). Complex (filled) banks and steeper slope gradients comprise less than 30% of this segment.

There are six historic points of interest, one of which (45 Clayton Drive) was the site of the millstones presently located at the St. Boniface Museum.

There is an existing high (street) level pedestrian bridge spanning the river at Niakwa Avenue, St. Anne's Road is a proposed Bicycle Route (integrated with traffic), and the CPR Emerson R.O.W. is a proposed Bicycle path (separate pathway) within the Winnipeg Bicycle Facilities Plan. The proposed Seine River Trail would be a much preferable bicycle trail from a recreational cyclist's perspective. No further major transportation facilities that may affect the Seine River Greenway are planned for this segment.

Three riffle weirs are proposed within this segment to help to retain water in the river during periods of low flow as well as improve fish habitat (Refer section on Riffle Weirs).

c) Major Issues

There is a significant lack of recreational opportunities within this segment considering the large number of school aged children living in the numerous high rise complexes.

An opportunity for a large 'regional' park feature exists on both sides of the Seine just to the north of Bishop Grandin because of the wide R.O.W.'s for the road, the Navin Drain, the Manitoba Hydro Transmission Corridor, and city owned properties south east of Beliveau Rd. Parking, pedestrian bridges, a canoe launch, picnic facilities and a large unstructured open space could be established, however, except for the riverbank portions of these properties, most of the area is undeveloped and would require fairly substantial funding to bring up to a reasonable standard to support or invite public use.

Should easements to accommodate the Seine River Trail not be available between Fermor and Morantz Park, pedestrian traffic would be diverted up to St. Anne's Road which is not desirable.

A proposed (lower level river) pedestrian bridge crossing at Sadler Avenue would allow for public access between neighbourhoods. Although the provision for a pedestrian crossing is supported, adjoining homeowners and condominium owners may express concerns over the exact location of the bridge.

d) Proposed Improvements

- Provide new granular Seine River Trail:
 - Potentially (subject to easements) along the west side of the Seine between Fermor Avenue and Morantz Park.
 - Along the riverbank between Oustic Avenue E. and Sadler Avenue.
 - Along the east side riverbank behind the Southbridge Villas condominium development west of Southbridge Drive.
 - Along the riverbank behind the proposed condominium development west of Willowlake Crescent.
 - Along the publicly owned riverbank south of Beaverhill Boulevard and north of Bishop Grandin.
 - Through the City-owned property east of Beliveau Road.
 - On the north wide of Bishop Grandin from St. Anne’s Road to adjacent Shorehill Drive.
- Provide park/riverbank enhancements to:
 - The publicly owned properties on the east side of the Seine south of Beaverhill Boulevard.
 - The City-owned property on the west side of the Seine east of Beliveau Road.
- Provide new pedestrian Bridge crossings at:
 - Sadler Avenue R.O.W.
 - Beaverhill Boulevard R.O.W.
 - The Navin Drain.
- Pursue the necessary easements as required.
- Provide a new canoe launch site on the west side of the Seine east of Beliveau Road.
- Examine the feasibility of the Save Our Seine River Environment Inc.’s proposal re: Riffle Weirs along the Seine. Three Riffle Weir’s are proposed for this segment of the Greenway.
- Six Wildlife Habitat Enhancement Areas and nine Vegetation Restoration Areas are identified within the subject area.
- Clayton Drive to be posted as a recognized Bicycle Route (Similar to Egerton Rd.)



Easements required adjacent Parking Lots



Sadler Avenue R.O.W.

e) Cost Estimates

1. New 2.4 m width Granular Seine River Trail including clearing and grubbing	budget	\$120,000
2. Trail Signage and Amenities (Site furnishings)	budget	\$20,000
3. Trail Signage along Clayton Drive/ Southbridge Drive	budget	\$2,000
4. New Bridges (3)	budget	\$1,350,000
5. New Canoe Launches (1)	budget	\$6,000
6. Access Road/Parking Lot		Not included
7. Wildlife Habitat Enhancement/ Vegetation Restoration Sites (15)	budget	<u>\$75,000</u> *1
Total Budget Segment 5		\$1,573,000

*1 Several of these Enhancement/Restoration sites occur on private property.

6. Bishop Grandin Boulevard to the Perimeter Highway

a) Geographic Description

Generally, Bishop Grandin Blvd. to the north, the CPR Emerson Rail Line to the east, St. Anne's Rd. to the west, and the Perimeter Hwy. to the south.

b) General Comments

Although only a small percentage of the riverbank properties are currently under public ownership (mainly in the northern part of the segment), as development occurs, the majority of the Riverbank property will be owned by the City. The new Royalwood Subdivision and a proposed Ladco single family residential subdivision are located on the east side of the river immediately south of Bishop Grandin and north of the Four Mile Rd. R.O.W. Properties on the west side of the river and north of Warde Avenue are mainly high rise or multi-family condominium and rental units.

To the south of Warde Avenue/Four Mile Road R.O.W. are mainly single family and small agricultural operations. It is anticipated that multi-family Seniors Complexes, condominiums, and rental units will continue to be developed in a north to south progression eventually displacing these single family and small farm operations. As development occurs, the Waterway requirement and any further Public Reserve as may be desirable may be purchased by the City of Winnipeg.

Over 50% of the riverbank property is high quality habitat (A and B Quality). Much of this high quality habitat occurs on the east side of the river. The Ladco owned property to the south of John Bruce Road is currently being considered for expansion of the Royalwood Subdivision. The substantial A Quality Riverbottom Forested area, complete with valuable wetlands and the vestiges of old river oxbows, is coveted by the Task Force. This area needs to be purchased, protected, and preserved for the future. Much of the river valley and wetland areas are within the Waterway requirement. The upland forested areas would have to be purchased as Public Reserve.

Approximately 50% of the area is defined as Bottomland Forest while considerable Upland Forest occurs especially on the east side of the river. Fifteen possible Heritage Trees have been identified within this segment.

Twenty five sites have been identified for either Wildlife Habitat Enhancement or Vegetation Restoration. Although the majority of these sites currently exist on private property, the City will likely inherit many of these sites as development occurs.

There are no formalized park facilities within the subject area save for the Royalwood 'Window Park' overlooking the retention pond. A playground is proposed for this site.

There were six observed bank failures, most of which are currently impacting private properties. The City of Winnipeg and the condominium owners at 683 St. Anne's Road recently had to address a failure that threatened the integrity of the public reserve as well as one of the five high rise blocks. The rock gabion construction was seen as an interim solution at best. Complex and steep banks form a small percentage of the riverbanks within this segment. Generally, the farther south you travel, the less the riverbanks have been modified through urbanization.

There are five historic points of interest within this segment, the most significant of which are the former site of the Riel mill-run site (1870's) which is located to the west of the Royalwood subdivision, and a Late Woodland Campsite which is located near the Four Mile Road R.O.W.

Future vehicular bridges across the Seine have been planned for the Southglen Blvd. Extension as well as the Warde Avenue extension. Because of their relative proximity it is anticipated that only one will be required. The existing bridge at

John Bruce Road has been scheduled to be closed to vehicular traffic. It will be retained for pedestrian use.

St. Anne's Rd. is a proposed bicycle route (integrated with traffic) while the C.P.R. Emerson Rail R.O.W. is a proposed bicycle path (separate pathway) within the Winnipeg Bicycle Facilities Plan. The Seine River Trail would be a much preferable bicycle trail from a recreational cyclist's perspective.

Three riffle weirs are proposed within this segment to help retain water in the river during period of low flow as well as improve fish habitat (refer section on Riffle Weirs).

c) Major Issues

Virtually, all of the riverbank property within this segment could be city owned within the foreseeable future. As development occurs southward, the City will purchase the waterway requirement priorities as well as any other additional properties as may be desirable to ensure the integrity of the Seine River Greenway Concept.

An example of such additional purchase is currently being negotiated with regard to the extensive A Quality Bottomland, Wetland, and Upland Forest occurring within the future phase of Royalwood Subdivision south of John Bruce Rd. Extensive forested areas outside of the waterway requirement have been identified as property to be purchased as public reserve due to their exceptional high quality.

The Seine River Task Force strongly recommends the preservation of high quality habitat and riverbank vegetation due to the relatively high cost, non-guaranteed results, and long time line required for restoration of disturbed properties. It is therefore highly desirable to promote the education and awareness of the importance of preservation and protection of riverbank vegetation to private property owners within this segment as much (if not all) of these riverbanks will eventually come under city ownership. Again, it is much more cost effective to protect high quality areas than to have to restore and maintain them.

d) Proposed Improvements

- As subdivision and development proceed south of John Bruce Road along both sides of the river, developers should be encouraged or required to establish the Seine River Trail and complimentary park and riverbank enhancements as a part of their Development Agreement.
- Provide a new canoe launch and appropriate parking on the north west side of the John Bruce Road Bridge.
- Pursue the establishment of a canoe launch and an appropriate parking lot to the south east of the proposed Southglen Boulevard Bridge.
- Ensure that new bridges proposed for Southglen Boulevard and/or Warde Avenue incorporate appropriate pedestrian underpasses.
- Examine the feasibility of the S.O.S. proposal re: Riffle Weirs along the Seine. Five Riffle Weirs are proposed for this segment of the Greenway.

e) Cost Estimates

1. New granular Seine River Trail running along the east side of the Seine River south of John Bruce Road and ending at Four Mile Road including clearing and grubbing	\$80,000
2. Bark Mulch Path	\$20,000
3. Trail Signage and Amenities (Site furnishing)	budget \$10,000
4. Wildlife Habitat Enhancement/Vegetation Restoration Areas (7)	\$35,000
5. Canoe Launch (2)	\$12,000 *1
6. Parking Area North West side of John Bruce Road	\$3,000 *2
Total Budget Segment 6	\$160,000

*1 Note: The canoe launch identified on the east side of the Seine south of the Southglen Blvd. Extension assumes the construction of this bridge which is not currently assured.

*2 Since the John Bruce Road bridge will eventually be closed to vehicular traffic a turn-about will have to be incorporated on both sides of the bridge. Parking should be incorporated in conjunction with the turn-around. The parking identified for Southglen extension has not been budgeted for. (Refer Footnote 1).

7. Perimeter Highway to Red River Floodway

a) Geographic Description

Generally, the Perimeter Hwy. on the north, Hwy. 59 (Lagimodiere Blvd.) on the east, St. Anne's Rd. on the west, and the Red River Floodway on the south.

b) General Comments

Only a small proportion of the riverbank properties (less than 10%) are currently under public ownership. The area is generally characterized by its geographic location outside the Perimeter Hwy. and by its predominantly rural nature. The majority of the land base is zoned for agricultural (A5) uses. Residential development is typically on between two and five acre lots. In 1991 there were 390 dwellings in the area with 95% owner-occupied. The neighbourhood is stable with almost 75% of the residents being 'non-movers' in 1991.

Recently, the citizens of the St. Germain/Vermette community in the urban fringe of Winnipeg became increasingly vocal about the perceived inequity between the level of the property tax they pay and the level of services they receive.

In 1995 a study was commissioned by the Provincial Government. Three alternative arrangements were examined;

- Secession from Winnipeg to become an independent rural municipality
- Secession from Winnipeg to join the existing R.M. of Ritchot
- Remaining within the City of Winnipeg

In 1996 City Council approved a general rebate to the citizens of St. Germain/Vermette in lieu of the reduced level of services that they receive relative to other City of Winnipeg residents. Although this has satisfied the Provincial Government, some have carried on the campaign to secede from the City.

It is anticipated that future development will be limited due to the Agricultural Zoning, the quality/quantity of the groundwater, and the relatively high residential lot values. Extensive flooding also occurred with the 1997 spring Red River Flood.

Over 90% of the riverbank properties are high quality habitat with a large portion being A quality. The majority of the area is defined as Bottomland Forest with some Upland Forest occurring mainly on primarily agricultural land east of the Seine and north of Prairie Grove Road. A small wetland area occurs where the

Seine River exits the siphon at the north end of the Red River Floodway. One possible Heritage Tree has been identified within this segment.

The C.P.R. Emerson Rail Line divides the planning segment virtually in half and limits the access and amount of residential development possible especially north of Prairie Grove Road (east of the river) as well as south of Prairie Grove Road (west of the Seine).

There are thirteen Wildlife Enhancement or Vegetation Restoration Areas identified within this segment, only two of which occur on publicly owned property.

There are no formalized park facilities within the subject area nor are any currently planned.

There were nine observed bank failures, four of which affect city owned property. Approximately 20% of the subject area indicate some probable activity. Most of the riverbank areas have not been modified by human activity.

There are three historic points of interest within this segment, the most significant of which are the Vermette Post Office (1898) and the Pilon House, an abandoned late 19th century squared oak Red River (post on sill) construction farm house.

A small vehicular bridge at Prairie Grove Rd. and a railway bridge C.P.R. Emerson just north of Prairie Grove Rd. have caused the Seine River to be forced into small culverts which do not allow for canoe passage. St. Anne's Rd. is a proposed bicycle route (integrated with traffic) within the City's Bicycle Facilities Plan.

One riffle weir is proposed within this segment to help retain water in the river during periods of low flow as well as improve fish habitat (refer section on Riffle Weirs).

c) Major Issues

Since the majority of this property is privately owned and will likely remain privately owned because of the A5 and A zoning, the tenuous groundwater supplies, and high development costs, it is unlikely that a Seine River Greenway Trail will be developed south of the Perimeter Hwy. It is however, essential that the riverbank area remain a high quality habitat. Education and public awareness programs are recommended to reduce the future impact on these important natural resources and maintain the rural character of the area.

d) Proposed Improvements

A weir is proposed at approximately River Coordinate 24.1 km. The City of Winnipeg owns property on the east side of the river, however, access to this parcel would have to occur over private property.

As eleven of the thirteen Wildlife Enhancement or Vegetation Restoration areas currently are found on privately owned property, landowners would be encouraged to apply for various private and public reforestation grants.

e) Cost Estimates

1. Two Vegetation Restoration Areas occur directly south of the Perimeter Hwy. 2 x \$5,000 =	<u>\$10,000</u>
Total Budget Segment 7	\$10,000

Chapter 7 Implementation Strategy

7.1 Capital Cost Estimates

a) Red River to Provencher Boulevard	\$45,000
b) Provencher Boulevard (Rue des Meurons to rue Archibald)	\$20,000
c) Provencher Boulevard to Marion Street	\$545,000
d) Marion Street to Fermor Boulevard	\$613,000
e) Fermor Boulevard to Bishop Grandin \$1,573,000	
f) Bishop Grandin to Perimeter Highway	\$160,000
g) Perimeter Highway to Red River Floodway	<u>\$10,000</u>
TOTAL SEINE RIVER GREENWAY	\$2,966,000 *

- Assumes 5 new pedestrian bridges at \$450,000.00 (ave.) Per Bridge
- Revegetation of 64 Wildlife Enhancement or Vegetation Restoration Areas at \$5,000/site (many on private property)

7.2 Maintenance and Security Strategies

Early planning for Maintenance, User Safety, and Risk Management is essential and no Greenway improvements can be justified without adequate maintenance budgets and sufficient personnel allocated to support the improvements.

Maintenance Program

The Public Works Department will ultimately be responsible for the maintenance of the Greenway. The Maintenance costs will be identified within the department budget and operations will be provided by departmental personnel. Staff will have to be trained in aspects of native vegetation and wildlife habitat management. It is recommended that a specific Seine River Greenway Maintenance Program be implemented and adopted. Based upon the Department's Maintenance Management System (MMS), key elements of the Program will include: (refer Table #3).

1. List of specific maintenance activities
2. Frequency of each activity
3. Cost per application of each activity
4. Annual cost of each activity

There are possible opportunities for a Program for Volunteers to provide some of the maintenance functions, however, volunteers are not without cost. Volunteers must be recruited, trained, supervised, and outfitted with tools which requires an investment of resources.

The S.O.S. have been successful in applying for Urban Green Teams, a summer youth employment Program sponsored by the Provincial Government. These Green Teams have done exceptional work cleaning the river channel and banks as well as wrapping trees with stucco wire to prevent beaver damage. The ability of the S.O.S. Organization to sustain such Urban Green Team's over the years however is questionable. No one can guarantee that the Province will continue the Program in perpetuity, whether the S.O.S. will always receive annual support, or whether the S.O.S. can maintain the significant effort required to supervise and coordinate the activities of the students.

Table #3

Maintenance Schedule

Item	Maintenance	Frequency Per Year	Cost Per Year	Comments
1.	RIVER CARE			
a)	Routine Inspection	12 (2 per mo./6 mo.)	–	Can be supplemented by volunteers with a checklist/Parks and Open Space Division/Public Works Department
b)	Monitor Water Quality	As Required	No Additional \$	Has been done by volunteers (S.O.S)/Provincial-Environment /City-Water and Waste Department
c)	Routine Channel Maintenance		No Additional \$	Debris and litter control has been done by Green Teams administered by the S.O.S.
d)	Canoe Launch Maintenance (6 new)			Seek partnership with the Coalition for a Canoeable Seine to inspect/maintain
e)	Insect Control	As Required	No Additional \$	Identify and treat potential breeding sites/Insect Control Branch/Community Services Department
2.	Trail Maintenance			
a)	Routine Inspection	26	–	Can be supplemented by volunteers with a checklist/Parks and Open Space Division/Public Works Department
b)	Granular Trail (12.5 km)	As Required	1700	Silt removal, fill holes, remove weeds/overhanging limbs, repair, replace/Parks and Open Space Division/Public Works Department
c)	Litter Pick-up	10	2000	Can be supplemented by volunteers (S.O.S.)/Parks and Open Space Division/Public Works Department
d)	Weed Control	As Required	No Additional \$	Remove noxious species from the corridor/Weed Control Section/Public Works Department
e)	Mowing Trail Shoulders	As Required	–	Parks and Open Space Division/Public Works Department
f)	Bridges (5) Inspection/Maintenance/Vandalism	Annual/per incident	\$3,000 (ea)	Bridge Maintenance and Inspection Branch/Public Works Department
g)	Parking Lots Maintenance	As Required	–	Parks and Open Space Division/Public Works Department
h)	Signage/Site Furnishings (200 pieces)	As Required	\$2,400	Parks and Open Space Division/Public Works Department
i)	Dutch Elm Control	As Required	No Additional \$	Parks and Open Space Division/Public Works Department

Users Safety and Risk Management

Once the City of Winnipeg implements portions of the Seine River Greenway it automatically assumes a measure of responsibility, risk, and liability for Greenway users. Inviting the public to use trails through remote wooded areas adjacent a river obviously must be thoroughly planned, designed, and constructed to ensure that user safety and security is taken into consideration. Public Facilities must be designed to high standards to accommodate those who, for whatever reason, are unwilling or unable to make use of the facility in a proper or a safe manner. The Winnipeg Police Service will be consulted during the detailed design process prior to Greenway implementation.

A User Safety and Risk Management Program for the Seine River Greenway should consider the following:

1. User Rules and Regulations
2. Emergency Procedure
3. Safety Checklists
4. Management of Multi-User Conflicts (ie. Pedestrians vs Cyclists)
5. Accident Reporting and Analysis System
6. Regular Maintenance and Inspection Program
7. Public Information and Management Program
8. Employee Training Program for Safety and Emergency Response
9. Ongoing Research and Evaluation

(Adopted from: Greenways, A Guide to Planning, Design, and Development)

An effective safety and risk management program should consider the community. Local Neighbourhood Associations, Corporations, Non-Profit Organizations, School Groups, or individuals should be encouraged to adopt certain sections of the Greenway once it has been more fully implemented.

Signage

Signs are necessary to help direct Greenway users, to educate them as to the natural and human history, as well as to inform them of a proper code of behaviour. The major types of signs are:

- **Directional** – provided orientation for park users;
- **Informational** – provided overall information and interpretation on the features within a park; identifies location of facilities;
- **Regulatory** – provided guidelines for appropriate behaviour.use.

Signs will be located throughout the greenway in accordance with the Winnipeg Bicycle Facilities Study; along the trails, at historic points of interest, adjacent access points and advising of public facilities such as canoe launches. Signs are important for safety and orientation, however, they must be attractive and strategically placed in order to avoid detracting from the user's experience.

7.3 Development Scenarios

The following Criteria for the Prioritization of Trail Development should be applied when determining future implementation:

1. Priority should be given to extending the Seine River Trail logically, tying into existing trail systems, community facilities and adjacent neighbourhoods along the route.
2. Priority should be given to areas of population not presently served by access and trails along the Seine River.

3. Priority should be given to portions of the Seine River Trail that demonstrates cost sharing benefits through other City projects or through alternative sources of financing. (ie. community, public and non-government organizations/NGO's grants)
4. Priority should be given to projects in areas where land is owned by the City of Winnipeg.

City of Winnipeg Capital Program

Despite one of the key assumptions of the Task Force, that the Seine River Greenway must be 'affordable', it is unlikely to be financed by the City of Winnipeg's Capital Program within the foreseeable future. Currently, the City is facing a prolonged period of fiscal constraint, largely due to a combination of declining revenues, rising debt servicing costs, coupled with a deteriorating infrastructure.

In order to address these realities, Council Policy has been established to reduce the Capital Program as well as focus expenditures on maintaining existing infrastructure. Generally, the Capital Program is categorized as follows:

a) Vital Services

- vital to the day to day needs of the public.

b) Essential Services

- characterized by a high degree of public necessity.

c) Standard Services

- services reasonably expected by the public.

d) Desirable Services

- services having an aesthetic social, cultural, education, or entertainment value.

All of the sixteen River Parkways as well as the Seine River Greenway would be categorized as 'Desirable Services' which are typically receiving little funding within the City's Five Year Capital Outlook (1999-2003).

Although the Winnipeg Leisure Survey has indicated that the City's highest priority for 'new recreational development', is lineal pathways associated with rivers and creeks, the Department is bound by the Council Policy to focus on the maintenance of existing infrastructure. Although new walkway development has been included within the Department's Five Year Capital Outlook, these funds will continue to be under scrutiny and their use must be based on City-wide priorities.

The effect of the development of the Seine River Greenway on operating (current) budgets must also be taken into consideration. Pathways, bridges, canoe launches, and natural areas require new maintenance costs that must be identified prior to development. The Parks and Recreation Department has been facing both increased inventories of things to maintain, coupled with an operating budget that has been reduced annually.

A Capital Budget requirement of \$2,966,000 (1999 dollars) has been identified in order to construct the Seine River Greenway as indicated in Maps 1 through 5.

Based upon our Maintenance Management System (MMS) estimates, an annual Current Budget requirement of \$22,100 would be necessary to maintain the Seine River Greenway.

Alternative Financing/Development Options

Other than the traditional method of financing such a project through a Capital Program, there are several alternative financing or development options that should be considered. Greenway projects trigger many of the missions, goals, objectives, and criteria that are currently 'in vogue' with other levels of Government and Private Sector or Non-Government Organization (NGO's) Grant Pro-

grams. The environment, tourism, heritage, sustainability, active living, and summer student and unemployed job creation opportunities are all high on the lists of such Programs. Grass roots community and stakeholder groups may be able to receive grants including the following: (Program names may change over time)

- Federal and Provincial Government Grants/Programs
 - Eco-Action 2000, Environment Canada
 - Active Living and the Environment
 - Community Places Program
 - Special Conservation Fund
 - Sustainable Development Innovations Fund, Province of Manitoba
 - Urban Green Team, Province of Manitoba
 - Environmental Citizenship Program
- Special Government Programs
 - Canada/Manitoba/Winnipeg Infrastructure Program
 - Winnipeg Development Agreement
 - Manitoba/Winnipeg Community Revitalization Program
- Private Sector and NGO Foundation Grants
 - Manitoba Hydro Forest Enhancement Program
 - Manitoba Community Services Council (Lotteries)
 - Thomas Sill Foundation
 - Winnipeg Foundation
 - Shell Oil Environmental Fund
 - Samuel and Saidye Bronfman Family Foundation
 - Friends of the Environment Foundation
 - The Evergreen Foundation
 - Tree Plan Canada
- City of Winnipeg
 - Community Incentive Grant Program
 - Cash-in-Lieu of Land Dedication

With regard to community and stakeholder fund-raising, success typically breeds more success. Even small contributions from any one of the aforementioned programs can help to lever additional funding from the other programs.

The Wildlife Habitat Enhancement and Vegetation Restoration cost estimates referenced, may function as seed dollars with the potential to leverage additional environmental grants as identified previously.



SOS Greening 1996

8.1 Issues Remaining Unresolved

a) Evans Street Reconstruction/Seine River Channel Relocation

- Public Consultation is required to determine the preferred method of proceeding.

b) Bridge Location/Cost Issues

- Three of the proposed bridge locations (East of Gaboury, Archwood Community Centre and Sadler Avenue) may be problematic however the Sadler location will be the most difficult to resolve. The estimated cost of these structures as provided to us by the Bridge Engineering Division is \$350,000.00–\$550,000.00/bridge.

c) Easement Status

- Four required between the Red River and Marion.
- Fourteen required between Bishop Grandin and Morantz Park (West side of the river)
- Two required on the west side between Bishop Grandin Boulevard and John Bruce Road (if desirable).
- Railway Easement negotiations have been ongoing.

d) Properties potentially affected by proposed Trail and Bridge Locations

- Prosper Street (1 house)
- St. Catherine (3 houses)
- Tremblay (1 house)
- Deniset (1 house)
- Sadler (2 houses)
- Ladco Condos on Southbridge (3 condos)

8.2. Opportunities for Action Within the Short Term

a) Lagimodiere/Gaboury Homestead

- Phase II construction slated for spring 2000.
- La Société du Patrimoine Lagimodiere Gaboury submission to Federal Historic Sites and Monuments Board.

b) S.O.S. Interpretive Trail Development

- Continued trail development between Provencher and Marion.
- Potential bridge development at Kavanagh Park.

c) Royalwood/Ladco Subdivision expansion South of John Bruce Road.

- Ladco may proceed with the provision of the bike path south of John Bruce Road.

d) Save Our Seine River Environment Inc. Riffle/Weir Proposal (15 proposed)

- S.O.S. will likely proceed with a pilot project for the construction of two Riffles during the winter of 1999/2000.

e) The Historical/Interpretive Sub-Study

- provides an excellent framework and opportunity for community historical groups to apply for funding to implement the Interpretive Program.

Chapter 9

GLOSSARY OF TERMS

Carrying Capacity: capacity of a site to support a use without substantial negative impact on environmental features such as water quality, natural vegetation, soil, wildlife population and visual attractiveness.

Conservation: the wise management of the environment in a way which will maintain, restore, enhance and protect its quality and quantity for sustained benefit to humans and the environment.

Corridors: a naturally existing linear feature that differs from the matrix on either side. It usually has concave boundaries rather than the straight lines as in a network. An advantage of corridors is that it can facilitate migration and gene exchange among species. An example of a corridor which is evident in southern Manitoba is a river corridor which is surrounded by an agricultural matrix on either side.

Cultural Landscape: a cultural landscape is a product of human activity over time in modifying the landscape for their own purpose, and is an aggregation of human-made features such as a village, farmland, waterways, transportation corridors, and other artifacts.

Density: typically refers to the measurement of a population which, in simple terms, is the number present within a unit of area. This may be a poor measure because the size of some plant species may be more important in terms of density rather than the number of that species in the same area.

Developer: a person or company who coordinates the ownership, financing, designing, and other activities necessary to bring about subdivision and construction of infrastructure on land for a new purpose, generally residential, commercial, or industrial use.

Development: the actions taken to acquire a zoning permit, special-use permit, conditional-use permit, or sign permit. Also refers to land that has been cleared or that has had residential, commercial, or business structures erected on it.

Diversity: there are two aspects of diversity which are species richness (the number of different species in a community) and species equitability (relative distribution of the numbers of each species). Each should be considered in determining diversity as the value of each aspect may contradict each other.

Easements: written authorization by a property owner for the use of a designated part of the property by another or others for a specified purposes, such as recreation or running utility lines.

Ecology: the study of interactions between an individual and its environment

Ecosystem: a community of organisms (animals and plants) functioning and interacting together in their physical environment (air, water, minerals, etc.).

Eminent domain: the right of a government unit to take private property for public use, with appropriate compensation to the owner.

Environmental Impact: the net change (positive or negative) in human health and the condition of the environment that results from actions, activities or developments.

Environmentally Sound: the maintenance of a healthy environment and the protection of life-sustaining ecological processes. It is based on thorough knowledge and requires or will result in products, manufacturing processes, developments, etc. which are in harmony with essential ecological processes and human health.

Environmentally sensitive: areas so designated include wetlands, steep slopes, waterways, underground water recharge areas, shores, natural plant and animal habitats, and other land forms that are easily disturbed by development.

Fee simple acquisition: the purchase of property through payment of cash.

Fish Habitat: the spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend, directly or indirectly, in order to carry out their life processes.

Flood Plain: the area, usually lowlands, adjoining a water course which has been, or may be covered by flood water.

Full Cost Accounting: the process of accounting for and including all environmental, economic and social costs (and benefits) of a particular action, activity, policy or development in the decision making and/or approval process and pricing.

Goal(s): desired future result(s). Goals in combination with an organization's mandate define its activities and work (roles).

Greenway: linear open space connecting parks, nature preserves, and cultural and historical sites with each other, and with developed, populated areas. The greenway may contain formal elements to provide alternative transportation routes for pedestrians and bicyclists, or it may be totally undeveloped.

Habitat: a place where an organism lives. The total requirement of plants and animals to sustain their species, including food, light, heat, cover, water, and opportunities for breeding replacement individuals of the population.

Heritage Property: features in or on the land or underwater and considered to be a consultable record of past human activities, endeavours or events (e.g. buildings, street furniture, engineering works, planting and archaeological sites).

Historical: related to written history.

Improvements: the actions taken to prepare undeveloped land for occupancy or developed land for a different use. These actions can include clearing the land; building infrastructure, such as roads and waterlines; constructing homes or industrial and commercial buildings; and adding recreational facilities and other amenities.

Incentive: anything (economic, regulatory, policy, etc.) Which influences or encourages a desired action or behaviour.

Infrastructure: In residential, commercial, and industrial areas, for example, infrastructure refers to such features as streets, curbing, sidewalks, electric utilities, water and sewage, and other public services.

Integrated [Approach, Decision Making, Planning, Management]: a systematic process that ensures all stakeholders, affected disciplines and sectors have an opportunity to be involved, and examines all economic, environmental and social costs and benefits, in order to determine appropriate options which are then brought together in a plan, or as a framework for making decisions.

Interjurisdictional: involving more than one authority or level of authority, eg. issues, responsibilities, activities which require the participation of the provincial and federal government, provincial and municipal government, provincial and a foreign government and between departments of the same government.

Introduced: species or habitat created or transported by people or their activities.

Inventory: a survey of selected natural resources not necessarily including an assessment.

Land Acquisition: lands to be purchased or leased normally on an opportunity basis, and lands that can be acquired through donation, credit reserve or any

other manner. Lands being used for agricultural purposes, that are periodically “soaked” or “wet”, are not considered to be Wetlands in this definition. Such lands, whether or not they were Wetlands at one time are considered to have been converted to alternate uses.

Life Cycle [Costing, Costs]: the life (total accumulated economic, environmental and social costs) of a product, or facility including all stages in its production, manufacture, distribution, consumption, reuse and eventual disposal.

Management System(s): the established procedures and relationships by which an organization plans, budgets, staff, allocates resources, organizes itself and makes decisions.

Management Plan: a planning study and resulting document where the concern is to identify issues and create a management and implementation strategy.

Master Plan: a planning study and resulting document where the concern is to formulate and to clarify long term goals for decision making. The plan identifies issues and concerns, then translates these into a recommended course of action.

Mitigation: techniques or requirements (eg. conditions of development approval) aimed at reducing or neutralizing identified negative environmental, economic or social effects of a proposed activity, policy or development. Mitigation can include repair, replacement, cleanup, reconstruction or other methods to restore conditions to their previous undisturbed state.

Monitoring [Ecosystem, Economic, Project, Techniques]: the collection and evaluation of data to determine effectiveness, performance, condition or the impacts (positive and negative) of activities on the environment, economy or society.

Multi-Use Trail: a trail capable of accommodating safe and comfortable use by a variety of users such as bicyclists, walkers, joggers, the elderly, and children.

Native: species of animals or plants that have not been introduced by people or their direct activities.

Natural: ecological processes that are relatively unchanged by humans.

Naturalized: a previously disturbed site that is left to natural processes.

Objective(s): a statement(s) of results to be achieved. Objectives help managers coordinate their actions and serve as performance standards against which actual performance may be measured. More specific than goals.

On-Street Trail: an officially-designated route which is part of a network of trails that occur on existing roadways. An on-street trail may be a shared roadway or include additional paving width, striping, or signing for the exclusive use of bicycles.

Open Space: undeveloped or mostly undeveloped land, especially within an urbanized region, serves as a buffer between densely developed parcels.

Partnership: a relationship that exists between parties having specified and joint rights and responsibilities.

Preservation: the maintenance of natural or cultural heritage features in their current or original form, and the maintenance of the natural environment to allow natural processes to continue undisturbed by human intervention. While preservation is often used interchangeable with “conservation,” the latter differs by implying the prudent use of a resource.

Protection: ensuring that human activities are now allowed to occur which will result in the unacceptable degradation of the quality of an environment.

Regulations: those enforceable rules of the municipality and that part of the zoning code which states, for example, the exact footage of setbacks, or the height of dwelling units, or the width of streets.

Restoration: the efforts to restore a disturbed site to near its natural and native condition.

Right-of-Way: land, property or interest therein, often in a linear strip, acquired for or devoted to transportation or utilities transmission purposes.

Riparian: the waters edge or ecotone between the aquatic and upland ecosystem (includes the waterway, its flood plain, its banks and immediate uplands).

River Corridor: the band of vegetation along a river that differs from the surrounding environment.

Species: a genetically distinctive group of natural populations that share a common gene pool that are reproductively isolated from all other such groups.

Stability: a community is considered stable if it can recover from a disturbance ie a fire. There are two terms often associated with stability which are resistance and resilience. The former refers to the ability to resist change in the face of external stresses. A tropical rain forest, because of its high species diversity, has a high resistance. The tundra is considered low resistance. However, resilience refers to the ability to re-establish itself after the disturbance. The tundra has a high resilience because it generally has a low number of species (and often low biomass) but most of these species have a high reproductive capacity. The rain forest has a low resilience because it is very difficult to re-build such a complex system.

Stakeholder [Participation, Involvement]: individuals, groups or businesses that are interested, involved or affected by a particular action or activity.

Standards [Environmental, Economic, Development, Enforcement, Health]: the levels of expected performance used as criteria against which actual performance is evaluated and judged. Often takes the form of a regulation. See also Criteria.

Sustainable Development: A general philosophy, ethic and an approach to guide individual and collective behaviour in respect of the environment—where we live—(the life sustaining processes of the earth and its natural resources) and the economy—what we do—(the provision of jobs, incomes, and wealth resulting from economic activity).

Watershed Management: the analysis, protection, development, operation and maintenance of the land, vegetation and water resources of a drainage basin.

Wetlands: lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and have favoured the dominance of either hydrophytic or water tolerant plants. The four major types of Wetlands are swamps, marshes, bogs, and fens.

Wildlife Management: the management of wildlife habitats for the purposes of sustaining the quantity and quality of wildlife.

Wildlife Habitat: areas of the natural environment where plants, animals, and other organisms, excluding fish, survive in self-sustaining populations, and from which they derive services such as cover, protection, or food.

Zoning permit: a permit issued by the land-use administrator that authorizes the recipient to make use of property in accord with requirements of the Zoning Code.

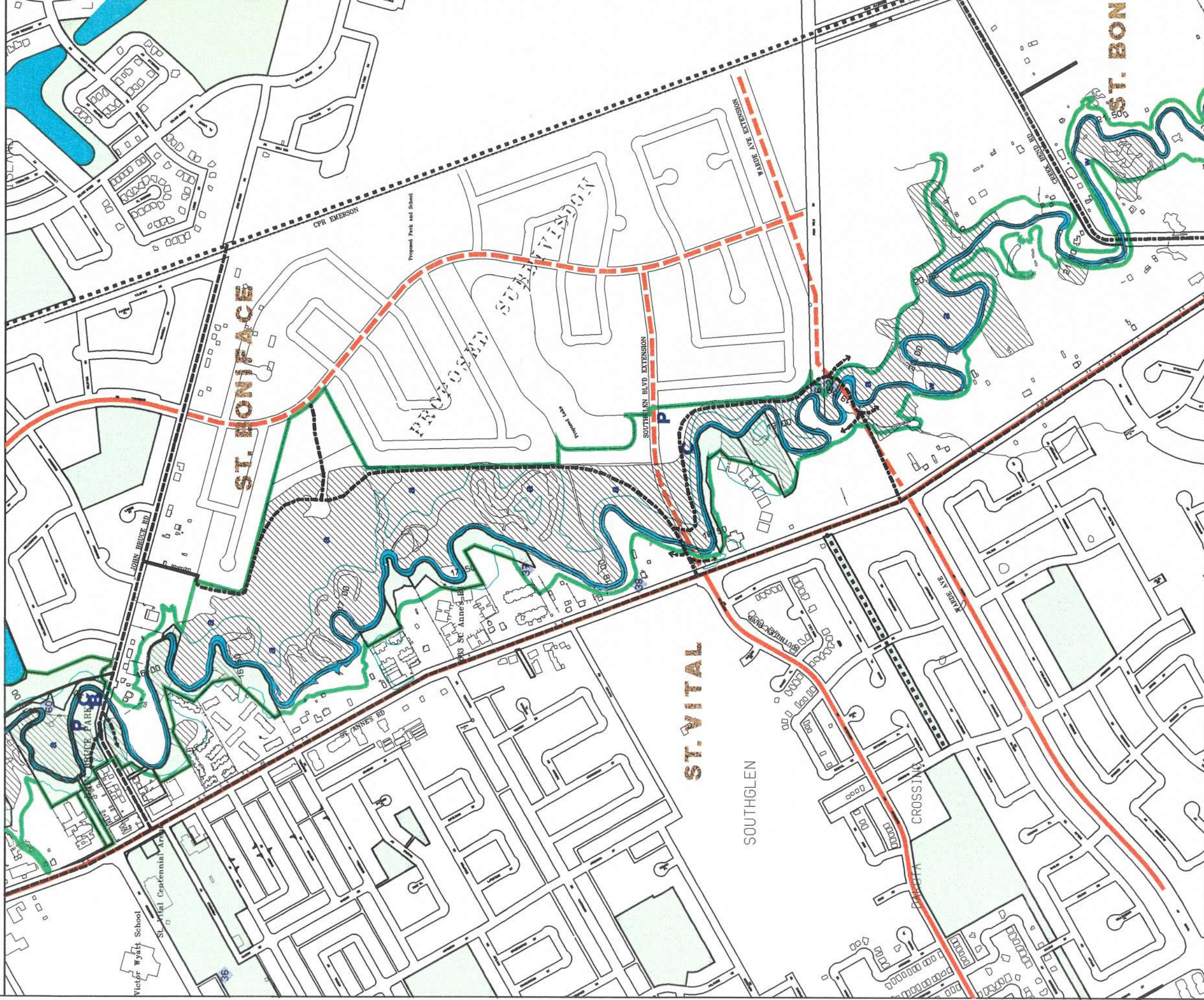
Chapter 10

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SEINE RIVER GREENWAY CONCEPT

MAP 4



HISTORIC POINTS OF INTEREST

West side of the Seine River (from North to South)

- 26. Real Park, Union Nationale Museum de Saint-Joseph (founded 1887) picnic grounds.
- 27. St. Vital/St. Norbert Parish boundary.
- 30. Mager House (1914), 710 St. Anne's Road.

East side of the Seine River (from North to South)

- 61. Southern boundary of the Roman Catholic Mission Property or "La Seigneurie", 1818.
- 62. Site of Late Foodland campsite. (Archaeological Site DR4-3)

TRANSPORTATION

- EXISTING MAJOR STREETS
- PROPOSED MAJOR STREETS/THRUWAY CORRIDORS
- ALL LINES
- PROPOSED BICYCLE ROUTE (integrated with tracks)
- PROPOSED BICYCLE LANE (distinct bicycle lane)
- PROPOSED BICYCLE PATH (separate pathway)
- PROPOSED SEINE RIVER TRAIL (multi-purpose pathway)
- FUTURE PATHWAY

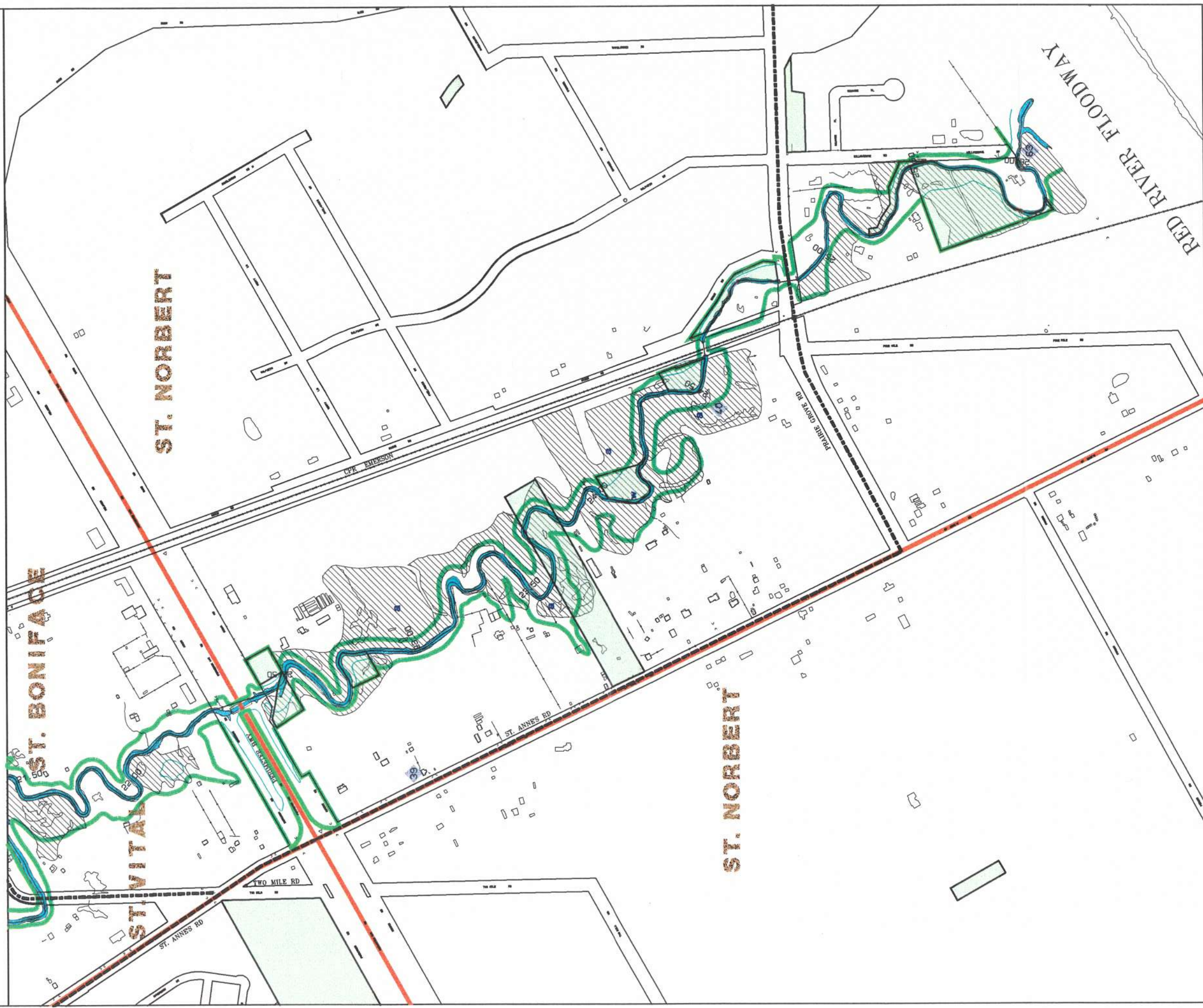
OTHER DATA

- CONCEPTUAL GREENWAY CORRIDOR
- PROPOSED BASEMENT REQUIREMENTS
- PLANNED FENCE LINE
- A & B QUALITY HABITAT
- CITY OWNED PROPERTIES
- HISTORIC/INTERPRETIVE SITES
- PROPOSED PEDESTRIAN BRIDGES
- EXISTING PEDESTRIAN BRIDGES
- PROPOSED PARKING LOT
- EXISTING PARKING LOT
- PROPOSED CANOE LAUNCH SITES
- GRADE A WILDLIFE HABITAT REQUIRING PRESERVATION
- POINTS OF CONCERN
- FISH TIER



SEINE RIVER GREENWAY CONCEPT

MAP 5



HISTORIC POINTS OF INTEREST

- West side of the Seine River (from North to South)
- 39. Vermette Post Office, 1465 St. Anne's Road and former Vermette School District No. 970 (1898).
- 40. Pilon House, abandoned late 19th century squared-oak Red River (post on silt) construction farm house.
- East side of the Seine River (from North to South)
- 63. Red River Floodway and Seine River Inverted Siphon.

TRANSPORTATION

- EXISTING MAJOR STREETS
- EXISTING MAJOR STREETS/TRANSIT CORRIDORS
- RAIL LINES
- EXISTING GREENWAY
- PROPOSED BICYCLE ROUTE (Integrated with traffic)
- PROPOSED BICYCLE LANE (Distinct bicycle lane)
- PROPOSED BICYCLE PATH (Separate pathway)
- PROPOSED SOUPE RIVER TRAIL (Multi-purpose pathway)
- FUTURE PATHWAY

OTHER DATA

- CONCEPTUAL GREENWAY CORRIDOR
- PROPOSED BARRIAGE REQUIREMENTS
- FLOOD PRONE LINE
- A & B QUALITY HARBOR
- CITY OPEN PROPERTIES
- HISTORIC/INTERESTIVE SITES
- PROPOSED PEDESTRIAN BRIDGES
- EXISTING PEDESTRIAN BRIDGES
- PROPOSED PARKING LOT
- EXISTING CANOE LAUNCH SITES
- PROPOSED CANOE LAUNCH SITES
- GRADE A WILDLIFE HARBOR PRESERVATION
- POINTS OF CONCERN
- FISH WEIR



SCALE 1 : 8700



SEINE RIVER GREENWAY CONCEPT
MAP 5 OF 5
Map produced by the City of Winnipeg,
Planning, Property and Development Services Department.

