THE REPRESENTATION AND INTERPRETATION OF MAN'S USE
OF PLANTS AT THE JUNCTION OF THE ASSINIBOINE AND RED RIVERS
- A FEASIBILITY STUDY

prepared for: Professor Susan Buggey
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date: 1985/04/04
Introduction

This report is a study of one development option for a 13.5 acre site at the junction of the Red and Assiniboine Rivers, commonly referred to as "the Forks" (see Figure 1). The site has been declared of national historic significance and has recently been purchased by Parks Canada for conservation and possible development. The historical importance of the Forks is undeniable, for over time it has played many roles including prehistoric encampment, fur trade post, experimental farm, and railway yard.

The use of the Forks can be reasonably confirmed to date back over 2500 years, and it undoubtedly was an important location in prehistoric trade systems. As many as ten historic aboriginal archaeological sites may be found during future archaeological investigations. The importance of the site carried over into the period of the Fur Trade and European colonization, as the location was occupied by several posts including LaVerendrey's Ft. Rouge, Forts Gibraltar I and II and finally Upper Fort Garry. Since the Upper Fort's destruction in the 1880's, the site has been clearly undervalued, with little attention being paid to the resources of this very important location. The use of the site as a railway storage yard underlines this point.

This study examines the feasibility of a development option which represents and interprets the evolution of man's use of plants on or near the site. The general concept is described and analysed in terms of:

a) The inherent philosophy

b) the information required to proceed with this option
c) the availability of such information within reasonable limits

d) the potential of the option to protect the historic resources
   of the park

e) the potential of the option to generate visitation

f) the potential for successful interpretation

g) the conflict, if any, with Park Canada policy

h) the resources required to both implement and maintain such
   a scheme

i) the off site and contextual considerations of development.

Finally, and most importantly, an assessment of the overall
appropriateness of such a development scheme is given. It is the primary
intention of this report to examine the potential of the option for
improving the recognition, utilization and enjoyment of the resources
of this unique place.
General Site Description:

The physiography of the Forks is important in many respects. Not only is it the confluence of two long and important rivers, but within two hundred miles are five major ecotypes: (see figure 2)

a) true prairie  
b) Parkland - Savanna  
c) Deciduous Forest  
d) Conifer-Deciduous Forest  
e) Boreal Forest.

The subsurface geology of the area is pre cambrian rock, overlain by oceanic deposits. The bedrock typically lies 50-60 feet below the surface. Over this, the surficial geology consists of unconsolidated till and glacial drift covered by lacustrine deposits of clay laid down by glacial Lake Agassiz. Over these are found the alluvial deposits of silty clays and some organics; the result of repetitive flooding. These silty clays, although often poorly drained are exceedingly fertile and therefore attractive to agriculturalists.

The climate is typically continental with a wide separation of temperature extremes. (Average daily temperatures range from -20°C in January to 20°C in July). Precipitation falls mainly as rainfall but is nearly matched by snowfall equivalents. Precipitation, although hardly lavish at twenty inches per year, is fairly evenly distributed throughout the growing season, and, notwithstanding occasional droughts, is adequate for agriculture.

This combination of good productive soils, relatively acceptable climate, and fortuitous geographical position, made the Forks and nearby
Figure 2. Upper Fort Garry and the surrounding region. Vegetation boundaries for the U.S.A. after Kuchler (1964) and for Canada, Rowe (1972). Map by Caroline Trottier.
areas especially attractive to hunters and gatherers in prehistoric
times, and subsequently to the fur traders, settlers and farmers.

The modern environment at the Forks is significantly different
from the natural landscape that once occurred there. As indicated in
the previous progress report, both landform and vegetation has been
altered by a variety of natural and human processes. Flooding, ice
scouring and land filling, combined with extensive building construction
(in both time and space), have resulted in a landscape that has little
resemblance to its past state.

Presently most of the site is barren and open and although good
river bottom stands exist, they are present only on a very narrow
fringe along the river, and are nowhere near the extent described by
early visitors. The most significant topographic changes to the site
has been the addition of 15,000 cubic yards of fill material by the
Northern Pacific Railway in 1880.

Description of Proposed Project

It is the intention of this proposal to evaluate the option of
representing and subsequently interpreting the development of man's use
of plants on or near the site. I stress near, as the resources on site
and the documentation to date, offer solid evidence of plant use for
only some of the periods of site habitation.

It is proposed that the site be developed as a dynamic living
outdoor museum in which various stages of man's use of plants in the
area can be displayed in an authentic manner. The stages to be represented
will be:

1. Prehistoric Aboriginal Hunters and Gatherers
2. Fur Trade Agriculture

3. Colonial-Settler Agriculture including the Experimental Farm of 1836.

Each stage will be represented on a clearly delineated section of the site. A facsimile of the type of use will be recreated and will be dispersed throughout the site so that each is visually complete and self-contained. Historically appropriate tools, crops, methods of cultivation and harvest, will be employed to ensure an accurate representation of what may have occurred. A detailed account of each type follows.

Prehistoric Aboriginal Hunters and Gatherers

The knowledge of aboriginal use of the Forks is very scanty although there appear to be more prehistoric resources than were originally anticipated. Several encampments have been noted in the vicinity of the Forks. As the Indian agriculture did not take place in Manitoba until the 1800's when, using seed supplied by fur traders and local settlers, gardens were established, emphasis will be placed on the gathering and use of naturally occurring plants.

It is suggested that the river bank area from the point directly opposite the cathedral to the junction of the Main Street bridge, with an average width of approximately 50 meters, be managed as a river bottom forest typical of what may have occurred on the site a thousand years ago. The forest vegetation will be manipulated in order to establish a preponderance of those plants which would have been utilized by aboriginal peoples. In effect, a model of the hunter gatherer environment will be created and the relationship between the aboriginal society and that environment will be explored.
Some of the questions that can be examined in such a model are:

1. What factors influence the subsistence decisions of hunter-gatherers?
2. What variations in these decisions are necessary in response to specific changes in the natural and human ecosystem?
3. How are these behaviors manifest in the archaeological evidence?
4. What are the effects of resource seasonality, diversity, stability and abundance on human subsistence and settlement?"14

Such a model may help in the interpretation of the function of the archaeological sites. The model would be dynamic, both in the sense of ecological succession, and in its modification as new information came to light from the archaeological investigations.

A hard paved pedestrian pathway, 6 feet wide, would pass through the model forest/ecotype to delineate a hard edge which would encourage visitors to stay on the pathway, thereby reducing damage by compaction. Similarly, a hard edge around the forest on the north and west edges would be constructed. It is the intent of this approach to create a model which at least approximates the conditions of the past and to set this off visually as a living display. Accuracy in the representation of pre-settlement conditions in terms of diversity and density would be emphasized.

Rationale

1. Ecological/Environmental Factors: The central argument is that native plants are adapted to their surroundings and therefore, in general, are easier to establish and maintain than similar groupings of non-native or exotic species. Ecologically speaking, they are more appropriate.
2. **Economy:** Energy demands are often less for native groupings as fertilizer, mowing and irrigation requirements are less than for exotic plantations. As natural processes will be allowed to take place, subsequent savings may be realized through natural seeding and vegetative spreading. The stand composition will be dynamic and the interventions will be of a different nature than those related to maintaining static compositions. Intervention will be required however, and will relate to eliminating or suppressing highly competitive non-native species. Plants and seeds will have to be introduced as many of the species that would have been present in the past, are no longer. Once the community is established, ongoing maintenance will be required to suppress invasion by exotic material in order to retain the pre-settlement plant communities.

3. **Educational:** A modern forest is often a good analogy for the past and the educational value of a natural model which combines both human and vegetative ecology is substantial. A variety of interpretive programs could be mounted with the emphasis varying as to the wishes of the visitor services staff.

4. **Aesthetic:** A native forest in the heart of the city would provide a counterpoint to the urban structure, thereby increasing the importance of both. The position of the site affords a commanding view of the skyline of downtown Winnipeg and the contrast to a native forest model would emphasize the
The information required to accurately create a model of the prehistoric hunter-gatherer environment must include the following:

1. A knowledge of the environmental conditions during the period under consideration.
2. A knowledge of the basic resources available at the time.
3. An assessment of the technology available.
4. An estimate of the nutritional and raw material needs of the people.

In addition to the above, the following is required to understand the vegetative characteristics:

1. Species composition and distribution
2. Community dynamics.

To create an exact copy of a particular point in time with precise accuracy, is simply not possible at this time. Archaeological evidence of prehistoric settlement is scanty at best and little information is available to delineate actual vegetative cover in terms of either composition, density, or area. However a thorough site and ecological analysis of the area can yield what probably occurred on such a river bottom site. In addition, a reasonably accurate supposition of species composition and distribution can be created. The field study of existing remnant stands in the region will be a major source of information.
Archaeobotanical and ethnobotanical investigations have yet to be carried out at the Forks for the prehistoric period. Hopefully, when these studies are undertaken, hard evidence will be provided for noting what plants the natives were utilizing on that particular site. Accounts such as that by John Tanner of Objibway use of various plant species, will have to be consulted. Early explorer Journals such as those by LaVerendrye, Harmon and Henry give some indication of species composition (and use) near the site. An example is the description by Daniel Harmon of the site: The Forks had "a richer soil than at any other place I have observed in this part of the World - and is covered with Oak, Basswood, Elm, Poplar and Birch etc., also are here Red Plumbs and Grapes etc."

Henry notes: "The banks are covered on both sides with willows, which grow so thick and close as scarcely to admit going through; adjoining these is commonly a second bank of no great height. This is covered with very large wood such as liard, bois blanc, elm, ash and oak; some of these trees are of enormous size."

It is therefore reasonable to assume that the information gathered from a rigorous ecological, archaeobotanical and historical investigation combined with existing knowledge of aboriginal use of plants in the area, would be sufficient to allow construction of a model typical of the area.

Fur Trade Agriculture to 1820

Agriculture was a significant activity at almost every fur trade Fort and the produce formed an integral part of their provisions. Most year round forts eventually took on an agricultural component. At most
forts the horticultural production of vegetables and greens was all that was attempted. Despite the small scale of operations, it was the fur traders who experimented with virtually all the principal crops of northwestern Europe. These included vegetables, greens, herbs, as well as experiments with both spring and autumn planting of most of the staple grains of Europe. Although faced with a variety of hardships, eg. floods, insects and drought, as well as a shortage of labour to devote to agriculture, the fur traders realized the necessity of providing their own fresh garden produce.

Fur trade agriculture at the Forks has not been well documented but we do know that gardens totalling 2.0 acres were reported at the Forks in 1818 and that the plough was in use by 1823. (Henry was using the plough at Pembina in 1808 and it is probable that it was in use at the Red River Settlement before 1823). Wheat was sown at the Forks in 1818 and corn was tried in 1821.

I've not found any indication of agriculture at Fort Gibraltar but there is a very good likelihood that it occurred, considering the proximity of the forts at Pembina and Portage La Prairie, both of which had substantial gardens. Alexander Henry noted bringing seed from Portage La Prairie to Pembina. He was travelling back and forth to those forts and often passed the Forks but there is no mention of any garden there. Due to the lack of concrete, site specific information, two options are possible:

1. Await further archaeological/archaeobotanical investigations to determine the precise location of the garden (or gardens, as most fur trade forts had small scattered gardens; some inside the palisade, others outside) and only then attempt a reconstruction.
2. Attempt a period construction of a typical fur trade garden of the time, based upon information available from other sites. This option could be implemented and updated as more detailed information becomes available. The advantage of this option is a continuity in the development of the park theme.

The following information is required in order to proceed with either option:

1. Extent of Agriculture
2. Species grown
3. Seed Sources
4. Tools and implements and cultivation methodology.

As noted previously there is no evidence to indicate the location of gardens at the Forks. If a precise reconstruction is desired, there is no choice, we must await further delineation.

However, if a period reconstruction of a typical fur trade post garden in the region is acceptable, then a substantial amount of the information needed is available, and the project could proceed. Available data includes:

1. **Size and Location of most fur trade posts** - generally small gardens 1-2 acres and fragmented.
2. **Species grown** - There are detailed accounts by Henry of the gardens at the Pembina Post as well as the Portage La Prairie Post. The following is an example of the level of information. Other sources are listed in the appendix.

"In the middle of October the vegetables were taken from the garden and included: 300 cabbages, 8 bushels carrots, 16 bushels
onions, with turnips, beets, parsnips etc. and 420 bushels of potatoes.

Other sources of information on species grown includes seed lists of imports by the Hudson's Bay Company. Such a list is included in the appendix.

3. **Seed Sources** — Seed sources for the Hudson's Bay Company were most often in London. The supplier to the H.B.C. was the firm of Gordon and Forsythe and Company and more detailed information may be available in the company records. Seed for the Northwest Company came from Montreal although there is some indication of trading with the Hudson's Bay Company for seed. By 1825 the colony was not only self-sufficient in seed but were selling it.

4. **Tools, Implements and Farming Methods** — The traders tilled their gardens using traditional European peasant methods. Axes, spades, hoes, rakes, sickles etc. were employed. Typical examples of these implements are in local museums. It was not until 1823 that the plough was introduced and therefore does not apply to this period.

The gardens associated with the fur trade posts were considered an integral part of the overall provisioning of the posts. Gardening gave the posts a "wider and more secure position base" and was a buffer against possible failures in the hunt or gaps in the supplies from the east. The gardens provided the fur traders with a varied diet and probably contributed significantly to their health and ability to carry out their business. It is therefore an important interpretive theme to pursue.

In the absence of any hard site specific evidence, it is recommended that a small (typically 2-3 acre) garden be constructed in the vicinity
of Fort Gibraltar, with the clear indication that this is not what occurred on site. Should evidence arise later in the research, the garden can be adjusted. The importance of such an approach is that continuity would be provided for the overall theme.

This approach does somewhat broach the Parks Canada policy which states "National historic parks will be presented, wherever possible, as they actually existed, rather than as "typical" examples."

The Experimental Farm and Colonial Agriculture

Colonial agriculture commenced in Red River in 1812-1814 with the arrival of the Selkirk Settlers but there are no agricultural records until 1827, the year of the first comprehensive census. The amount under cultivation at the forks is not reported until 1818, when it stood at 2.0 acres. Despite the arrival of the Selkirk Settlers, agriculture still played a small, albeit significant, role in the colony and it wasn't until the late 1820's that successful agriculture was practiced on a large scale. The settlers were met with very harsh conditions which placed severe restrictions on their agricultural activities. Hunting and fishing were still the mainstay of the colony and the settler who didn't provide a good portion of his provisions through some hunting, was rare. By 1827 there were 1103 acres under cultivation in Red River but an air of uncertainty remained.

It was in the context of this climate, that the Hudson's Bay Company established the first experimental farm "The Hayfields". The farm was located about two miles up the Assiniboine from the forks at some natural haymeadows of exceptional quality. The intent of the company was to try to establish agricultural activity to the point that
it could satisfy the colonies staple markets as well as initiate an
export trade. The products most aggressively pursued were wool, tallow,
hemp and flax. Markets were analysed and considerable capital expended.
Despite a sizeable investment on the first farm, it failed, due mostly
to lack of experienced farmers. The company lost over three thousand
five hundred pounds.

In 1836, Governor Simpson established the second experimental
farm in the colony, at the Forks. The effort was directed to the
establishment of an export trade in flax and hemp. In correspondence
with the London committee, Governor Simpson writes

"It is highly desirable to establish an Export
trade from the settlement, as a source of
revenue from England, and as the country
appears to be well adapted for rearing sheep
and Black cattle, and for the growth of flax
and hemp...we have therefore determined on
establishing a farm on a large scale."

Captain George Marcus Cary and a number of experienced farm workers
were sent out to the colony and established the farm. After five years
of operation Governor Simpson notes:

"The Experimental Farm which has not been
productive of the benefits that were expected
when it was established, although attended
with considerable outlay, has been abandoned.
Mr. Cary and the servants have been permitted
to retire."

The failure of the farm was due to several factors not the least
of which was the isolation of the settlement in terms of the development
of trade. The skill of the farmers was again questioned and it appears
that the operation was far from effective. The farm was also viewed
with a certain amount of distrust by local farmers who felt the company
was attempting to displace their share of the local market. This appears
not to have been true and there is evidence to support this. In fact one of the motives in establishing the farm was to provide a model of modern agricultural practices that would help local agriculturalists bolster their economic position. This was not the local perception however, and Alexander Ross makes this quite clear.

"Was such a project then, we may ask, calculated to the benefit of the settlers, who themselves had similar articles for sale, - nay, taking the aggregate, had them in ten times the profession required to apply the limited market. We tronnot. Rather, it was shutting up so far, if it had succeeded, the only market that existed for colonial produce. Every ounce or shillings worth supplied to the Company by their own experimental farm, would lessen the settlers market. It still may be argued as beneficial to the settlement in the way of example; for had not the influence of system, the rotation of crops, and the general working of the plan, a good effect on the farmers of Red River? We answer, no!"

This attempt at an experimental farm cost the company well over 5500 pounds and it proved to be the last such effort. Yet the attempt to promote an export trade as well as improve agricultural methods in the colony was important. The farm was also the most ambitious agricultural undertaking at the Forks. For these reasons its interpretation is important.

It is suggested that the open and cleared area north of the round house building be regraded slightly (so as not to disturb the original (pre 1889) topography, and covered in a mantle of soil. Tree lined enclosures of about 3-4 acres in size should be created and the crops of the experimental farm should be cultivated in the authentic fashion of the time. The workings of the experimental farm could be interpreted within this context.
Information Required and Availability:

To proceed with this option the following information is required:

1. Location of the farm - A rough legal description of the Experimental farm is provided in the lease document (in appendix). Although this notes a farm of some size, evidence suggests that little more than twenty acres was actually cultivated and the precise location of these fields is unclear at this time.

2. Description of the farm - The most thorough description available at present is contained in Alexander Ross's account of the farm (in Appendix G). Governor Simpson's letter to George Cary describes in good detail what he wanted to be built on site and speaks of the quality of some of the produce (in Appendix H). In addition he asks for a full report from Cary on the operations of the farm.

I've not been able to locate this and it maybe held in the London H.B.C. Archives. This should be pursued if the option is adopted.

The location of some of the buildings is noted on a "Rough chart of the Red River Settlement showing the unoccupied land in the vicinity of Ft. Garry" by Edward M. Hopkins, prepared in March 1848.

3. Mode of Agriculture - Alexander Ross gives an account of some of the procedures both at the farm and more generally, in the colony.

He speaks of stubble management for water conservation, experimenting with manure fertilizing, the creation of small enclosed "parks" to catch the snow etc. This last point is useful as it allows a rationale for developing small enclosures on the site where various crops and methods could be interpreted in discreet areas. Barry Kaye at the University of Manitoba, Dept. of Geography has been working on agricultural development in Red River and has produced
an MA and a Ph.D. on the topic. Although too detailed to describe
here they are an exceedingly valuable documents, and further
researchers should consult them. As previously stated reports to
the H.B.C. from George Carey should be pursued. The Carey papers
are in the provincial archives, while others are in the possession
of:

Arthur E. Cary
R.R. 5, London
Ontario

They contain an inventory of the farm (in the London collection) and
should be further researched.

Further archaeological research should reveal the location of
buildings and perhaps fields. Contextual research is required to
identify in greater detail, the local agricultural methodology. Generally
speaking it would be possible to proceed with construction of the
"type" of activity that would have occurred somewhere on the site. An
accurate reconstruction would only be possible if more information came
to light and the original grades were restored.

Off Site Considerations

Contextual considerations are important in a development proposal
such as this. A major new park should be strongly linked to the
community. To further contextual linkages the following off site
development is proposed.

1. The native forest and accompanying trail should be extended to the
   Main Street Bridge allowing for greater pedestrian access from the
   community.

2. A link to the north with the riverbank park should be made.

3. The South point of the Assiniboine should be purchased and could be
developed along the same theme, as early maps indicate agricultural fields on that location. This would protect the possible site of Ft. Rouge. It has the added advantage of being visually and physically very separate from the city and could provide an appropriate setting for interpretation. Access to the point would be across the present railway bridge.

4. The railway round house building, presently just off site, should be acquired to act as the Visitor Reception Centre. This would help integrate the park into what is obviously a railway environment. The building appears in good shape and could serve as interpretive centre and display area as well as providing washroom and restaurant facilities (perhaps serving some of the produce of the farm). This would help protect the resource as no further excavation would be required.

Advantages of the Agricultural Theme Option

1. The development of Agriculture has been of great importance in the development of Western Canada but hasn't received much attention by National Parks. This option would help rectify that.

2. The potential for interpretation of a wide variety of agricultural/hunter gatherer themes exist. Programs could therefore be changed frequently encouraging repeat visitation.

3. No structures are required thereby minimizing subsurface disturbance.

4. Only minimal surface disturbance is required to remove concrete pads. This is the most important advantage of the option. The historic resource is preserved in the ground.
5. The option allows for great flexibility in the future. As new information surfaces changes can be made. In the mean time, the resource is protected and the site can be used and enjoyed.

6. This option can (and should be) combined with other themes.

Disadvantages

1. This is a limited option. Much more occurred on the site than agriculture (which in fact played a minor role).

2. Accurate depiction of period land form is not possible without significant disturbance and the accompanying possibility of resource destruction.

3. Great gaps exist in the information and may not be filled in.

4. The option provides "typical" rather than site specific interpretation.

Parks Canada Commitment Required

1. Extensive research contracts in the historical, ecological, archaeological and archaeobotanical areas are required.

2. Heavy staffing would be required for maintenance and interpretation.

3. Additional land and building purchases would be required.

4. Initial installation may be costly.
Conclusion:

The Forks of the Assiniboine and Red Rivers have been described by some as the most important historical site in Canada. While this is open to argument, the site is clearly valuable and has been less than fairly treated in the past. The time has come for design solutions to be implemented that redress this situation. The option presented in this paper, while having many interesting advantages, is too limited in its scope for serious consideration. The ideas however, are sound, and if treated in conjunction with other options, such as an on-going archaeological dig, have a place in future development. It must be stressed, in closing, that this report is only an overview of the situation. Much more research is required if a solution is to be developed that adequately addresses the issues of resource protection, accuracy of information, visitor education, and the economic viability of the park, as well as local community concerns.
BIBLIOGRAPHY

Archival Documents

Hudson's Bay Company Archives, Winnipeg. Section 'D' D.4/1-117. Governor George Simpson's Outward Correspondence Books (indexed) 1821-1860.

D.5/1-D.5/52. Governor George Simpson's Inward Correspondence (indexed) 1821-1860.


 Provincial Archives of Manitoba, MG2/C3 The George Marcus Cary Papers.

Books, Articles, and Theses


APPENDICES
APPENDIX A

Summary of Available Information
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1. Parks Canada Archaeology
2. I:500 Parks Canada Topo.
3. Contour map of Winthrop Sheet
4. City of Winthrop Survey Dept.
5. George Mephilips Plan of
6. John Park's plan of Winthrop
7. H.Y. Hunt's topos map of
8. Alexander Henry's journals

Survey notes may be available.
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Further Info:

- Henry W. B. Jackson, Forest Inventory, 1906.
- Forest Inventory, 1910.
- Forest Inventory, 1920.
- Forest Inventory, 1930.
- Forest Inventory, 1940.
- Forest Inventory, 1950.
- Forest Inventory, 1960.
- Forest Inventory, 1970.
- Forest Inventory, 1980.
- Forest Inventory, 1990.
- Forest Inventory, 2000.

Source:

Introduction of poultry to Red River.

- P. 15 Article 3.
- Parentage in practice, in contact with those at Pembina.
- Poultry breeders produce and select some species at various points.
- Franks and others at the fort.
- 2.
- Mere mention of the species and abundance of native
- Several of these and the reproduction of other.
- The species found at Pembina (type & quantity).
- Introduce species found at Pembina by C.N.
- Hendry's journal.
- 17.
- H. B. C. Altered by
- 12. As in P2.
- To George Simpson, HBC.
- 12. Letter to the Governor.
- A History of the Canadian
- Called in 1855, Motion
- Made in 1870.
- 11. John Macdonald's dairy
- of Alexander Henry
- The Manuritap Journal
Bank profile will include evidence of hydrologic process -
and banks at the forks (ice dam) (deposition)
- Degree of impact of floods after 1950 on vegetation
- Will there be future flood damage to 1994
- Map of area of flooding on site.
- Photographs of flood waters:
- Water Resources Division
- City Engineer's Office
- Dept. of Mines & Natural Resources
- Clarke, R. H.

Paper
- Natural Processes
  - M. A. B. Kaye
- Craft, P. C.

- Forests on Red River Flows

- 1850:
- Farming
- Description of site (includes soil and vegetation) -
- Carry reports to Simpson on farm activities -
- Survey of Equipment, Farm Equipment and -
- Settlements use of vegetation - Circa 1850

- 1934-1942
- Historical Info.
- Research Info.

- 1984
- Water Canada

- 1960
- Forests, Water Resources Division

- 1990
- City Engineer's Office

- 2000
- Dept. of Mines & Natural Resources
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<th>Year</th>
<th>Date</th>
<th>INFORMATION</th>
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<td>- Vegetative Growth on site.</td>
<td>1. Canadian Geographer</td>
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<td>Reference to aspect. Climate soils to indicate potential.</td>
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<td>Vegetative successional which occurs on river.</td>
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<td>Relative growth of trees to climate data.</td>
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<td>Extent of cover.</td>
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<td>Existing stand of vegetation in terms of size.</td>
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<td>Flood years etc. Climate relationships to account for.</td>
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<td>Wet/dry cycles giving indication of good growing season.</td>
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<td>7. Edward J. Hidden</td>
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APPENDIX B

The George Marcus Cary Papers

- Invention at Ft. Cary
- George Simpson to Cary
  address of London, Quarterly Papers
- Includes: Table of Contents
The George Marcus Cary Papers
In the possession of
Arthur F. Cary
R.R. 8, London,
Ontario.
1896, purled in St. John's churchyard, London, home of the
property still preserved by the descendants, died 4 February
1896, homesteaded on the 30th concession, London, property
of an ancestor. In 1849, removed to Wood, Canada West, 1849,
expertly trained and served as a private, 1st class, in the 3rd
Hussars, engaged at Queenston Heights by the Canadians to
conduct the Second
Resident some time in France in the early
1894. His brother, Arthur, fell at the storming of Baden
and placed on half-pay 25 December 1869, sold his commission
of the 5th Hussars to Arthur, engaged in the
in the 5th Hussars, served with the battalion
at the Battle of Souaria as a volunteer, commissioned lieutenant.
George Marvin Cary, born 1795, married, served.
1. Petition to the House of Commons of John Pritchard of Red River, 1819. (Printed)


5. Richard Clifford to G.M. Cary, Tours, 14 May 1839. News of Irish colony in France, "I hope the inhabitants of the colony are not disposed to follow the example of the Canadians."


9. "Inventory of sundry property of the Hon. H.B. Co. at the experimental farm this last day of June 1841. 8 pp." Foolscap, ms.
10. Minutes of a council of Governor and council of Assiniboia held at Fort Garry on the 16th day of June 1845. 8 pp. foolscap.

11. Idem, 19th day of June 1845. 8 pp. foolscap.


13. Memorial to the Duke of Cambridge, Mrs. G. M. Cary, 1861. Xerographic copies of 4, 5, 7, 8, 10, encolored, 1, 6, 12, 13, 14.
My last orders from you were up to the middle of August when the appearance of the crops was much more promising than in the early part of the season, and I shall be happy to learn you have had a plentiful harvest, and that the sheep and cattle got through the winter well.

Having formed on a large scale with the view to the production of wool, as an outlet for exports from Red River settlement, and the present chief of the government committee in forming the Establishment that has now come under your charge, and commercial & systematic management is absolutely necessary to its success, towards that end it will be necessary in the first instance to direct your attention particularly to the growth of grain for the support of your Establishment and a sufficient number of cattle, sheep and live stock, should be started for the same object as little or nothing may be accomplished by the maxim of covering the whole employes, and it will likewise be necessary to grow a sufficient quantity of grain, potatoes, sweet potatoes, &c. in the same way as to have a large portion of beef, for the sheep and cattle, as it will be impossible to keep them in good condition during a long hard American winter in any other way.

The governor and committee are anxious that the people who are well fed and comfortably lodged and that the terms of these engagements should be subjected to the letter, so having them it will be

To state that the want in regard to food as much as possible by having the house sufficiently large to contain 6 or 9 families each, to consist of a partition of that each family may have a sleeping room with one large kitchen, or cooking room, and a mess room for the whole by which means the five places i.e. two garden places and a large one ought to be sufficient for each house, and as wooden buildings should always remain it is desirable you should erect houses of brick or stone as soon as you can through the labours of your people collected the materials.

A certain quantity of Fire and sugar has been promised the soverign which must be paid in kind and the promise that has been made to the men of a little beer during the remaining season and other easy joints should be fulfilled. As it is intended that these farming operations shall be on a large scale I think it will be necessary to have two Establishments instead of one, in one all the Parks and the other at the same place and in constructing both Establishments it will be proper that they be so placed as to be defensible in case of an attack from Indians and others, is that and the buildings at the Parks.
would be moved so close to the new Post, as to admit of their being encompassed within the walls of that Establishment, and protected by its Adjacents: and at the least that the new buildings should form one side of the Quadrangle in square of which the main house and the stores already form two sides, and the River the third, so that the whole space may be walled round and protected by Palisades.

In proceeding with the building of the latter, I seriously advise to STEER clear of the square, or to cut it so as to admit of as much light as possible into the houses, and it would be of such extent as to become the storehouse of the settlement, for a large body of people, if necessary. For similar reasons I think that uniting the storehouse to the principal farming Establishment as the pasture is more rich and abundant in that neighbourhood than any where else, with dry rides that may with little labour be cleared in the summer and winter so as to become pleasantly well adapted for such purpese.

The soil that has been early known is of fair quality but it is not so moist soil as we are yet states the market, which is owing to the enriching manner in which the land has been kept by the early plantations. For that reason it is much increased it is debatable that particular instruction attention should be paid to the improvement of the land by sowing and tilling of the old Crop and Rams and not allowing the Rams here until they are about eight months old, as to bring forth in the proper season after the Spring grass makes its appearance. But these in order to obtain a rapid increase of land the hands of the farmers are allowed to take the Rams the same time when not more than six or seven months old which destroy and degenerate the breed, but now that we have got stocks we must direct our attention to its improvement.

I notice what you say about farming the Establishment at Head Lake but think it may be better to slope that until after I have had an opportunity of conferring with you on the subject of Red River next year.

In the meantime I think the lawn Fish for a variety of reasons ought to be the Principal Farming Establishment and after the ensuing winter I think it is probable it may become your own head quarters.

Then you have lands to sell it will be better to define them in more detail at once and if they may be made available there, there exist with the Red of years when there is a scarcity of Revenue which will prevent combinations among the Settlers to help down the Price, and in order to secure the opposition and our agricultural operations will obviate the effects of a market for their produce should you assure them that our intentions is merely to raise sufficient grain and other produce for the maintenance of the Farming Establishment and that our only trade only subsists from and depends only to England principally for their own benefit should it be necessary for you to discharge any portion of the Farm's revenue let the parties to help home and not allowed.
to go for so the Country on any consideration, but we are ought to be discharged unless you can make out a very strong case, and that the party is conscionable.

The Governor and Committee are desirous of increasing the number of English servants gradually; a few families will accordingly be sent by every ship, probably half a dozen by the next ship for whom you will procure accommodation.

From your Report of the appearance of the New Servants hopes it has turned out well, but it is an art which requires so much manual labour (which is expensive at present) that I consider the people will not generally direct their attention to it.

I must melancholy forewarn and if my Logan's Hay seed is in operation I hope you will be able to send some at experiment of the produce of the Colony on that article.

Now the gardens to favor me write a full Report on the affairs under your management for the purpose of being laid before the Governor and Committee, and let me advise you may inquire for the Town to regularly proceed for from time to time such supplies for last year were laid out by the York ship of this season.

I remain

Dear Sir,

Your most obedient,

[Signature]

P.S. Since writing this Letter your elegant favor of 11th October has come to hand which has been referred to through Mr. Jordan (York) and I think it will be well to read that letter to the people in order that they may see how your (sic) & Committee are aware of their conduct and are determined on keeping them to their duty. I approve your suggestion of engaging of all the stores (sic) (sic) & Tun's during my absence.

Also the gardens to send home a few hundred weight of your vegetables and let well in mind that its quality and weight in the market may be ascertained.
APPENDIX C

Seed List from York Factory
Kitchen Garden Seeds
1 Pt. Pole Bean Peas
1 Pt. Green Peas
2 Pt. Dwarf Runner Peas
4 Pt. Window Beans
1 Pt. Long Pod Beans
1 Pt. Sparked Rod Beans
1 Pt. White Rod Beans
1 lb. Frozen Spinach
1/2 lb. White Round Turnip
1 lb. Early Dutch Turnips
1 lb. White Round Turnips
1 lb. Orange Carrots
1 lb. Parsnips
1/2 lb. Red Radish
1/2 lb. Turnip Radish
1/2 lb. Cheese top. Radish
2 oz. Salad Radishes
1/4 lb. Green Kale
1/4 lb. Brown Kale
4 oz. Leafy York Cabbage
4 oz. Chinese Cabbage
4 oz. Green Cabbage
4 oz. Mustard
4 oz. Turnip
4 oz. White Cabbage
Flower Seeds
1/2 oz. Zinnias
1/2 oz. Chamomile
1/2 oz. Lettuce
1/2 oz. Stocks
1/2 oz. Sweet Williams
1/2 oz. Hollyhock
1 oz. Celosia
2 oz. Polyanthus
Bellows Roots
1 oz. Buckwheat Seeds
1 oz. Fenugreek
2 oz. Marigold
1 oz. Sunflower
1 oz. Double Flowered, Rhus Mariage de ma fille halje
APPENDIX D

Seed Varieties Imported into Rupert's Land
by the Hudson's Bay Company

compiled by: Barry Kaye - Unpublished Ph.d thesis

Source: HBCA A24/34-39
Appendix C. Seed Varieties Imported into Rupert's Land by the Hudson's Bay Company, 1823-1830

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<th>Spinach</th>
<th>Lettuce (cont'd.)</th>
<th>Balm</th>
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<td>Prickly Spinach</td>
<td>Green Cos Lettuce</td>
<td>Moldavian Balm</td>
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<tr>
<td>Sugar Leaf Cabbage</td>
<td>Round Spinach</td>
<td>Hardy Hammersmith Lettuce</td>
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<td>Red Cabbage</td>
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<tr>
<td>Early Dwarf Cabbage</td>
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<tr>
<td>Winter Savoy Cabbage</td>
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<tr>
<td>Dwarf Curled Savoy Cabbage</td>
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<tr>
<td>Marseilles Lettuce</td>
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Compiled by: Barry Kaye
APPENDIX E

Rough Chart of Red River Settlement showing the
unoccupied land in the vicinity of Ft. Garry by
Edward Hopkins 1948 – indicates location of
Farm Buildings

Source; H.B.C.A. G.1/320
APPENDIX F

Legal description of Experimental Farm
These are to certify that the following extent of land has this day been transferred by the
North American Bay Company, for the use of the experimental farm under the charge of Captain John Burgoyne:

Lot 1. The Island in the widest part of the river immediately below George Thorne, North 30° East, One hundred and fifty chains or thirty, and then due East down said North side upper line to the West River, from thence around the shore of the West and South Bay River to the place of beginning, same and except the ground occupied or required for the North Level Lot.

Lot 2. From River to Red Banks. By parallel line running from the beginning River North 30° East till said North side upper line, with a frontage of fifty chain, along said line.

Lot 3. From James Mills to the joint house above Kingman built. By parallel line running the same course as above to the distance of four miles from the bank of the Delaware River with a frontage of three hundred and twenty-five, four chains.
Jeune under my hand and affar Fort Sandy. This Union
Installment the Twenty fith day of June. One Thousand
Eight Hundred and Thirty first

(Seals) E.L. Scamper Chief 34th
W.M. Moultrie (party company)

There are to confi this Department are committed
to convey into the land back and for the
Fort Sandy, for the use of the Experimental farm, which
extends to the division lines on each side of the buildings,
being one mile of frontage on both sides of the Rives

Gives as above some time

[Signature]
APPENDIX G

Alexander Ross's Account of the Experimental Farm

Source:

The Red River Settlement, Its Rise, Progress and Present State
To conclude this somewhat lengthened narrative. Although we dwell on the outskirts of Christian holding as we were a middle course between our civilization on the one hand, and gross darkness on the other, we live in all moderation and good fellowship. Our semi-barbarous and semi-civilized state, the expressions used by my fellow-traveller when we reached the Forks, may be taken as a fair representation of the state of society amongst us, viewed at its best. "I have," said he, "travelled much in my time, and have seen many countries; but, under all circumstances, I have no part of the world where the poor enjoys so much independence as in Red River, and I regret I do not prolong my stay to inform myself a little better on the subject of your laws and institutions; but judging from what I have seen," you seem, said he to me, "to live without love, and yet enjoy in that primeval continent a more real happiness, comfort, and contentment, than any other people I ever saw; but I must hasten my departure, and take my leave of you, assuring you and all my friends behind, that wherever Providence may direct my lot, I shall always cherish with fond recollection the kind and hospitable people of this colony. My friend and I then parted. We arrived at the commencement of the year 1839, my intention was to conduct the reader through the operations of another experimental farm, let on foot with the whiles, whilst I have in view as the former one, namely, the benefit of the settlement. We have often before observed, that the people of Red River delight in fertility, and however great may be their difficulties and disappointments, they never take courage again, and are ready for a new enterprise. It is not likely that our breed have forgotten the experiments already made on this familiar name; nor do we think they will
THE RED RIVER SETTLEMENT:

The difficulties to be overcome in a first experiment are usually much greater than in a second, or a third, of the same kind. In the present instance, however, we derived little or no advantage from past experience, since the plan was now dictated by a committee in London, some 4,000 miles from the scene of operations, whose orders had to be implicitly followed. To prevent a repetition of the ruinous results of the former experimental farm, the London committee, in place of appointing a far trader to the office of manager sent out from England, at a high salary, a half-pay officer of the army, who was accompanied by people of little, if any, experience in agricultural pursuits.

Behold, then, Captain George Marcus Cary, the gentleman alluded to, and his experimental squad, some twenty in number, men and women, commencing operations on that point of rich alluvial soil where the Assiniboine enters the Red River, adjoining the site of old Fort Garry! Here a grand establishment was set up, and a full supply of the most costly implements imported on a scale far beyond anything we had seen in the colony. In short, nothing was wanting that money could procure. The new comers delighted to expatiate on the advantages of skill and system combined together, the prodigies contemplated, the experiments to be made, and the results that were to follow, compared with our manner of doing things in the settlement hitherto. The interest excited, made all listen in silent admiration, with eyes and ears open. A new era was about to commence; and the Captain himself, full of theory, and big with projects, raised expectation to its highest pitch, so that there was but one opinion, "The Company have bit open it at last!" Nevertheless, though men and implements were set to work, two years had passed by before twenty acres of shallow soil were under cultivation; nor at the end of ten years more had this grand farming scheme extended another acre! The whole farm enclosed did not much exceed eighty acres, and a fourth part of that was never under cultivation.

On this contracted spot, Captain Cary and his associates exercised their agricultural talents in raising wheat, barley, potatoes, and turnips—a culture which every one in Red River had for sale, and for which there was demand. In this manner they kept going round and round, like the blind horse in the mill always finding themselves in the evening, where they had started them in the morning; till the spot was ruined, till themselves bewildered with the painful result. They only succeeded in feeding themselves, and therefore had no spare produce to return to the Company.

The only benefit the settlers derived from the example of the experimental farmers, and what they had not anticipated in themselves before, was to show them the value of grain with the scythe, in place of cutting it with the sickle; and to gather it with forks in lieu of the hand into sheaves. With this practice, by the way,
we had little reason to quarrel—the model farmers were really playing our game; because what was left or lost by the slowly process on the fields, required no market. This was the first, the last, and the only experiment they exhibited for our benefit; and because we would not follow their example, they swore they would show us no more; and they kept their word.

The dairy served to keep the Governor's tea-table in milk; but his butter and cheese were still furnished by the settlers: this part of the experiment proved a complete failure. For a year or two, a few quarters of linseed were cultivated; but, as in the former experiment, it grew up only to rot without further notice. Hemp was equally a dead letter. During a year or two, a flock of some two or three hundred sheep were attached to the farm, but they soon dribbled into the hands of the settlers; and the wool which was not allowed to rot, got also into their hands; at a shilling the pound. A herd of swine was also kept up; but the poor creatures were generally so furnished, as to render it prudent in the wayfarer to keep at a respectful distance from them. Geese, hens, and turkeys, also adorned the princely farm during the days of its sunshine.

All this profusion of good things was consumed at the farm establishment. Was such a project then, we may ask, calculated to benefit the settlers, who had themselves similar articles for sale—may, taking the aggregate, had them in ten times the provision required to supply the limited market. We know not. Rather it was shutting up so far, if it had succeeded, the only market that existed for colonial produce. Every article of produce supplied to the Company by their experimental farm, would lessen the settlers’ market. It still may be argued as beneficial to the settlement in the way of example; for had not the influence of system, the rotation of crops, and the general working of the farm, a good effect on the farmers of Red River? We answer, no!

Bad as the system or want of system in the colony may have been, it was in every respect superior and better adapted to the country than the experimental and methods. The settlers had always the lesser ground both in quantity and quality. The most ordinary farmer in the place worked as well, plunged as well, labored as much as the settler, his goods and his cattle in better order, than was the case in the experimental farm; much of this, however, depended on the quality of the hands employed; they were hardy, ignorant, and stubborn. The system of five hundred points of good husbandry was not yet to them, and they also forgot they were on Red River; for they could neither work nor save. They were put at their lips; they slowly moved to the bell. Before six in the morning, they would scarce be got up. Seed harvest time, summer and winter, was all one. It is not with the good or bad qualities of the farmers that we have to deal; and honestly, without an effort, we know them to show, that had they cultivated the good of the colony, the good derived from the land...
THE RED RIVER SETTLEMENT:

conduct, and exertions, would have been small indeed. Take the following as an example:—

The article of hay was very scarce one year in the neighbourhood, so that the Captain had a place examined some ten miles off, where it was to be had in abundance. To this spot the settlers, in years of scarcity, generally resort, for the same purpose as in the town. They brought their cattle with them, and during the time they were away, they spent the day in getting them home. Saturday, they turned their faces towards the settlement, and resolved on home! Two of them reached late in the evening; but the other five made for the beer-shops, where the mortified Captain had work to find them out, and only got them home on the following Tuesday. Various were the reports they made to their disappointed master; but when the truth was known, the seven experimental lads had, during the week they were absent, cut the enormous quantity of ten loads of hay!

Captain Cary, the chief manager of the experimental field, was a person of active business habits, alert, intelligent, and possessing in his manner, what he himself termed a gentleman of variable abilities; but his agricultural knowledge consisted in theory alone—the practical qualifications were wanting. He had read a good deal, and was possessed of much general information; but was, in point of fact, more of a literary than a practical man. After dragging on for about ten years, without advancing a step, or doing a farthing's worth of good to the colony, the prodigal experiment was wound up; and the stock, implements, &c., being sold off, left the experimenters minus £5,000. The zealous Captain was not disgusted with the whole affair, that he left the colony as a pet, and removed with his family to Canada.

The object of the Company was probably not very clear to themselves; but if we may judge from circumstances, it was for from a sincere purpose towards the settlement. Captain Cary often remarked on this point.
to the writer, in terms which we may here quote: "When I left London," said he, "the Committee had set out the finest prospects; and so deeply did that body appear to be interested and sincere in the success of their plan, that I was promised, in addition to my salary, a certain share in the profits; but when I came to Red River, the feeling about its success, among the Company's officers, seemed to be the very reverse; not a word was spoken on the whole project, and all my plans and movements were frustrated, as if the officers were perfectly indifferent about its success." It has been stated, but whether true or false we know not, that 6,000l. had been paid aside for the speculation, and that it was not out of hand better; that, at least according to this story, was all the Company cared about it. If this statement be true, there must have been a real interested or mystery in some quarter. We have already noticed in our experience of things here, that the Company in London and the Company in Red River are two different things; and here we have before us a practical illustration of the fact. This we know, that Captain Cary and the Company in Red River seldom pulled together. He has always said, he was entitled to a tenth share of the profits. "If," said he, "the business has failed, it is the fault of the Company, not mine." On repeating this one day, the writer observed to him, he had better hold his tongue, and say nothing on that head, or he might be brought in for a corresponding share of the loss. One thing we know—his appointment proved a profitable sinecure to him.

...Before taking leave of the Captain, we might mention the following anecdote. On the arrival of his party in the colony, I happened to join the Captain as he stepped ashore, and as we walked along, we had to cross a ploughed field, on seeing which, the Captain stopped short and turning suddenly round to me exclaimed, "What! the people of Red River know how to plough!" "Yes," said I, "we do a little in that way, and now see!" The ploughed field astonished the Captain, his remark also surprised me; as it showed how little he knew of this colony.

...We have stated over and over again, and in most cases proved by a variety of circumstances, that this nor the other experimental farms could have been designed for the benefit of the settlers. A question then arises, if not for the benefit of the settlers, for whose benefit were they? And what would have been the Company's motives for their introduction? had not have been, at least in a secondary point of view, for the Company's own benefit. At first view it would not appear to be the visionary as the "handwriting on the wall," but subtler subjects which penetrate a little below the surface of the atmosphere, and weigh impartially the state of affairs in this respect. The Company's motives for making such a decision in this venture proved, are not absolutely explainable. It is a common saying here, "When the Company deal in furs, they work for money; but when they farm, they work for fame!" Now, as success increasing the experimental farm would have more and more embarrassed the limited market here, everything
RED-ASS: NIJOINE JUNCTION SITE DEVELOPMENT:
Preservation and Interpretation
of the Current Landform and Vegetation
by Cheryl Oakden
Done in Partial Fulfillment of the Course Requirements of
Landscape Models 31.709
Presented at the University of Manitoba, Faculty of Architecture
Department of Landscape Architecture
to Susan Buggey
April 8, 1985
Introduction

At the junction of the Red and Assiniboine Rivers, 13.5 acres in the CN East Yards have been chosen as the development site for Parks Canada and the study area for this historic park planning project. (Figure 1) The site, commonly referred to as the Forks, has been declared of national historic significance due to its primary role in the development of transportation, communication, and commerce in the Northwest. This site forms part of the Canada-Manitoba Agreement for Recreation and Conservation of the Red River Corridor (ARC), which hopes to eventually own land extending from St. Norbert north to Wetley Creek. The ARC Program represents a coordinated approach toward natural, historical and heritage resource conservation with the provision of recreational, educational and cultural opportunities along the Red River Corridor. The essence of ARC is to develop the corridor as a multimodal circulation system providing access to interrelated educational and recreational experiences. The Forks development and interpretation is seen as the focal point for this entire system.

The initial evaluation of the site involved historical research to be undertaken in the specified areas of: landform and vegetation; archeological remains and settlement patterns; prehistoric-1821, 1821-1870, 1870-present. The primary goal of the preliminary study was to uncover evidence which would establish a basis for decision making with regard to future master planning activities for the site. This information, in conjunction with site

Figure 1 Site Acquired by Parks Canada at the junction of the Red and Assiniboine Rivers. Source: Parks Canada
visits, were analyzed outlining six alternative methods for future site development. These options include:

1. On-going Archaeological Excavation Site
2. Urban Green Space: Agricultural Theme
3. Urban Green Space: 'Meeting Place' Theme
4. Urban Green Space: Preservation and Interpretation of the Current Landform and Vegetation
5. Urban Green Space: Riverfront Park with Historical Element
6. Urban Green Space: Riverfront Park with Contemporary Focus

The research also determined limitations for development by inappropriate levels of intervention due to a lack of an historical base (i.e., landscape features, or historical data). These were defined as restoration, reconstruction, reconstitution, and conservation. The results from this initial work should not be thought of as being of sufficient depth to allow future development to proceed without undertaking additional research.

Given the initial analysis, the alternative for development to be elaborated on in this study is the preservation and interpretation of the current landform and vegetation. It is these natural features which form the fundamental components of the landscape, creating the contextual setting upon which man interacts. An integrated relationship must be established between ecological, economic, aesthetic and educational factors to cooperate with nature. In doing so we gain opportunities available for richer more diverse environments.
Description of Assigned Option

In order to understand the implications of the alternative to site development, a definition of the terms of reference is required. In the strictest sense preservation implies stasis. Preservation involves maintaining the site essentially as it is, neither upgrading nor permitting deterioration. However, this level of intervention is not possible, practical or desirable when dealing with organic, living artifacts which develop and change over time. Therefore, an intervention more responsive to site conditions is required. According to Lisa Kunst and Patrick O'Donnell in their article "Historic Landscape Preservation Deserves a Broader Meaning," conservation is defined as a passive process of preservation, protecting historic landscapes from loss or infringement of incongruent uses. Basically conservation is stewardship of the site. This concept can be appropriately applied to the development alternative being pursued. Within the parameters set by such a definition, decisions can be made as to the nature of disruption and its level of reversibility.

In terms of the 'interpretation' of the resources, Kunst and O'Donnell state that

'interpretation involves the retention of original landscape form with integration to accommodate new uses, needs, and contemporary conditions. It reinforces historic integrity while integrating a contemporary site program.'

providing a comprehensive understanding of the site in its historic and present day context. Such a concept of interpretation will be applied to the development alternative as a basis for decision making.

To validate an intervention of conservation and interpretation of the natural environment a development plan must emphasize the role which the vegetation and landform played in making the 'Forks' a significant site in terms of settlement, transportation, and commerce. To do so, one must utilize the existing natural features on the site from the past to the present, inclusively. In dealing with the natural environment we must also acknowledge and understand the processes and changes within the environment which have, and continue to, contribute to the site's significance.

In dealing with dynamic processes of the environment and man's interventions we cannot attempt to make the site 'static' as suggested in the term preservation. Therefore, we must conserve the site. Conservation of the site is an opportunity to utilize nature within its own laws of growth and decay. Consequently, this approach will compliment the site's history, an aggregate of past events continually evolving in a place due to the fourth dimension of time.

The principles of ecological succession bear importantly on the relationships between man and nature and time. (Figure 2) Nature is seen as process, responsive to laws having limiting factors which

Figure 2 Parkland Forest source: J.M. Shay
exhibit opportunities and constraints for human use. The place, and plants, animals and men upon it are only comprehensible in terms of the physical and biological evolution which establishes the contextual setting, or environment, within which these living organisms evolve. Man has manipulated his environment to serve his changing needs for survival, settlement, transportation, communication, and commerce. Over time, this development has evolved dramatically and has constantly altered due to changing needs and technology, representing processes occurring on the site. The concept of process reflects the 'essence' of the 'Forks' as a cultural landscape, an integrated composite of overlapping and intersecting elements and qualities which are constantly altered by natural and human forces. Therefore, in developing the site's natural features we cannot ignore the integral role man has played in shaping this landscape.

The conservation and interpretation of the landform and vegetation must reflect man's use of the landscape over a period of time and the evolution of cultural values, norms, and attitudes toward the land. These are exhibited through different phenomena of man's lasting impact on the land and his future use of it. The layering of activities, environmental and cultural, represent the site's 'image' and must, therefore, be interpreted as layers or processes. The site is located within the nexus of a complex system of forces, economic, cultural, and artistic. A new manmade environment has almost completely supplanted the preexisting natural environment of the site and its continual deterioration be-
comes a prime concern. Any plan to raise the environmental quality of areas within the central-city must, therefore, manipulate not only meteorological, geographical, and botanical factors but also social, cultural, physiological, and psychological factors.

The essence and image of the 'Forks' must be reflected in the development of the site. Consequently, the reason for its significance as a location for settlement based upon a series of events which began during prehistoric occupation and continues to the present day must be incorporated. The focus of the development must be on the entire landscape: its elements, components, resources, qualities and potentials. There must be an understanding of the landscape as a whole and of the synergistic relationships that make it what it is. These relationships define the 'total' landscape.

The significance of the landscape as a system best demonstrates how a culture responds to its natural setting and how it manipulates and molds the environment to suit its needs. Therefore, interpretation and conservation of the site must be based upon processes of both natural and cultural elements, not a moment in time. In addition development must acknowledge that the site will continue to evolve and must allow for this evolution to occur.

Goals for Site Development

Within the parameters set by the development description, several goals for development have been established to conserve and interpret the landscape as history, habitat, artifact, system, and
actions to the landscape which have created the present en-
dermining of natural and human processes and their alter-
2. To educate the public of the site's history through an un-
ction of the site in cultural and ecological terms.
there should be an attempt to position the future evolu-
cation of vegetation (including care of trees), in addition,
ance of the works in terms of geotaphic position and use
of modern conservation and restoration strategies, the goal will also be to assess the capacity
some of these techniques include encouraging natural restoration,
transformation of the landscape into tangible features.
philosophies of the culture, the landscape represents a
form and governing ideas, and understanding
communication of adaptations which have produced the given
essential to interpretation is an understanding of the ac-
part identity of the landscape,
features and how they relate to specific events of the
To interpret the present condition of the site's natural

Table:

<table>
<thead>
<tr>
<th>Description</th>
<th>Data</th>
<th>Relevant Information</th>
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<tr>
<td>Description</td>
<td>Data</td>
<td>Relevant Information</td>
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</table>

The above table outlines the key aspects of the project, including data and relevant information for each element.
vironment, recognizing changes over time.
In order to conserve and interpret the present landform and vegetation there must be an understanding of natural processes and human alterations responsible for affecting, maintaining, or changing the character of the environment. These processes may include flooding, excavations or fills, and vegetative succession.

3. to develop a design which reflects process and change where no permanent or temporary impact alters the historical integrity of the landscape. To accomplish this goal a flexible design of continually changing interpretation programs and natural evolving environments must be developed. Functional requirements such as parking, pedestrian circulation, and lighting will be provided but must be designed with sensitivity to reduce their impact on the landscape.

4. to ensure the integrity of the historical resource, any development which affects or impacts the subsurface archeological resources shall be coordinated with an archeologist. As well, any clean up will be closely monitored by both archeologist and ecologist.

5. to conserve the natural setting a biological classification and management approach with respect to the environments sensitivity to human intrusion will be carried out. This inventory will determine a basis for use regulation in terms of site sensitivity due to topography, plant material, surrounding views and vistas and their historic con-
tents and integrity. The classifications may range from highly sensitive areas requiring restricted and controlled access to areas which can support diverse activity with unrestricted access. Some sensitive areas may include erosive or unstable banks and young plant material in regenerating areas.

6. To rejuvenate the site aesthetically, ecologically, and economically by establishing future interpretation and management strategies based upon ecological principles. Within these programs there will be an attempt to seek a valid basis for aesthetics whose roots are in urban ecology while retaining something of the natural diversity of the 'original' plant communities once established on the site.

Urban Ecology

All of these goals reinforce an attempt to establish an urban ecological park on the site, a natural system within the city to provide educational and recreational opportunities. The isolation of nature within the urban region represents irreplaceable links between natural and urban processes. Such a site is important as an historic and educational resource for nature in cities. An ecologically based learning program about nature in cities, the urbanisation process (development of Winnipeg) and its impact on natural processes is invaluable to young students and adults. Some of the opportunities of such a program include the observation and understanding of plants and animals, community dynamics,
interactions of urban and natural processes, trends within ecosystems, food chains and webs, diversity and succession, and nutrient cycling. These trends may be shown in relation to human and urban ecology to attempt to challenge and change attitudes toward urban environments.

Development of the site would represent an ecologically based design as an alternative to past interventions which have rendered the current site derelict. Establishing a 'naturalised' landscape on the site involves managed succession where the site will be allowed to continue to evolve. For a more detailed description of managed succession refer to Appendix A. This aspect of site development is essential to the theme of the park and includes a reforestation study program and a modified mowing regime. The new landscape will represent a radical departure from conventional practice on the part of a public organization expressing a new approach to the urban environment which, over time, will become low-maintenance, economical, and self-sustaining.

Faced with the difficulty of sustaining a program of development and ongoing maintenance due to rising costs in energy, equipment and manpower, the National Capital Commission has initiated an experimental naturalisation program for its parkway corridors in Ottawa. Such a program has provided some of the necessary practical experience required to establish a similar park system in Winnipeg. Some of the research undertaken through a series of test plots was directed toward providing relevant information for the success of such a project. The plots were established to test:
Larger Environment:

The way of ensuring a knowable and informed concern for the
life in the larger surroundings of the city may be a most effective
instrument in the historic development of the city's natural history
and urban wildlife conservation. This would be complemented by
the schools and interests in sculptural studies in urban ecology.
In addition to generating a 'naturalized landscape,' an urban
ecological park can also be used as an educational center for pub-
lic interest in Appendix B.

The results from this work should be acquired to assist with de-
velopments of the site. Some of the programs carried out in other
objectives include:

1. Map or plan of food web of competing and consuming plants
2. Methods of controlling competing plants
3. Most effective planting techniques and speed
4. Comparative and speed of plant establishment
5. The effects of management on plant establishment
6. Such as gases and damage by animals
7. Map or plan of site preparation
8. Well and poorly designed share:

The proportions of various species through the

Reading, I. (1984). City Form and Natural Processes. (From also, this,

Future Interpretation.

These knowledge of changes must be integral to the process and to

various processes of the site is being interpreted, interpreted, etc., and there-

as in the case of the historical prehistoric archeological tells, while in the

as are the case of features, or to stable, or to culture's

accumulation. The latter, by contrast, suggests a sudden accretion

again as in the case with sedimentary deposition or vegetative

cut. The former implies a gradual modification of the landscape,

ally. The former implies a gradual modification of the landscape

had an impact on the site.

Thus have occurred. To discover these changes one must also un-

part and present landscapes to establish some of the alterations

and landform conditions. This will enable a comparison between

landform is required to determine present and past vegetation and

inferred landform, an exercise in inventory of the vegetation and

In order to interpret the site's history and to establish a na-

the site.

measurement programs must be established to support activity on

situation. In addition, integrated interpretation, education, and

can elements of human interpretation, reflecting the site's urban

cultural vegetation, landform and the tangible artifacts (historic).

maintained to reveal the final site design. Those elements in

based upon the conceptual framework for an urban ecological

Resources Required for Development
topography and the archeological diggs have given some evidence of
cave work by early humans. A map at 1:500 m indicates precise
sources for existing topography and soil information include re-
tapping and soil tests and the changes to these over time will be needed.
A thorough understanding of site geomorphology including topog-

Landform

manifest alterations.

of the landscape, namely: landform, vegetation, and natural and
decay processes a basis for understanding the significant elements
of the environment. Information gathered to
in Appendix C. However, further research in this field required in sev-
some of these references have been investigated and are summarized.
In addition to the site inventory, several information sources


2. Inventory the natural processes limiting factors, articulate

which are responsible for the character of the existing en-

2. Explain and explain processes in the historical landscape

1. Identify the type, relative abundance and spatial distribution

Such an ecological inventory and analysis would:
particulate on the adjacent uplands supported Cerrado requirements.

Bleve brown forests provided fuel and building materials while the

trees became valuable for their sawdust or fiber. Close to hand,

early European settlers of Manitoba were undoubtedly attracted

vegetation

environmental prior to the ERP fill.

information would be helpful in determining some characteristics of the

indicate that vegetation and landform soils would support. This

physical characteristics of the Red River association soils and

The Manitoba Soil Survey gives a general description of the

mining.

only general accounts in newspapers and letters are available in

and plans are likely stored in the MB collection in Winnipeg.

or earth and can be done very well at the site. Survey records

clitic paralysis (1:19) or 1889. During this year 15,000 cubic yards

more significant change to the landform, namely the National Park.

in exercising which helps to demonstrate the extent of the single

1991 (Figure 2) indicates the presence of a top level bank still

and cannot provide detailed site descriptions. Hopefully, plan of

1985, but any further information becomes irrelevant due to age of

Parcels topography is available in mapped form for the year of

River bank and the soil profiles.

tion will be required to provide accurate descriptions of both the

old river bank locations and soil profiles.
Later, when steamboats ran on the Red and Assiniboine the forests provided fuel for their engines. The typical native plant composition of river bottom forests in Manitoba is listed in Appendix D.

At present, existing vegetation has been mapped by a variety of methods including air photos and the Winnipeg Forest Inventory. These provide detailed accounts of the area which could be complemented by site inventories and analysis. In terms of the historical vegetative cover sources include both visual and written documents. Several bird's eye views covering the period 1880-1884, and early cartography (H.Y. Hind 1858, John Arrowsmith 1846) display discrepancies in the extent of cover. (Figures 4 and 5) These sources are not extensive or accurate to extrapolate type, condition, abundance, or distribution of plants. Therefore, they are unreliable for inventory purposes emphasizing the need for archaeology and site surveys to determine vegetative cover of earlier periods.

Journals, diaries and letters of early explorers and settlers, in particular those of Alexander Henry, La Verendrye, and Miles Macdonnel, provide descriptive evidence of the landscape during the period from 1800-1837. Henry reveals some of the vegetation which existed on the banks of the Red River in his journals of 1830:

The banks are covered on both sides with willows, which grow so thick and close as scarcely to admit going through; adjoining these is commonly a second bank of no great height. This is covered with very large wood such as liard, bois blanc, elm, ash, and oak; some of these
Additional research into the journals of Alexander Henry, La Verendrye, and Miles Macdonnell may prove helpful in giving indications of clearing for protection around the forts, species abundance and an idea of the atmosphere and environment on the site during these early periods. Such information would contribute to archaeological evidence and surveys to be undertaken.

Evidence of experimental farming between 1836-1841 can be explored through plant succession and archeology. Drawing information from existing stands of vegetation will be limited due to the dramatic alterations which occurred on the site since 1841. Therefore reliance must be placed on archeology. The location of the farm is important to give a clearer understanding of cultural adaptations which occurred on the site however if extensive research is required this feature will not be pursued in this report. (Refer to Doug Olson’s report on the Agricultural Theme.)

Additional information on vegetation can be generated by establishing correlations between:

1. Vegetation of another similar but relatively undisturbed site in close proximity noting especially the topography, aspect of slope and soils.
Figure 6: Reading the past through pollen analysis.

During the summer of 1988, however, more investigation is to be
undertaken. Because of a lack of evidence from archaeological digs
done
in the area, the use of vegetation in identifying past climate change
was
suggested. As part of the project to examine the relationship between
vegetation and climate change, the use of pollen analysis has been
explored. The pollen analysis was carried out at the University of
Manitoba. The results have shown that there has been a
significant change in vegetation over time. This change can be
related to the climate, as well as to human activities.

The use of pollen analysis in archaeological digs has been
advocated by some scholars, as it provides a non-destructive
method of examining past environments. However, the results
must be interpreted with caution, as there can be various factors
affecting the distribution of pollen. It is important to consider
both the natural factors and human activities when interpreting
the pollen data.

Managed and Natural Alterations

Pollen analysis can provide valuable insights into past
environmental conditions. By examining the distribution of
pollen in different layers of the soil, it is possible to
understand how vegetation has changed over time. This
information can be used to reconstruct past climates and
environmental conditions.

In conclusion, the use of pollen analysis in archaeological digs
is a valuable tool for understanding past environments. It
provides a non-destructive method of examining past
environmental conditions, and can be used to reconstruct past
climates and environments.
The effects of growing rice to determine vegetation data and site inventory of the growth rings to determine...
The process of vegetative succession on river banks and their characteristika of the existing stands and the processes which have acted upon them.
Figure 1: Existing Condition of the Site

The interpretation and education programs will be incorporated into the interpretation and education programs will be incorporated into the interpretation and education programs.
River Function 1738-1810

Figure 11: Proposed Landscape Organization Between 1738-1810

Proposed Program
- Integration of Interpretive and Educational Components into the Site
- Proposed direction and Implementation of Site Reconfiguration
- In recognition of past depositions and the river's role

1. Exposed but protected dig of Fort Gibraltar I and II in the immediate vicinity of the Fort's location
2. Archaeological dig of the river bank coordinates unknown
3. Archaeology of potential timbers encountered along the 1734 extent of Fort Gibraltar II

- 3. Center for Water Transportation
- 2. The northeast and Hudson Bay Company's Fort Location

Each of these cultural landscapes are evident in the Lesters account

5. a naturalistic landscape

4. A center for trade and transportation

3. The Northeast and Hudson Bay Company's Fort Location
building on the site. This information documented in written, mapped and photographic form will give a basis for development of interpretation and education programs where the archaeologic process will be a direct educational experience for students at the university level.

It would be beneficial to acquire the existing engine shop and roundhouse building of 1889 as a center for the site. (Figure 14) By utilizing this building a balanced relationship between the site and its immediate surroundings will be created. The CN Yards will appear related to the site activities and may not act as such a strong division between the site and its urban environment. Although renovations will be required, the building could house lecture rooms, storage for tools, greenhouse and nursery activities, public services and tourist information pertaining to the entire corridor programing (ARC). By locating the tourist center at the forks, its position as focal point for the Corridor Interpretation, Recreation and Conservation Program will be strengthened.

The essence of environmental education in the city is providing an understanding of the bio-physical systems that influence it and are influenced by it. Educational programs will be incorporated into the regeneration process, involving students and teachers from both public schools and universities. The park will be run by a trained ecologist throughout the year who will establish programs which provide interaction and participation to teach environmental and social messages. Regenerating the site through the

Figure 14 Rail Yards indicating roundhouse and engine shop of 1889.
Source: National Map Collection
fundamentals of urban ecology will require an understanding of urban dynamics and their affects upon the natural environment. Urban ecology provides an opportunity for alternative ways of using nature in the city. A naturalized plant community is a valuable resource where plants are an evolving community not individual phenomena. The communities should be conserved and the ecological concept and processes they represent should be expressed and reflected through educational programs on the site which in turn improve the physical, aesthetic and economic condition of the landscape.

Maintenance

Traditionally, landscape design has been based upon the concept of stasis which runs counter to the living processes of growth and decay. They assume careful and continued maintenance at an expensive hence aristocratic enterprise. Due to the nature of landscapes, forms are tied to their geographic and historic contexts. Parameters of landscape architectural design are conceptually organized around abstract, internalized norms where theory and practice pay little attention to regional dimensions of botany, climate, or history. In contrast, a site development based on ecological and urban processes incorporates maintenance as a process of integrated management based on ecological parameters. An ecological management program assures us of tools for maintaining productive and self sustaining landscapes while providing the greatest diversity possible, fitting many situations and needs.
The objectives of such a program are economic, social, and environmental where management is integrated with education, recreation, conservation, maintenance and interpretation programs.

Within a program of ecologically sensitive management, planting would be established to achieve a perpetuating adaptive landscape of self regulating communities. This would create diverse plant associations that are in harmony with the site's soils, topography, climate, and related environmental conditions. The objectives of this system are to enhance: social, educational, and aesthetic values; ecological and environmental productivity; environmental, social, and aesthetic diversity; and overall economy in energy, materials, and manpower. In the long-term this approach to site management and maintenance will rehabilitate the site which has degenerated over time through soil compaction, and the reduction of soil productivity and nutrients. To be successful, managed succession must be monitored by a trained ecologist throughout its development and maintenance.

Feasibility

The budget for the site development proposal will be significant for the initial inventories, investigations, and site preparations while site development and maintenance will not be as substantial. The preliminary work requires more time and staff on the part of Parks Canada in the fields of archaeology, history, paleontology, ecology and construction. These activities can be
carried out in conjunction with educational programs reducing the costs to some extent. The Provincial Departments of Tourism, Recreation and Education can contribute funding to the development of the site and the educational programs. Having the site's activities affiliated with the Universities may provide opportunities for grants and bursaries. This aspect of funding should be investigated.

The programming of the site substantially reduces costs for long term maintenance relying on natural regenerating properties of the plants. Budget requirements will be increased in relation to the historical conservation being undertaken. Since some continuing archaeology will be required, costs must be allocated accordingly. In retrospect, the project should not be considered outrageous when one considers the improvements which will take place on the derelict site mainly through natural succession.

Desireability and Appropriateness of Development

The development will create a resource for play, historical and environmental education providing a study center for schools of all levels for research in urban ecology, urban wildlife, plants and animals and their adaptations to city processes, and community dynamics, offers a landscape of diversity and variety within the city. Such a site has the potential to attract students, educators, historians, tourists and the surrounding community. Development of the site as an urban ecological park with
elements referencing its historical significance and programs allowing its continued evolution will enhance the natural features (vegetation and landform) of the landscape. The present condition of the site will be dramatically improved through managed 'natural' processes which have a high potential to protect the historical features due to the reversibility of the development.

The philosophy of this approach to site design challenges our existing use of plants providing an alternative where nature within the city may create irreplaceable links between the human and natural environments. The opportunity exists for understanding natural and urban processes and for utilizing history and education as a resource for nature in the city. The resources and expertise are at hand for such a development to occur allowing the evolution of a new landscape. However, because this type of development is unique within Winnipeg it may be difficult to get the design approved by both political and public realm. New problems and situations will arise that have not been met before making the development a risk. Intense research and testing may be required before development actually occurs leaving the site in its derelict condition. Any attempt toward introducing new ideas and approaches in landscape design which are rich and diverse like an urban ecological park should be carried out. The urban environment and communities will benefit through acquiring education and a new way of viewing and appreciating urban landscapes.
Conclusion

The integrity of the site and its environmental frame require that we cannot embalm or hold it in a state of museological stasis. Change is inevitable in both artifact and context, but the rate and nature of change can be controlled. Therefore, we must formulate and apply policies of environmental management which will guarantee growth and change congruent with historic, artistic, economic, and ecological requirements. This must form the basis for site development within the alternative: Urban Green Space: Conservation and Interpretation of the Current Landform and Vegetation.
**Appendix A: Description of Managed Succession**

*Source: M. Rough, *City Form and Natural Process*, p. 138.*

<table>
<thead>
<tr>
<th>Managed Succession</th>
<th>Natural Regeneration</th>
</tr>
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<tbody>
<tr>
<td><strong>Stage 1</strong>: Establishment - pioneer and climax species mixed</td>
<td><strong>Stage 1</strong>: Existing conditions</td>
</tr>
<tr>
<td>Typical Plant Species</td>
<td>mown turf</td>
</tr>
<tr>
<td>Poplar</td>
<td>existing woodland</td>
</tr>
<tr>
<td>Alder</td>
<td></td>
</tr>
<tr>
<td>Maple</td>
<td></td>
</tr>
<tr>
<td>Basswood</td>
<td></td>
</tr>
<tr>
<td>Hemlock</td>
<td></td>
</tr>
<tr>
<td><strong>Stage 2</strong>: Canopy closure and thinning</td>
<td><strong>Stage 2</strong>: Abandon mowing</td>
</tr>
<tr>
<td></td>
<td>prevailing wind</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Stage 3 onward, Mature climax woodland development</strong></td>
<td><strong>Stage 3</strong>: Regeneration</td>
</tr>
<tr>
<td></td>
<td>edge regeneration</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>meadow community development</td>
</tr>
<tr>
<td></td>
<td>woodland regeneration</td>
</tr>
<tr>
<td><strong>understory planting</strong></td>
<td></td>
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</tbody>
</table>

**General reforestation categories**

Plantation involves the planting of predominantly similar species where the final woodland composition is determined by the initial planting. This is the normal procedure of forestry practice and is based primarily on commercial objectives.

Managed succession developed in the Netherlands and Britain is based on the principle of natural succession and assisted through management. The initial and final composition, character and uses of the woodland will be quite different as it evolves. The role of crop functions to ameliorate soil drainage, fix nitrogen, stimulate soil micro-organisms and create a micro-climatic environment suited to the development of climax species. This approach is therefore, concerned primarily with the rehabilitation of derelict landscapes, rather than with commercial objectives.

Arguments on the advantages and disadvantages of native versus non-native plant species may be less important than considerations of structure, wildlife habitat, adaptability to soils, local climate, air pollution, drainage, and so on.

Natural regeneration involves discontinuing mowing regimes in areas where a woodland seed source is available. In the absence of disturbance a woodland landscape is re-established naturally over time.
Appendix B: Testing of Planting Techniques in Ottawa, Ontario
Source: M. Hough, City Form and Natural Process, p. 140-44.

<table>
<thead>
<tr>
<th>Description</th>
<th>Planting Procedure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1</td>
<td>Mechanical/manual cultivation - cultivation of planting area prior to planting lasting till ground vegetation - manual cultivation regularly during growing season</td>
<td>- labour intensive - application to small or awkwardly-shaped areas - application to closely spaced planting when less candy closure is a high priority - constant maintenance required during growing season</td>
</tr>
<tr>
<td>Alternative 2</td>
<td>Chemical treatment - application of Round-up or equivalent herbicide to kill ground vegetation, followed by chemical application - application of Simazine or equivalent herbicide - plantings in straight or meandering pattern around tree islands</td>
<td>- greatly reduced labour requirement, since only one application required per year (depending on rate of application) - application in small or awkwardly-shaped areas and to closely spaced planting - chemical treatment in urban areas may present problems of health and public acceptance</td>
</tr>
</tbody>
</table>

Note: Simazine is registered for use only for white pine and black locust for plantings. While Simazine is effective against weeds, many species are susceptible to chemical herbicides.

Table: Planting techniques

<table>
<thead>
<tr>
<th>Description</th>
<th>Year</th>
<th>Procedure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1</td>
<td>1</td>
<td>- species planted at random or in rows</td>
<td>- species mixture can vary and include pine, black locust, and spruce - spacing varies from 3 to 3.5 m apart for mechanical cultivation</td>
</tr>
<tr>
<td>Alternative 2</td>
<td>3.5</td>
<td>- after canopy closure, thinning of pioneer species</td>
<td>- slower canopy closure involves less thinning later</td>
</tr>
<tr>
<td>Alternative 3</td>
<td>3</td>
<td>- pioneer species selected for intermediate-climate species, maple, birch, basswood, hemlock, etc.</td>
<td>- plant mixture varies relative to site type</td>
</tr>
</tbody>
</table>

The layout and spacing of plant materials depend on a number of interrelated factors that require investigation, for instance the balance between closely spaced plants that achieve faster canopy closure but require less maintenance work, and widely spaced plants that achieve slower growth but involve lesser mechanical cultivation. The relative merit of an initial 100 per cent pioneer planting versus missing fast and slow-growing species together.
Introduction of man-made design elements

- Incorporate viewing areas where appropriate

- Under certain conditions, mown turf paths may be included where traffic is light

- Incorporate access sitting and sunning places on recreation areas requiring mown turf

- -Mow and edge plantings for woodland and hedgerow
- -Under certain conditions, mown turf paths may be included where traffic is light

Introduction of interpretative panels

- Explanation of naturalisation interest

Design Considerations

Public involvement and acceptance of new landscapes are critical to successful establishment. The design and layout of woodlands require careful consideration to ensure the landscape is as representative of quality and care and civic pride as the natural landscape it replaces. The aim is to give a sense of purpose and intent when man-made elements are placed in association with naturalised areas. Design criteria include some of the following:

- Variety: A variety of trees is required for different life types
- Poorly drained, well drained, slopes, flat areas, etc.
- These relate to the character of the location. In addition, the aim should be to achieve an uneven aged woodland that is diverse in species composition.

- All edges: The image of edges is more apparent than ever when edges are poorly considered. turf left to grow long adjacent to human activity results in a loss of visual and auditory appeal. Well-maintained turf edges are important to control wind and rain. Planting edges: The development of woodland edges over time creates a more natural woodland. The presence of trees such as oak, birch, and birch, and shrubs such as hawthorn, provides habitat and cover for a variety of wildlife.

Structural elements: Integrating man-made elements into existing forest and woodland habitats is an accepted design practice that both protects and enhances the value of the woodland. The use of structures such as pergolas and arbours can enhance the aesthetic value of the woodland.
<table>
<thead>
<tr>
<th>Source</th>
<th>Information</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARKER</td>
<td>Peak profile/section</td>
<td>1904</td>
</tr>
<tr>
<td>PARKER</td>
<td>Slope, aspect, elevation</td>
<td>1904</td>
</tr>
<tr>
<td>PARKER</td>
<td>Slope, aspect, elevation</td>
<td>1940</td>
</tr>
<tr>
<td>CITY OF WINNIPEG Survey Dept.</td>
<td>Topographical survey information - (contours not plotted) Survey notes may be available.</td>
<td>1914</td>
</tr>
<tr>
<td>H. F. Phillips Plan of Winnipeg</td>
<td>Indicates sections at the forer had two levels of levels.</td>
<td>1901</td>
</tr>
<tr>
<td>John Park's Plan of Winnipeg</td>
<td>Shows pre-river site - no contours given.</td>
<td>1914</td>
</tr>
<tr>
<td>H. N. Hinde 1920 map of Red River Settlement</td>
<td>Section of Red River: Section across Red River Valley. Section of Pembina R.: River flood level comparison plans. Some reference indicated, occasional elevations but little detail for the forer.</td>
<td>1930</td>
</tr>
<tr>
<td>Alexander Henry's Journals</td>
<td>General description of the area. Requires much more study. Note: C.S. Bella Kneld indicates a grave yard at the fort and Saullens dug defense trenches.</td>
<td>1800-1805</td>
</tr>
<tr>
<td><strong>SOILS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Manitoba soil survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= only very general information on the Red River association. Indicates texture, infiltration, organic content, erosion susceptibility, structure of original undisturbed soils (based on adjacent samples). Will indicate possible vegetation it could have supported. No mineral deposits in nature.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Parks-Canada Arch. Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= profile of site (section of bank) should yield soil type, forest depots. N.P.R. file. Additional info. not available at this time. Additional soil tests may be required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Source Leads Alexander Henry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= brief description of groundwater at the site</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VEGETATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Parks-Canada Topo Map</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= extent of present tree cover - no specie.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. N.R. Photo Library</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= extent of present and past vegetation. Photography available to M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Winnipeg Forest Inventory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Birds Eye View of Wpg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= shows no trees at all on site (small scale, poor reliability)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Birds Eye View of Wpg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= shown as barren again (some correlation with 1984)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Title/Source</td>
<td>Details</td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
<td>---------</td>
</tr>
<tr>
<td>7.</td>
<td>Hinde Topo Map</td>
<td>Location of vegetation and near areas (off site), small scale. Shows showing typical vegetation.</td>
</tr>
<tr>
<td>8.</td>
<td>Anonymous Map (Historical Notes)</td>
<td>Shows very broad vegetation layer - no vegetation shown on site = poor reliability. Drawn in 1863 of 1864.</td>
</tr>
<tr>
<td>9.</td>
<td>Arrowmith Map</td>
<td>Indicates some vegetation along the banks - brief description on map. Drawn in 1869.</td>
</tr>
<tr>
<td>10.</td>
<td>The Manuscript Journals of Alexander Henry (see page 20 Graham Island)</td>
<td>Informative description of type, location - good general description of forests &amp; specific details. Notes natural type only no cultivation at this entry.</td>
</tr>
<tr>
<td>11.</td>
<td>Miles MacDonald's Diary</td>
<td>Gives a description of general area and its extension to the future. No special mention. Natural diseases must be considered in further research.</td>
</tr>
<tr>
<td>12.</td>
<td>Letters from the Governor and Commander of the P.O. to George Simpson, P.R.C</td>
<td>Indicates desire to establish an experimental farm on the flats to produce wool, flax, hemp, and other crops. Company will spare little expense in its establishment. Also indicates preference for location (general).</td>
</tr>
<tr>
<td>13.</td>
<td>Tom Shey (Capstan)</td>
<td>Settlement use of vegetation from work undertaken at Lewis Lake.</td>
</tr>
<tr>
<td>14.</td>
<td>National Commission</td>
<td>Information and results from testing done at Bataan, on their managed of succession of right-of-way and park conditions.</td>
</tr>
<tr>
<td>SOURCE</td>
<td>INFORMATION</td>
<td>DATE</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>1. On site survey</td>
<td>- Goler's concrete mix equations. Addition of fill and concrete platforms, drainage channel to river, made washings etc.</td>
<td>19-19</td>
</tr>
<tr>
<td>2. Water Resources Division <em>Jennifer Shuy</em></td>
<td>- Bed River Broadway reduced flood water inundation and out deposition, generally throughout Winnipeg, but may affect vegetation in long run - unsubmitted</td>
<td></td>
</tr>
<tr>
<td>3. Water Resources Division T F Shuy</td>
<td>- Lockport water control structure causes higher summer levels and quick, drastic changes in the fall. The effect on bank stability should be examined.</td>
<td></td>
</tr>
<tr>
<td>4. Northern Pacific Railway Special Collection <em>BJ</em></td>
<td>- Located in Winnipeg, this collection promises to contain the best information on grade changes made by the railway in 1909 (grades, elevations, plans???)</td>
<td>1909</td>
</tr>
<tr>
<td>5. Canto bridge to William</td>
<td>- States the railway planned to raise the area by 1988</td>
<td>1988</td>
</tr>
<tr>
<td>&amp; Bridge</td>
<td>- States one hundred men were levelling the grade with gravel from 100 Railway cars</td>
<td>1989</td>
</tr>
</tbody>
</table>
1. Notes on Red River Floods
   - dad's general notes on flood of 1950
   - in-depth appendix including first-hand accounts of the floods, dealing with impacts to the land as well as animals.
   - photographic accounts of 1950 flood, including aerial views of flood site underwater.
   - map of area of flooding on site.

2. City Engineers Office
   - Will have later flood data to 1984

3. Forestry, Water Resources
   - Notes on impact of floods after 1950 on vegetation, banks at the forks (ice damage)

4. Parker Canada
   - Bank profile will give evidence of hydrologic process.

5. R. Cuthbert Thorne
   - Wet/dry cycles giving indication of good growing seasons, flood years, etc. Climatic relationships to indicate for existing stand of vegetation in terms of wet, age, genetic factors.
   - Tree growth rings of 1950 to determine date.

6. Notes from Jennifer Stear
   - General vegetative succession which occurs on river banks in this area. Fisionomic profiles with reference to topsoil, climate to indicate potential vegetative growth on site.

7. Canadian Geographer
   - General information on vegetation and river channel dynamics. Note: only portions apply to this era.
Appendix D: List of Plants Typical to the Parklands and Deciduous Forests


### PARKLANDS AND DECIDUOUS FORESTS

**Aspen Groves and Forests**

- Aspen: *Populus tremuloides*
- Balsam poplar: *Populus balsamifera*
- Bur oak: *Quercus macrocarpa*
- Saskatoon berry: *Amelanchier alnifolia*
- Hazel: *Corylus spp.*
- Wild cherry: *Prunus spp.*
- Wild rose: *Rhus spp.*
- Wild red raspberry: *Rubus idaeus*
- Red-osier dogwood: *Cornus stolonifera*
- Willow: *Salix spp.*
- Sarsaparilla: *Aralia nudicaulis*
- False Solomon's seal: *Smilacina stellata*
- Pale vetchling: *Lathyrus ochroleucus*

**Riverbottom Forests**

- American elm: *Ulmus americana*
- Green ash: *Fraxinus pennsylvanica*
- Manitoba maple: *Acer negundo*
- Peach-leaved willow: *Salix amygdaloides*
- Cottonwood: *Populus deltoides*
- Red-osier dogwood: *Cornus stolonifera*
- Wood nettle: *Laportea canadensis*
- Virginia creeper: *Parthenocissus spp.*
- Ostrich fern: *Matteuccia struthiopteris*
- Moonseed: *Menispermum canadense*
- Poison ivy: *Rhus radicans*
BIBLIOGRAPHY


landscape development of "the forks"
LANDSCAPE DEVELOPMENT OF "THE FORKS".

31.709 Modality 11

Landscape Models.

Major Assignment

1984/85.

Peter Jordan.
INTRODUCTION

The purpose of this study is to examine the potential landscape development of a 13.5 acre site at the junction of the Red and Assiniboine Rivers - commonly referred to as "The Forks".

The Forks has played a key role in the evolution of Winnipeg. It has been of major significance in the communication, transportation and commercial developments of Western Canada, and as a result it has been declared a site of national historic significance and has been purchased by Parks Canada for conservation and possible development - see Figure 1 for Existing Site Location Plan.

Since the onset of human habitation and travel, The Forks has been a meeting place of special significance. The historical importance of The Forks is undeniable because over time it has served various societies and cultures - as a trading rendezvous, temporary encampment, garden plot, experimental farm, railway terminal facilities and marshalling yard, and concrete batching plant. As a consequence, the landscape has undergone considerable natural change, accompanied by adaptations initiated by the site occupants of the time. Much of the natural change has been focussed on the riverbank where frequent spring flooding and
accompanying ice erosion, followed by a rapid decline of water levels, have caused large pieces of the riverbank to fall away. The landscape development proposal for The Forks would enhance the recognition and utilization of the resources of this presently undervalued and unique location.

To assist in the identification of ways in which the site may be treated, an examination of the available historical information has been completed by individuals within the class. Various components of the site investigated included landform and vegetation, archaeological remains, historic elements and settlement patterns. Using this information, a number of development alternatives were examined and discussed, in terms of implications of the design philosophy and approach, and appropriateness to the site.

The research undertaken to this date has revealed a lack of existing historic base of significant landscape features and/or historical data to work from. As a consequence, the approaches to historic landscapes, of restoration, reconstitution, reconstruction and conservation, have been eliminated.

Six themes or options have been selected upon which to base a proposal for the landscape development of this historically significant site:
1. Archaeological dig site: on going.

2. Urban green space: experimental farm theme in the contemporary context/form e.g. allotment gardens or other agricultural or testing use.

3. Urban green space: theme of a "meeting place", including an interpretive vehicle to accompany a visitor reception centre on site.

4. Urban green space: natural vegetation based on historical and contemporary evidence.

5. Urban green space: preservation and interpretation of current land form and vegetation.

6. Urban green space: riverfront park connecting Bonnycastle Park west of Main Street and Core Area Initiatives north of Water Street.

This paper focuses on option 3, the development of The Forks as an urban green space, with an overlying theme of a "meeting place". However, my proposal includes features common to a number of the above listed themes. To examine this proposal, I have presented my report using the following guidelines:
1. Option: Urban green space - "meeting place" theme. A description of the assigned option.

2. Availability of information to proceed with the assigned option.

3. Potential for protecting historic resources and/or interpreting the historic past to visitors.

4. Attraction potential of the site.

5. Resource requirements for implementation and maintenance.

6. Recommendations as to the feasibility and desirability of the assigned option.

OPTION 3: URBAN GREEN SPACE - "MEETING PLACE" THEME.

The theme which has repeatedly arisen in the history of The Forks is that of a "meeting place". I define the term "meeting place" to be a space or a facility which enables and encourages the gathering of people who are attracted by an activity occurring at that location. This is exemplified in history, as The Forks was a meeting place for Indian tribes, a resting place and rendezvous point for the early explorers and fur traders, a disembarkation point for immigrants and travellers to Western Canada both on the railway and on water
transport, and a meeting place for the Red and Assiniboine Rivers.

Prior to 1736 the junction was a much sought-after site by the Assiniboine, Western Cree, the Ojibwa and Sioux indians, with no one tribe maintaining possession. Archaeological research has demonstrated that aboriginal occupation of The Forks may have commenced up to 2500 to 3500 years ago.

Between 1736 when Port Rouge, a small fur-trade post, was constructed by Monsieur de Louvière, until 1885 when the Hudson Bay Company abandoned and demolished their forts, the site was a prominent meeting and business place for fur traders and local settlers.

With the completion of the direct rail service between St. Paul, Minnesota and Winnipeg in 1878, and in 1885 the completion of the Canadian Pacific Railway, Western Canada was opened to large-scale settlement and development. Winnipeg was the logical focus to branch lines feeding the main transcontinental railway, and so was thus the key city in east-west trade. Up to the 1880's, river transportation, arriving and departing from The Forks, was significant. Only after the railway connection was made did the use of the river facility decline.
Between the 1870's and 1910's, the population of Winnipeg increased dramatically due to the arrival of immigrants. Sheds were constructed at The Forks to accommodate this influx, as the majority of immigrants arrived by rail or water transport.

As can be derived from this historical data, The Forks has always been a focus or "meeting place" of the people. It is my intention to develop the site as an urban green space with a similar theme, by providing facilities which will allow or encourage activities to attract visitors both during summer and winter, thereby injecting the life and vitality which the site experienced during the developing days of Winnipeg.


"...The ARC program is intended to re-open the land at The Forks and to make The Forks a gateway to our history and to the scenic and recreational opportunities of the Red River Corridor."

The proposal for this site included in Red River Corridor. Master Development Plan, see figure 2, is an excellent one as it encompasses the general theme of the "meeting place" whilst paying attention to relevant historic detail on the site through archaeological investigation and display. The central location of The Forks is excellent for visitors to this city. The Interpretive Centre would not only serve to inform the visitors of the historical significance of The Forks site, but it would direct them to other areas of interest within the Winnipeg/Manitoba area, for example, Lower Fort Garry, York Factory, Churchill etc. The urban park and river promenade should greatly enhance the area, and also provide the potential for a linking of nearby parks and thus facilitate a river park corridor system.

My proposal for the landscape development of The Forks has a similar basis to the ARC proposal, but carries the theme further through the provision of more activities for public use, and the inclusion of an on-going archaeological investigation program on the site. The park should be open for public use 24 hours per day, thus allowing activities at any time which will attract potential users. The proposed Visitor Reception/Interpretive Centre and archaeological digs would have restricted access.
Prior to the development of this site, it is imperative that a thorough archaeological and historical investigation be initiated so that all sites of potential significance are identified. The Visitor Reception/Interpretive Centre, other associated permanent structures and paths would then be located to avoid these sites. This would enable on-going archaeological investigations to be carried out, both for educational and historical purposes, without disrupting other activities within the park. It would also almost guarantee the safety of these sites from potential decimation due to construction work.

The following structures, features and activities are included in this urban green space proposal:

1. Visitor Reception/Interpretive Centre.

This facility would function as the primary "meeting place" or Information/Interpretive Centre for visitors to and local residents of Winnipeg. As proposed in the ARC project, a major Interpretive Centre at The Forks would serve as the focal point for the entire interpretive system of the ARC project - refer to figure 2. The objective would be...

"...to provide a major interpretive facility to relate to the role of The Forks in the opening of the Canadian West and to orient visitors to the resources and opportunities within the Red River Corridor."

In effect, what is proposed is a facility which will attract people to the site, to obtain a better understanding of The Forks and surrounding areas of interest in Winnipeg and outlying districts, and so according to my interpretation, it will be "meeting place". Included in this component of the site development will be - see figure 1-

a. an auditorium for audio-visual presentations of the historical "meeting place" activities occurring at the site and other Manitoba locations.

b. a classroom/laboratory for instruction to students of the history and archaeological investigations being undertaken at The Forks. Simple experiments may be performed on archaeological findings and archaeological techniques could be demonstrated to visitors. This will further reinforce the history and thus the "meeting place" concept for the site.

c. tourist information should be available for those visitors to the site who want to learn more of the tourist features in the Winnipeg vicinity.

d. a gallery/historical museum should display items uncovered during archaeological investigations on the site, and other items of historical significance to The Forks. This would be another attraction, and hence, another reason for people to come to the site - the "meeting place" theme would again be translated to the site user.
e. a dining room is necessary where many people are to
gather. Also, it serves as an ideal "meeting place" for
visitors to the site. The facility could be designed to allow
for flexibility in peoples behaviour, yet promote interaction
and "meeting"opportunities for the users.

f. washrooms.

These facilities ideally would be located to make
optimum use of the rivers and the views they offer. The
structures should be designed in a manner sympathetic to the
site, without necessarily having any historical reference.
The existing CNR roundhouse, located outside the boundary but
adjacent to The Forks site, has great potential for
conversion to a Reception/Interpretive facility, and so
investigations should be carried out to determine the
feasibility of its acquisition by Parks Canada. However, for
the purposes of this report, this possibility has not been
considered.

2. Amphitheatre.

An outdoor theatre for potential summer use by local
theatrical, musical and other community groups, would further
reinforce the "meeting place" theme for the site. It is
proposed that part of the Red River bank be terraced, thus
making use of the natural slope. A stage could be located
within the Red River or on its bank. User groups and
individuals would have great flexibility in the use of such a facility, and so the potential for it to attract people, and so function as a "meeting place", is great.

3. Bicycle/Pedestrian Path.

It is proposed that a bicycle/pedestrian path be used to physically link the proposed park corridor along the banks of the Red and Assiniboine Rivers. This path would pass through The Forks, and would enable access to downtown Winnipeg from surrounding residential areas. It would lead potential users of the site to the "meeting place".

4. River Wall/Water Edge Stabilization.

Within the boundaries of The Forks, the water edge should be stabilized or protected, with either a timber or rock retaining wall. This would allow more heavy public traffic without increasing the erosion potential of the riverbank, whilst providing possibilities for boat mooring, fishing etc. Boating on the rivers should be encouraged. The Forks is an ideal location for a tourist boat departure point. The development of a Water Taxi service should also be encouraged, and The Forks is an excellent downtown destination or "meeting place". By using the river and its bank as a circulation corridor through The Forks, we would be reinforcing and replicating some of the historical "meeting place" concepts for this site.
5. Archaeological Sites.

It is proposed that the site be grassed and planted, with commemorative plaques located in those places most likely to be the sites of forts, and other historic structures. When financial resources become available, and when knowledge of the site improves, these sites may be excavated. As part of the site interpretation program, a sequence of archaeological digs should be conducted, and be accessible for public observation and education. At the very least, valuable grassed parkland would be provided.

The incorporation of archaeological dig sites and the archaeological interpretive program will promote the "meeting place" theme through the uncovering of the layers of history that exist on the site. As has been discussed, the site's history has been one of a "meeting place" and so the archaeological component of this proposal will reinforce the theme.

6. Other Features.

Parkland and picnic facilities provided on the site will give site users a reason to be there. These facilities will attract users and thus provide a venue for "meeting" or gathering.
Site furniture such as lighting standards, seating units, picnic facilities, signage and litter bins must also be considered during the design phases. It is essential that these details be consistent throughout The Forks, and along the proposed bicycle/pedestrian path, for a sense of unity and continuity. Furthermore, the grouping of such furnishings and activities should encourage the gathering of site users, and therefore reinforce the "meeting place" theme.

During winter, skating should be encouraged on the Red River, conditions permitting.

Carparking must be provided for visitors to The Forks.

Refer to figure 5 - Proposed Design Concept.

AVAILABILITY OF INFORMATION TO PROCEED WITH THE ASSIGNED OPTION.

Although the historic resources available, including archaeological findings and other documentation, are of significance, many aspects of the site's history and development remain unanswered. The most significant compilation of existing information on the site is the report prepared in 1980 by Rodger Guinn for Parks Canada, titled "The Red-Assiniboine Junction, A Land Use and Structural
History, 1770-1980". A broad understanding exists of the activities and most probable types and locations of structures on the site. However, there is a distinct lack of detail, but this may be supplemented through further archaeological and historical investigation.

The archaeological investigations carried out by Parks Canada during 1984 have yielded much new material. However, further investigations are necessary to expand upon our current understanding of this historic site, especially in the context of a "meeting place". The exact locations of sites of potential archaeological value must be determined to mitigate the potential of disturbance to them during the construction of the park and facilities. These can only be determined following more extensive historical and preliminary archaeological investigations. Once again, these investigations would be of value in understanding further the "meeting place" activities which have occurred at the site.

Very little documentation is available concerning early plant species on the site. An inventory of existing vegetation should be carried out immediately, in conjunction with historical research into the vegetation types and patterns at The Forks.
Acquisition of land to create the river park corridor system is necessary before the proposed scheme may be implemented. Ideally, it should be possible for the bicycle/pedestrian path to link these green spaces without encountering major traffic hazards. In conjunction with this, conversion of the existing CN railway bridge into a bicycle/pedestrian bridge is essential to link the north and south sides of the junction. Of course, this component of the proposal requires close liaison and co-operation with the City of Winnipeg, the Canadian National Railway and the ARC Management Board. Their attitudes to the proposals must be ascertained before developing the concept any further.

Although activities which utilize the river during summer and winter have been proposed, investigations must be carried out to determine if the river is capable of accommodating those activities. For example, are the ice conditions on the Red or the Assiniboine Rivers suitable for ice skating during winter? Is the river safe for boating?

Geotechnical information concerning the condition of the river bank must be determined before implementation of the river bank retaining wall proposal.
POTENTIAL FOR PROTECTING HISTORIC RESOURCES AND/OR
INTERPRETING THE HISTORIC PAST TO VISITORS.

Recognition of the archaeological significance of the site, and the implementation of an on-going archaeological investigation program, are important to protecting the historic resources and in interpreting the historic past to the visitor.

The approach of using archaeological excavation as part of the site interpretation program is essentially a dynamic one as the archaeologists will be continually unearthing new material for display and interpretation. The problems associated with this approach are that the open pits must be protected from floods and rains, and they must be offered some form of security protection. In addition, the interpretation program would have to be periodically updated, but this can only create the opportunity for repeat visitation.

Assuming that further research can shed more light upon the locations of sites of archaeological significance, then the careful placement of new structures and pavements on the site will enable access to and interpretation of those sites in the future.
The education of the public to the work of the archaeologist, through the presentation and promotion of their work, is considered an important way in which the historic past of The Forks may be interpreted to visitors.

By encouraging the use of this site in the 1980's as a "meeting place" we are recognizing and, in a subtle manner, interpreting the historic past to visitors. The "meeting place" concept of the past use of The Forks is strong and would be reinforced should this proposed option be implemented.

The historic past, both of The Forks and for Winnipeg and surrounding areas, can be interpreted to visitors within the Reception/Interpretive Centre. Audio-visual presentations, lectures, classroom/laboratory sessions, static displays and art displays within the gallery, would be available for the public to enjoy and participate in. Furthermore, one of the functions of this facility is that of an Information Centre to direct visitors to nearby sites if significance.

Apart from the exposed archaeological diggings and known locations of structures on The Forks site, both of which may be interpreted by the use of plaques at those locations, and the interpretation media within the
Reception/Interpretive Centre, it is proposed that the historical significance of The Forks not be recognized. Plant types and formations would not be interpreted on site, but could be referred to inside the Interpretive Centre.

ATTRACTION POTENTIAL OF THE SITE.

The location of The Forks in the heart of the City of Winnipeg creates an excellent opportunity for the development of an open-space park in downtown Winnipeg. For visitors to the Winnipeg area, it is ideally situated for a facility which can function as a "meeting place" and information centre from which the scenic, historic and recreational opportunities of Winnipeg and environs can be explained. The development of a linear riverbank park which is easily accessible from the office and factory areas in the downtown core area would be a tremendous asset to the City of Winnipeg.

"...Approximately 27,000 people live and work within a one mile radius of The Forks, and 19,000 within a fifteen minute walk of the proposed park development...Using the river as a circulation system, by encouraging the development of an urban Boat Bus or water taxi system and the development of bicycle trails along the waters edge, will open up, the scenic beauty of the riverscape to move people and further enhance the attractiveness of the downtown urban environment." 3

The educational aspects of this proposed development, the Interpretive Centre and the on-going archaeological digs, would attract and interest not only students, but visitors of all ages. The classroom presentations, archaeology testing laboratory, audio-visual presentations and on-site inspections of the archaeological digs, would be of benefit to all who visit the site to obtain an understanding of the layering of history of The Forks. In addition, visitors would learn more of the functions and techniques of the archaeologist. This would contribute to the visitors understanding of the on-going essence of change in the history of this site.

The proposed development is a multi-functional and multi-seasonal facility. In broad terms there would be visitor information services, historical interpretive materials, passive and active recreation opportunities, summer and winter activities, and day and night use. In effect, there is great potential to attract people of all ages, interests and backgrounds to the "meeting place" of The Forks at all times of the year.
NATURE OF RESOURCES REQUIRED TO IMPLEMENT AND TO MAINTAIN ONCE IMPLEMENTATION WORK HAS BEEN CARRIED OUT.

The services of the following professional disciplines will be required during the design and implementation phases of this project:

* Landscape Architects
* Historians
* Archaeologists
* Architects
* Engineers
* Interpretors

In addition to Parks Canada, the following bodies should be consulted and encouraged to contribute to The Forks project:

* ARC Management Board
* City of Winnipeg
* Canadian National Railway
* Winnipeg Core Area Initiative Commission

As previously discussed, the input of historians and archaeologists is imperative at this early stage in the design process. Without further knowledge of the history of the site, and the exact locations of significant elements
within the site, there exists the potential of irreversible damage to these elements during the implementation of the design proposal.

Security requirements for the site would be limited to the on-going archaeological dig sites and to the Reception/Interpretive Centre. All other areas would be accessible to the public.

Interpretive staff would be required to conduct visits to the dig sites, and also to supervise activities within the Reception/Interpretive Centre. In addition, staff would be necessary to operate the Reception/Information component of the facility, along with the dining and service accommodations.

With the exception of the archaeological sites which would demand a high level of maintenance, the maintenance requirements for The Forks would be similar to most metropolitan parks. The materials used and detailing methods implemented could be selected to minimize on-going maintenance requirements. This proposal does not require restoration or integration of historical elements within the design, and so current day techniques would be utilized.
RECOMMENDATIONS AS TO THE FEASIBILITY AND DESIRABILITY OF THE ASSIGNED OPTION.

A major determinant in the feasibility of this project is cost. There is a great deal of construction work involved in the proposal, and hence Capital funding is required. Although no costing exercise has been undertaken, the Capital costs for construction and the Operating costs for operations and maintenance, must be met by Parks Canada with the potential assistance of a number of other organizations previously mentioned. The only opportunity for revenue within this scheme is from the dining facilities. Hence, the financing arrangements for this project would be a major consideration in determining the projects feasibility.

Although the provision of a classroom/laboratory for the demonstration of archaeological testing procedures etc. is desirable, it may not be feasible due to cost. Also, Parks Canada currently has access to at least two other such facilities in Winnipeg, and so the construction of a third may be difficult to justify.

A report on the existing situation and potential tourism opportunities for Winnipeg has been completed for Destination Manitoba by the IBI Group. On the basis of their preliminary assessment, the Consultants suggested that four
attractions be carried forward for more detailed concept
development and assessment. Two of these attractions -

a. multi-use river front attractions at The
Forks

b. historical rail and paddlewheel steamer
along the Red River between downtown Winnipeg
and Lower Fort Garry,

- have direct relationships to The Forks. Obviously the
Consultants consider this site as highly desirable for
tourism to the Winnipeg area. Further information regarding
their study should be obtained to assess the feasibility of
the integration of the proposed Forks landscape concept with
the objectives of the study.

The "meeting place" concept for the landscape
development of The Forks recognizes the lack of accessibility
of the riverbank to the public and attempts to maximize the
potential of a currently under-utilized resource...

"...While a substantial amount of riverbank
land in the City of Winnipeg is now in public
ownership, opportunities to walk, ski or cycle
along the riverbank are restricted by the
discontinuous and under-developed nature of
much of the public land. Boat access is also
severely limited..." 4

4 A.R.C. Management Board, Red River Corridor, Master
Development Plan (Winnipeg: A.R.C. Management Board, 1981),
p. 8.
The proposed project is definitely feasible and I consider it necessary to upgrade one of the most prominent and historically significant sites in Winnipeg and thus save it from total self-destruction. The concensus and co-operation of all previously listed interested parties is paramount to the successful implementation of the "meeting place" proposal.

As a visitor to Winnipeg, I can see that a facility, such as that proposed, would be patronized very well at all times of the year. The information facility would be invaluable to a tourist, and especially so if it is located at a site of historical significance. The provision of a central agency to synthesize and interpret the sites of historical importance in the Winnipeg area is definitely needed.

Finally, I consider that The Forks development would be a welcome extension of public facilities for a developing city.
BIBLIOGRAPHY


APPENDIX.

Figure 1 - Existing Site Location Plan.

Figure 2 - Red River Corridor. Master Development Plan.

Figure 3 - "Meeting Place" Design Concept Components.

Figure 4 - Visitor Reception/Interpretive Centre Components.

Figure 5 - Proposed Design Concept.
The Forks site, currently under the control of Parks Canada.
figure 2
RED RIVER CORRIDOR. MASTER DEVELOPMENT PLAN.

Reference: A.R.C. Management Board, Red
Red River Corridor. Master Development Plan
figure 3
"MEETING PLACE"
DESIGN CONCEPT COMPONENTS.

figure 4
VISITOR RECEPTION/INTERPRETIVE CENTRE COMPONENTS.
URBAN GREEN SPACE:

RIVERFRONT PARKS WITH HISTORICAL ELEMENTS

DONE IN PARTIAL FULFILLMENT FOR

LANDSCAPE MODELS 31.709

HISTORIC LANDSCAPE PRESERVATION

PRESENTED TO: Susan Bugay

PRESENTED BY: Heather Anderson

April, 1985
Landscape models, 31.709, an advanced history seminar course, has over a two term period explored concepts and practices relevant to historical park planning. As a practical assignment six class members explored various potential historical park development for the junction of the Red and Assiniboine Rivers in Winnipeg, known as The Forks. Reforcing Rodger Quinn’s document “The Red – Assiniboine Junction, A Land Use and Structural History 1770-1980”, each class member gained a general knowledge of the forks historical past. A greater depth of research followed after each member chose one specific time period to research further.

Accumulating the groups research information, six development options were suggested to be explored during the second term of work. One of the six options involves exploring the potential development of the forks as an “Urban Green Space”, a river front park connecting into Bonneycastle park south and downtown river front park north. Historic elements were to be considered as a part of the park development.

From the various approaches to historical park planning, reconstitution, reconstruction, restoration and conservation have been eliminated. The lack of existing historic base of significant landscape features and/or historical data serves the four above options unsuitable for future park development. Hence, park development will proceed through preservation and/or rehabilitation.

Approaching the forks future site development within the context of an urban open space development, while at the same time expressing historical elements through preservation and/or rehabilitation presents specific cultural, economic,
land use and historical importance questions. Decisions about each of the four areas must be made before specific park development can begin. The development options outlined in the remainder of this paper, rests on one set of decisions made about the following questions.

**Cultural**: Will one specific culture take precedence in historical interpretation?

**OR** Will there be a cross-section of cultural experience built into park interpretation?

**Economic** Will the park be built, maintained, and managed on government funds?

**OR** Will the park aim towards self-sufficiency through private business and economic income generated through park use?

**Land Use** Will the ensuing park development encourage an active rejuvenation of the historic liveliness the site has known involving, business, people, transportation etc.?

**OR** Will the natural evolution of the park site be continued? Can it be left in a state of peaceful rest as a quiet scenic spot within the urban core?

**Historic Elements** Will there be further archeological investigation to uncover information about historical essence of the site?

**OR** Will future park development begin immediately, using the existing information uncovered about historical elements?
One solution explored in this paper rests on a set of decisions made from these questions. However, before outlining the development decisions made it should be outlined that a more extensive discussion about Parks Canada objectives in light of economic decisions may alter any decision made about the future park development. Presently, objectives stated in the Canada A.R.C. Manitoba, Red River Corridor Master Development Plan, "The development of The Forks Riverbank Park Project is intended to create a scenic recreational area that will complement the Visitor Interpretive Center, provide access to the corridor and create the City's urban edge onto the River."

The major park development will be funded by ARC monies as a decision of Federal-Provincial-Municipal employees representing a voice for the desires of Winnipeg residents at large. It should be considered and encouraged that any future park development for the forks be set in place with support, encouragement and feedback from the people who will be using the site. One of the objectives in developing the Forks is to reverse the negative impressions presently felt about the site. This should be encouraged through greater public awareness, participation and certainly enthusiasm of Winnipeg residents throughout development. Designing a wonderful park, hidden along the urban fringe of Winnipeg's core has tremendous potential for the city as a whole. But creating a "White Elephant" costing the taxpayers money to support is the mistake which must be avoided. Successful development and
future survival of any development at the Forks site will
depend on the people who do or don't use it. On the subject
of Historical Preservation Finch states "Today modern
technology has greatly extended our capacity to rescue old
artifacts. But how much money, how much expertise, are to
be expended...will depend upon the artistic or cultural value
assigned to it by society."

Hence this development proposal will look at not only A.R.C.
objectives of the site, but also what is a pretentious
assumption about society, particularly Winnipeg Manitoban residents
as a whole. (Use an economical, pragmatic view of park
development.)

Recreationally, The Forks site offers specific park
qualities which are highly desirable to Winnipeg residents.
Economically, to function as a viable park site there must be a
source of economic resource complementing park development.
Culturally, there is a significant past which provides the
basic for Winnipeg's heritage. Idealistically to span the years
of historical cultural importance would serve best: information
and interest to all park users.

Hence as one development proposal for the historical park
planning of the Forks site, it will be assumed that:
Culturally, we will try to present a cross section of various
practices and peoples, associated with the historic past.
Economically, we will try to structure self-sufficiency,
generating potential income source to maintain the park.
Land Use will be directed towards rejuvenation of the vibrant
liveliness, heavy use, and progressive development encouraging
people use.

Historic Elements will be expressed as present knowledge and information stands.

It must at this point be reiterated that each of these decisions have been made from a pragmatic, economic point of view. From here we will see what effect such decisions could have on historical park development.

DESCRIPTION OF DEVELOPMENT OPTION

Over the past 150 years the Forks has risen to glory and fallen into decline from aboriginal occupation up to the advent of the rail in 1875, the junction has been important due to it's location in a water transport system. The extensive historical past outlined by Rodger Quinn's report outlines the expanse of specific site uses such as experimental farming, trade posts, immigrant sheds etc the list goes on. The one use which transposes the cultures and decades revolves around the water, specifically its use for transportation.

The historical essence of the forks as a water transportation center has the potential for re-development in a recreational motif. As a very broad concept, developing the Forks to physically support the use of a full range of service/recreational crafts which had at one time accessed the site, developing a prairie boat museum displaying and using the historic watercraft the transportation route become important for.

Melding the broader concept of a boat museum into the general objectives of A.R.C. and the assumed concerns of taxing residents, a proposal for future site development should include these objectives:
1. There is a unique, vibrant experience developed for park users.
2. The park development responds to the needs of urban core offering a relaxing, open green space available for recreational use of various natures.
3. The park is self-sufficient and economically viable to operate.
4. The essence of the historical past is captured within the modern park development.
5. The Forks park site links into adjacent parks: Bonnycastle Park, Downtown Riverbank park, The South Point, and St boniface River Bank Development.
6. The development co-ordinates the developments along the Red River Corridor system.

Suggested specific developments which would fulfill the stated objectives are as follows:
1. Development major docking facilities to access water craft such as barges, paddle boats, cruise ships, sailing craft, canoes, etc.
2. Developing a dry dock display of historic crafts.
3. Offering a meeting place with food, drink and interpretive information including model displays, graphic displays and other relevant messaging to express the past heritage of the site.
4. Open green space developments for park users.
5. Bank redevelopment to a two level bank at the water's edge. Bank stabilization along the water's edge.
6. A water feature to enhance the site development, attract people to the area and aliviate hot summer conditions.
7. A site parking facility (to be hidden from view).
8. Vista developments to enhance views of historical elements i.e. St Boniface Basilica, the station.
9. Bicycle and foot paths linking the Forks site to adjacent parks.
10. Signage along Main Street to indicate park activities.
11. Future access developed thru the CN station, allowing Broadway to extend across the east yards down to the waters edge.

The remaining body of this paper will examine various implications involved in developing the described urban Waterfront Park at the historical Forks site. The following questions will be addressed:
1. Identification of the types of information available to proceed with development and whether this information is or could be made available.
2. Assessment of the potential for protecting historic resources and/or interpreting the historic past to visitors.
3. Examination of the potential to attract people to the area.
4. Assessment of the nature of resources required to implement and maintain the park development.
5. Recommendations as to whether the assigned option is feasible and desirable within the above criteria.
Specific information will be required to pursue the development proposal outlined. Specific development statements for various aspects of the proposed park will serve to establish exactly what information will be required.

First, a breakdown of the land developments proposed. Then a general list of information required to fulfil the plan.

A.1. CORRIDOR DESCRIPTION

The Red River Parkway System stretching from the Netley Creek in the North to the Salle River South of Winnipeg, will be developed in 17 locations of historical, recreational and cultural significance. The Forks site located at the junction of the Red and Assiniboine Rivers, approximately one quarter of the distance of the corridor from the south, will be developed as the focal point tying the historical importance of the corridor together.

Recreational travel including boating, cycling, walking, and cross-country skiing, will be developed through on the Forks site in keeping with the essence of the ARC recreational objectives.

Scenic resources through development of vistas along the length of the corridor, will be continued through the Forks site to improve the visual quality of the urban river bank. Corridor continuity will be enhanced through consistent but unique riverbank enhancements.
The Forks will be developed as the "hub" or key element for the corridor interpretation. Central interpretive feature will be designed into the plan to accommodate this objective. Site landscape developments will express the multifaceted historical use of the site.

A.2. LOCATION WITHIN WINNIPEG

At the confluence of the Red and Assiniboine Rivers, within the heart of downtown Winnipeg the historical Forks site sits as the industrial backlands of the CN station. On the north-west bank of the river junction, this park site is isolated from the urban core by the present above grade.

Downtown riverbank park north of the Alexander Bridge will be linked into the system. This will be reinforced as the Banatyne Park and the Old Market Square district connection, it will serve as an important access into the Forks Site.

On the south, following the riverbank, Bonneycastle Park, will be linked into the riverbank system. Linkage to this present park area is clearly desirable to increase park use on both sites.

On the east, the Assiniboine River separates the Forks from St Boniface and the historically important St. Boniface Basilica. Visual connection to the site is important and will be enhanced thru the development of a vista on the Forks riverbank.
The CNR bridge will be pedestrianized to link the Forks with "Southpoint". From the Provencher Bridge vehicular access shall be accommodated thru the development of a vehicular turning approach and the eventually removal of large bridge structures obstructing the view as one approaches the Forks site from over the bridge.

Direct downtown connection through a formal future access, through the union station, has potential for development pending the relocation of the CN East Yards and rail lines.

ENTRY NOTICE

ENTRY

1. From downtown Winnipeg, at water and Main Street as well as Assiniboine and Main Street, there will be Park signage and/or indicators allowing recognition of streets which access public into the historical Forks Park Site. This messaging should not be inconsistent with that proposed at Bannatyne and Main leading people towards downtown riverbank park. Future development would encourage the use of the CN Station as a formal entrance into the park.

2. A higher level of welcome or formal entry will welcome visitors as they enter the actual park site ground.

Transition from downtown core to natural riverbank park land is crucial to developing a positive attitude. Entry right up to parkland must be well groomed, tidy and very structured to reverse the present image of the area being the industrial
backlands of the Union Station.

CIRCULATION

Three specific "Welcome Mats" should be incorporated in the Forks site plan.

- One will accent pedestrian travel, found at the end of the proposed Food Bridge.
- One will accent nautical travel, found at River Bank Edge in the form of a major dock facility.
- One will accent automobile travel, found at the end of Christie Road.
- Future formal entry thru the CN station will be developed as a major focal drawing in the form of a water feature. Approach from the Provencher Bridge will also focus on this feature.

Circulation

- Two major Car Park lots should be developed on the site, one at Cristie Road and one off Assiniboine East before the Foot Bridge.

Circulation thru the site should be two way, continuous to allow a loop to be formed thru the site. Cars should be kept at a minimum, close to the CN tracks, the urban edge of the park.

Pedestrian circulation should allow access to all site features, but not damage historical artifacts. Walkways should be developed around found artifacts and what archeologists believe may be artifacts. Walkways should not be paved to reduce potential of irreversible below ground damage. Pedestrians will be encouraged to walk along boardwalk and
docks at the River's edge.

**VISTA SIGHTLINES**

Vistas to historically significant areas will include:

- The Rail Yards.
- Union Station.
- St. Boniface Basilica.
- The River and Docks.
- The two level bank.
- Historical Building Locations.
- Upper Fort Garry Gate.

Vistas development should allow historical elements to be viewed at specific points but not from all areas of the site. This will allow an interpretation of singular elements rather than conjuncture of many elements.

--- DOCKS ---

Docking service for a variety of craft should be developed on site in one or two locations.

Smaller one man craft such as canoe, windsurfer, kayaks at one site along the Assiniboine, and larger power operation vessels such as power boats and cruise boats at a second location along the Red River. Sailing vessels docking along Boardwalk for greater viewing opportunity from the park back drop.
Winter storage, gas service, boat launching, and other adjunct operations should be evaluated for economic suitability after initial dock operations have stabilized.

Guided tours or instruction may be integrated as an economic benefit and mode of historical interpretation.

**CLUB HOUSE**

Clubhouse should be developed as a self-sufficient operation offering modern attractions of restaurant, lounge, bar, dance floor, hotel rooms, pool (optional), interpretative display.

Decor should integrate historical past into atmosphere thru views, interpretative display room, wall displays.

**VEGETATION**

Approaches for vehicles should be developed with formal, urban, ordered vegetation plans. Upon entry into the Park vegetation patterns will "loosen up" to take on natural growth and succession patterns.

Buffer vegetation will conceal CN East yard tracks from the park development as well as other "Off site", unsightly landforms and developments.

(Buffer car lots also.)

Vegetation will be removed from Riverbank where:

- Pedestrian paths will be developed.
- The second level bank will be re-established.
- Where docking facilities will be developed.
- Where vista to St. boniface will be enhanced.
General ground cover will not be imported grasses, but at minimum native grasses and ground cover which has been established to grow on natural river bank terrain. Preferably maintenance free. Definitely not manicured.

Vegetation similar to Downtown River Bank Park and Bonneycastle Park will enhance the continuity and linkage of the Riverbank Corridor system.

**LINKAGE**

**IDENTIFICATION OF INFORMATION**

<table>
<thead>
<tr>
<th>INFORMATION REQUIRED</th>
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<tr>
<td>Land Ownership of - South Point - Land under Bridges - Food Bridge to South Point</td>
<td>- CN Railway and City of Wpg - City of Winnipeg - CN Railway</td>
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<td>Ability to attain permission for development or purchase land not owned by Parks Canada or gain access thru it.</td>
<td>- Technical Steering Committee Co. for the Forks involving CN, City of Wpg, and Urban Affairs.</td>
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<td>Possibility of Developing Bicycle and Walking Trails beneath bridges - Safety - Clearance - Noise.</td>
<td>- Ian Dickson of Manitoba A.R.C.</td>
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<td>Type of Path system used in adjacent parks - path development.</td>
<td>- Lombard North Group and Site Visits.</td>
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<td>How to make construction recommendations for future construction.</td>
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<td>Symbol and Signage Restrictions or requirements for Main street at Water and Assiniboine.</td>
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<td>Ability of CN Station to traffic site visitors.</td>
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<td>Cooperation of CN to allow usage of CN Station for future entrance.</td>
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<td>Signage used or proposed along Bannatyne to attract people to downtown Riverbank Park.</td>
<td>- Ken Kelly</td>
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<td>- Historic Projects Coordinator</td>
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<td>- Design Control by law for City of Wpg. Warehouse District.</td>
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<td><strong>CIRCULATION</strong></td>
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<td>Expected visitor capacity to scale parking lots.</td>
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<td>Location of Known artifacts Location and suspected location.</td>
<td>- Peter Preiss, Parks Canada</td>
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<td>Ability to secure Boardwalk along the Riverbank.</td>
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<td>Requirements for Boat Launch Facility.</td>
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<td>Lighting appropriate for various circulation modes.</td>
<td>Health &amp; Safety Requirements, Provincial</td>
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<td>Material found on foot paths in downtown Riverbank Park and Bonnycastle Park.</td>
<td>and Municipal</td>
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<td>Where are the best site lines to reveal historical elements</td>
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<td>- St. Boniface Basillica</td>
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<td>- Union Station</td>
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<td>- CN Rail Yards</td>
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<td>- Upper Port Garry Gate</td>
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<td>- The second level Bank.</td>
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<td>- Boat Docks.</td>
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<td>Service facilities associated with dock development i.e.</td>
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<tr>
<td>Development of interior decor to express forks site heritage. Must know design of building required display space. Stress load which bank can withstand to hold structure. Ensure there are no underground artifacts destroyed. Appropriate location for sitting structure i.e. view, winds, access.</td>
<td>Architect proposal consultation with Graphic Artist and Interior Designer.</td>
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<td><strong>TOPOGRAPHY</strong></td>
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<td>Elevation alterations due to railway fill and cement Co. fill</td>
<td>- Parks Canada Archeological Digs</td>
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<td></td>
<td>- NPR Special Collection #81 1889</td>
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<td>- HBCA Charles Bridges to William Armit 1888</td>
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<td>INFORMATION REQUIRED</td>
<td>SOURCE</td>
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<td>Existing Elevations.</td>
<td>- Manitoba Free Press 1889.</td>
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<td>Problems for circulation</td>
<td>- City of Winnipeg -</td>
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<td>Advantages for view.</td>
<td>Topological Survey</td>
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<td>Flood Plain level.</td>
<td>- Site visit.</td>
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<td>Profile of Historic two level bank.</td>
<td>- Wpg. Interim Flood Risk Plan #M-10</td>
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<td>Possibility of Removing fill to establish a two level</td>
<td>- George McPhillips Plan of</td>
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<td>bank.</td>
<td>Wpg. 1881</td>
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<td>Bank Erosion Problems</td>
<td>- Greg McCollough</td>
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<td>Fresh Water Institute</td>
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<td>Methods of Bank stabilization.</td>
<td>- Greg McCollough</td>
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<tr>
<td>VEGETATION</td>
<td>- US Core of Engineers</td>
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<tr>
<td>Soil Type</td>
<td>Beach Erosion Board</td>
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<tr>
<td>Present Vegetation</td>
<td>Waves, Beaches and Shoreline Protection Manual</td>
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<tr>
<td>Past Vegetation Importance</td>
<td>- Manitoba Soil Survey 1984</td>
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<td>Soil Engineers</td>
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<td>- Wpg Forestry Inventory</td>
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<td>- Wpg Air Photo Collection</td>
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<td>- Birds Eye View 1884, 1880</td>
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<td>- Manitoba Free Press 1872</td>
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<td>- Hinds Topo Map 1858</td>
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<td>- Historical Atlas of Man. 1836</td>
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<td>- Arrowsmiths Map 1816</td>
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<td>Natural vegetation typical to similar riverbank conditions.</td>
<td>- Miles MacDonnells Diary 1870/71</td>
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<td>Wind Direction Zones to Buffer. Site lines to Open.</td>
<td>- Jennifer Shay, Dept of botany, U of M</td>
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<td>- Site Visit</td>
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<td>- Site Visit, Review Master Plan</td>
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Assessing the potential for protecting historic resources and/or interpreting the historic past to Visitas.

Landscape development must be sensitive to the historical artifacts which have been uncovered through archeological investigation. Specifically, all circulation paths should work around these sites, not directly over. Before future park development commences test archeological digs should be undertaken where new buildings will be located. Building of roads, docks and buildings must be sensitively sited to ensure heavy use areas do not coincide with known underground artifacts. These artifacts underground will be stored in preservation until new archeological techniques, and/or economic funding makes it feasible to continue research.

Expressing the found historic resources without exposing them to the elements of air and wind, can be done in a symbolic manor. Berming can trace out sites of historic buildings or land sites. New building can be erected in place of historical ones, not in replication of them but in abstract representation.
that there once was a specific historic building on the same site. All buildings and berms would be valuable as historical landmark indicators. To make them economically feasible such developments should be built into functional use required for park use, i.e. the buildings may perform functional use of offering restaurant and related facilities.

OR

Berming may be built to enhance seating or specific views to lookout points.

The major historic interpretation would be developed through displays in the boat or dock museum. The specific cultural heritage it will display should serve as a medium for all of the cultural groups involved with the Forks historic past. Specific historic interpretation programs would be designed to accompany such a development.

POTENTIAL TO ATTRACT PEOPLE

The general landscape concept presented offers potential elements of unique attraction to park users.

- A large, scenic green space within the core
downtown Winnipeg. A riverview quality supporting natural vegetation allowing the water element to enhance the park.

- A new view of downtown Winnipeg, providing new interpretations in a sheltered, noise free, (from traffic) atmosphere.

- Major boat docking, clubhouse and associated facilities. A unique water element where boating can be observed from both the outdoor park back drop or inside the relaxing clubhouse atmosphere.
- A major public dock development within the
  Wpg core allowing winter storage, refuelling etc.
  /Not before publicly available within the
city core.\n- Scenic boardwalk conditions within the pedestrian
  path linking Bonnycastle Park and Downtown Riverbank
  Park with the Forks site.
- Winter and summer recreational facilities operated
  and/or organized from administrative offices within
  the clubhouse.
- Attraction of Riverboat docking, providing a city
  central port for entering and leaving tour boats.
- Free inner city parking for park users.
- A display of cultural past through the boat museum
  and associated displays.

Various resources are required to implement the
landscape concept presented. These range as follows:

1. Engineers
   - Bank Stability - Soil
   Engineer.
2. Architect
   - Clubhouse Design.
3. Landscape Architect
   - Site Analysis, Master Plan,
   Vegetation Plan, Topography
   Changes.
4. Graphic Artist
   - Historical Interpretation
5. Interior Designed
   - Construction of Site
6. Interpretive Consultant
   Developments.
7. Construction Crews
8. Feasability Analyst
   - Economic Viability

9. Planner
   - Development within city context.

10. Marketing Analyst
    - Projected use.

11. Transportation consultant
    - Integration into infrastructure.

12. Hydrological Consultant
    - Bank Stability, Dock Development.

13. Soils Analyst
    - Site Conditions.

14. Private Business Leases
    - Restaurant & Boat Rentals & Guides.

15. Water Safety Consultant
    - Regulations for Design capacity.

16. Archeologists
    - Pre building Dig under proposed building site.

+ = 1st CONTACTS
0 = 2nd STAGE CONTACTS
= 3rd STAGE CONTACTS
Once implementation work has been carried out various resources are required to maintain the landscape development.

On a daily basis:
1. Park security (day & night).
2. Park maintenance i.e. garbage pick-up cleaning.
3. Park guides for crafts, and craft rentals attendant.
4. Boat Launch operation.

On a yearly basis:
1. Dock repair.
2. Dock removal/winter storage.
4. Lighting standard repair.
5. Vegetation pruning/winterizing.
Evaluating the feasibility and desirability of this option as a historical park of national significance.

**ADVANTAGES**

The park provides a relaxing green space along riverfront property open to all public use. There is a new view of the downtown area, seclusion from noise of wind and perhaps the most exciting of all a new harbourfront alive with excitement of life of recreational water travel.

The historical essence of the Firks - a center for water transport is continued through the modern dock development prepared to handle a variety of craft. The continual theme has been important for over 4000 years.

Historical resources intended to be used include:

1. Saint Boniface Basillica
2. A Two Level Bank.
3. Docking Facilities.
4. CN Station and East Yards.

Current technology for park planning, development and construction will allow the most cost efficient means for Park development. The introduction of private business within the park site will aid in the economic self-sufficiency of the total operation.

Perceived users will attend the park for the natural green space along the river, the view of the ships and boats use of the restaurant and bar. Educational use can be built into the interpretative display within the clubhouse and boat museum.
DISADVANTAGES

One major concern will be the connection of the Forks site to the downtown core of Winnipeg. The present CN East Yards create a major barrier forcing park users to enter the park from the periphery. This overcasts a feeling of backdoor entrance rather than a formal front door welcome which may potentially be developed with the removal of the CN East Yards.

The site grounds will require major clean up, regrading and bank stabilization. Simple economics for development may be overwhelming.

Historical interpretation is confined to displays within the clubhouse and boat museum. Not all of the Forks history can be included. Important events such as the two year experimental farm effort in 1838 and the market gardens may not be expressed fully. Two suggestions to consider:
1. Change the clubhouse display periodically.
2. Make available an illustrated history of the Forks site to be sold from the clubhouse (subsidized by Parks Canada).

Information about original landform and vegetation is minimal. Re-establishing a two level bank will create a historically imperfect bank. But at the same time it is representative of the era up to 1875. The bank regrading and dock development should take on a very modern texture and atmosphere to avoid being confused as an exact duplication of the historical element it is intended to represent.