



## **Heritage Resource Impact Assessment for the City of Winnipeg Newton Force Main River Crossing on River Lots 18 and 69 In the Parish of Kildonan**

ARCHAEOLOGY ASSESSMENT SERVICES FILE # AAS-22-19466  
ARCHAEOLOGICAL PERMIT A87-22  
SITE/BORDEN DESIGNATION DILg  
KGS FILE # 22-0107-021

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November 8, 2022

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White Spruce Archaeology would like to thank the Impact Assessment Archaeologists (from Historic Resources Branch) and Tristan Eldridge C.E.T. from KGS Group for their assistance with this project.

## Executive summary

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KGS Group (KGS) contacted White Spruce Archaeology (WSA) on behalf of the City of Winnipeg (CoW) to conduct a Heritage Resource Impact Assessment (HRIA) for the Newton Force Main River Crossing located on River Lots 18 and 69 in Parish of Kildonan, which is currently known as Kildonan Park and Fraser's Grove Park (map 1 and 2).

The assessment occurred on October 20th under optimal conditions.

The Historic Resources Branch (HRB) examined the location, River Lots 18 and 69 in Parish of Kildonan, in conjunction with Branch records for areas of potential concern. The potential to impact heritage resources was deemed high in this area, therefore, the HRB had concerns with the project.

Under Section 12(2) of The Heritage Resources Act of Manitoba, being the governing legislation for HRB, if the Minister of Sport, Culture and Heritage has reason to believe that heritage resources or human remains are known, or thought likely to be present, on lands that are to be developed, monitoring for human and cultural remains is required.

WSA used a combination of systematic and regular pedestrian survey of exposed soils and removed fill, close observations of sub-surface construction excavation and photography to monitor for cultural and human remains.

No artifacts, features or human remains were encountered in the three study areas

Our recommendations are as follows:

1. Based on the lack of any archaeological artifacts, features, and human remains located in study locations, we recommend the area be cleared of any other archaeological potential.
2. In the event that deeply buried archaeological remains are found on the property, during future development, all activity in the vicinity of the recovery will be suspended and the Historic Resource Branch contacted.
3. Should human remains be identified during future development, all work in the vicinity of the discovery will be suspended immediately. Notification should be made to the HRB, and local police, who will conduct a site investigation and contact the medical examiner.



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## 1.0 Background Information

KGS Group (KGS) contacted White Spruce Archaeology (WSA) on behalf of the City of Winnipeg (CoW) to conduct a Heritage Resource Impact Assessment for the Newton Force Main River Crossing located on River Lots 18 and 69 in Parish of Kildonan, which is currently known as Kildonan Park and Fraser Grove Park (**map 1 and 2**).

The assessment occurred on October 20th under optimal conditions.

## 2.0 Legislation

The HRB examined the location, River Lots 18 and 69 in Parish of Kildonan, in conjunction with Branch records for areas of potential concern. The potential to impact heritage resources was deemed high in this area, therefore, the HRB had concerns with the project.

Under Section 12(2) of The Heritage Resources Act of Manitoba, being the governing legislation for HRB, if the Minister of Sport, Culture and Heritage has reason to believe that heritage resources or human remains are known, or thought likely to be present, on lands that are to be developed, monitoring for human and cultural remains is required.

## 3.0 Project Description

The Heritage Resource Impact Assessment determines what heritage resources may be present or absent in the area and what environmental features or anomalies may be of interest. This information, in turn, allows WSA to know if a more extensive mitigation/excavation strategy is required before construction and/or develop a monitoring strategy, i.e., where monitoring activities should be focused when construction starts based on the reconnaissance results.

### 3.1 Location Information

Municipality: Winnipeg  
Nearest settlement: Winnipeg  
Legal description: River Lots 18 and 69 in Parish of Kildonan  
Coordinates: NAD 83 14U 636114.68 m E 5533628.97 m N  
Development footprint: See **map 2**

### 3.2 Site Condition

Three areas are to be excavated for the Newton Force Main River Crossing. Two areas are located in River lot 69 (Fraser Grove Park, east side of the Red River), and 1 area in River lot 18 (Kildonan Park – west side of the Red River) (**map 2**). Both areas are currently parks with a variety of different structures, manicured lawns, with some areas still bush and treed (**photograph 1**).

## 4.0 Environmental Background

The Environmental background section discusses the ecoregion and ecozone of the study area. The ecozone level is the largest in scale and describes extensive major ecosystems. Ecoregions are subdivisions of the ecozones and constitute distinctive climate or landform factors.

### 4.1 Ecology Zone: Prairie

The prairie ecozone is found in Canada and extends from the western edge of Alberta, through Saskatchewan, and finally ending in eastern Manitoba. The topography is generally minimal, with large swaths of rolling hummocky terrain and areas with large river valley systems (**map 3**) (Smith et. al 1998).



The main type of soils are Chernozems which contain rich organic material. This horizon is very productive for cultivation due to its high organic content and ability to hold moisture (Smith et. al 1998).

While most of the Prairie ecology zone is now cultivated crops or in dryer areas, rangeland, originally, it would have consisted of tall grasses. The tall grasses included spear grass, wheat grass and blue gamma grass and in saline areas, alkali grass, wild foxtail barley, red samphire, and sea blight (Smith et. al 1998).

#### 4.2 Ecology Region: Lake Manitoba Plain

Winnipeg falls within the Lake Manitoba Plain Ecoregion, which spans from the American border in central Manitoba, northwesterly towards Lake Dauphin (**map 4**). Trembling Aspen, Oak groves and fescue grasslands dominate this area. This ecoregion is one of the wettest and warmest ecoregions in the Prairies; it has short warm summers and long cold winters. Average annual precipitation ranges from 485 to 540mm but can vary yearly (Smith et. al 1998).

The dominant soils of the ecoregion are, “Black Chernozemic soils developed on loam and clay-loam till materials, and Humic Vertisolic, Black Chernozemic and Gleysolic soils developed on clay glaciolacustrine sediments” (Pg. 254 Smith et. al 1998). Black Chernozemic soils can also be found on sandy-loam and sandy glaciolacustrine soils and on Sandy-loam to clay-loam materials (Smith et. al 1998).

#### 5.0 Culture History

There has been little archaeological exploration of the Red River corridor apart from the intensive investigations at “The Forks” (DILg-33). Consequently, much of what we know about the pre-contact period (the period before the arrival of European explorers) in this area is based on archaeological investigations at, and in the vicinity of The Forks. The junction of the Red and Assiniboine Rivers (The Forks) was a major hub for First Nation people prior to the arrival of Europeans in the 1700’s as is evidenced in the archaeological record, which shows centuries of continuous occupation. Evidence of human activity is represented in the archaeological record by the presence of artifacts.

Archaeologists interpret artifacts as belonging to specific periods of cultural activity, which change over time based on their function, material, style and perhaps the decorative motifs on the artifacts. The human occupation of Manitoba is broken down into temporal periods, which are generally based on archaeological artifact typologies. While these are contentious in terms of their actual chronology, they can be broadly sorted into five cultural categories all of which are represented at The Forks except for the earliest Palaeo Period.

##### 5.1 The Paleo Period (circa 11,000-8,000 years ago)

The Paleo Period began with the arrival of Canada’s first inhabitants, hunters and gatherers who used a specific toolkit to hunt large animals, including the last of the continent’s Pleistocene megafauna (e.g., mammoths and mastodons). At this time, much of the land was still covered by the Laurentide glacial ice sheet, meaning that only portions of the Canadian landscape were habitable. In Manitoba the southwest part of the province was the first area to be deglaciated approximately 11,000 years ago. Evidence of hunters and gatherers harvesting large ancient species of bison, mammoth and mastodon is consistent with the postglacial environment and the large leaf-shaped (lanceolate) spear points found in the southern part of the province (Pettipas 1970; Haug 1980). The discovery of Clovis Points near the north bank of the Pembina River and near Boissevain in the 1960s and 1970s provides evidence of human occupation and activity in southern Manitoba (Pettipas 1970, 1971). Distinctive leaf-shaped projectile



points (spear tips from the Clovis, Folsom, Agate Basin, and Midland culture groups) manufactured by people between 8,000 and 10,000 years ago were used to hunt big game animals (caribou and ancient species of bison) associated with the habitat at the southern edge of glacial Lake Agassiz (Pettipas 2011).

### 5.2 The Archaic Period (circa 8,000 – 2000 years ago)

Following the Paleo period, there was a general warming of the climate in the northern portion of the continent which altered the ecological zones and the lifeways of the people who inhabited the region. The Archaic Period succeeds the Paleo Period and is distinctive because of an increase in the variety and types of stone tools being manufactured. These changes are reflected in the archaeological record. During the Archaic period, the Paleo spear tips were replaced with smaller tips, used in conjunction with the spear thrower known as an Atlatl. The new forms of projectile points reflect the change in hunting technology and are distinct to each group using them. Projectile point types identified in this period include Logan Creek Culture 4,500 – 500 BC; Oxbow 3,300 – 1,000 BC; McKean – Duncan – Hanna 3,000 – 1,000 BC; Pelican Lake 1000 BC – 100AD. The cultural groups noted above are named for the places where the first distinctive artifacts of their unique tool kits were found.

The new freshwater lakes (Lakes Winnipeg and Manitoba) teemed with aquatic life, and emergent mixed deciduous-coniferous forests hosted a variety of new plant and animal species. There is strong evidence to suggest that a diversity of resources (fish, fruits, nuts, berries, and other wild plants) was available for people to use alongside larger game during the Archaic Period (Oetelaar 2011). Although it appears that the people still followed a hunter-gatherer subsistence strategy, there seems to be more evidence of denser populations, and some evidence of small settlements.

By the end of the Archaic Period, people in some regions of Canada were starting to manufacture pottery. Pottery recovered from pre-European contact archaeological sites is distinctive in that pots were made with local clay using a coil manufacturing technique and decorative motifs that change throughout time and between geographic regions. In Manitoba pottery is not typically considered to be part of the Archaic artifact assemblage although it is not possible to definitively date these artifacts.

### 5.3 The Woodland Period (circa 2,000 – 500 years ago)

Archaeological sites from the Woodland Period show a relatively denser settlement pattern, the introduction of horticulture and agriculture in some regions of Canada, as well as more elaborate burial customs and rituals. The diversification of cultural groups, the adoption of the bow and arrow, and the introduction of pottery, define the beginning of this period, which starts around 2,000 years ago and ends with the arrival of Europeans to the study area about 300 years ago. These groups utilized the Northeastern Plains and the fringes of the Boreal Forest, each using distinctive tools and subsistence strategies suited to their cultures. The beginning of the Woodland Period is characterized by the manufacture of pottery from locally sourced clay. The early pottery vessels were coil manufactured, simple in design and pattern, and wood fired. Laurel pottery and its characteristic design elements transitioned between 1,000-2,000 years BP and was subsequently entirely replaced by Blackduck pottery (Linklater 1994). The coiling method used for manufacture of Laurel pottery was replaced by a paddle and anvil method and new textures were applied on the outside surfaces of pots. Decorative patterns on the rims of Blackduck pots include perforations and oblique or V-shaped impressions. In the Souris River area Blackduck ceramic ware was replaced by Vickers Focus characterized by highly variable ceramics with a range of decorations (Nicholson 2011). Vickers Focus archaeological sites in



southwestern Manitoba appeared to have been influenced by people from the Mississippi River Valley and it has been suggested that they may have practiced horticulture.

### 5.5 The Post Contact Period (500 -100 years ago)

The first Europeans entered the study area during the Fur Trade period, permanently altering native subsistence patterns and replacing their traditional technology and material culture with European-made firearms and tools. By the late 19th century, surveyors, followed by the railway and European settlers, divided the land and forced the indigenous peoples onto reserves, thus ending their traditional life in favour of European farming and trapping practices (Nicholson 2011).

### 5.6 Fraser's Grove Park

Fraser's Grove Park current boundaries were determined in 1912 when the Municipality of Kildonan began acquiring land for Kildonan Drive. The park, named after William Fraser, who moved onto a river lot in the current park in 1880. After his death in 1909, the River Lots in the current park were sold to a speculator for future development called Rossmere Grove. Rossmere Grove failed and in the 1920, the municipality became the owner due to nonpayment of taxes. In the 1930's and 1940's, the current area was used as a camping and picnic ground. The city of East Kildonan took over the riverbank property, however, metro Winnipeg later became the owner and in 1961 turned the park into its present space (Smith 2021).

### 5.7 Kildonan Park

Kildonan Park was established in 1909 and was originally designed by George Champion who was the first Superintendent. Champion had previously worked at the London's Kew Gardens and brought this type of English landscape style to Kildonan Park (Gilmor 2022). The park makeup can be broken down into 25 ha of grass, 2.7 ha of pathways, and path around the perimeter which measures 1.9 kms. Structures in the park include the Peguis Pavilion, Rainbow Stage, the Witch's Hut, an Olympic sized outdoor swimming pools, duck pond, soccer field and places to picnic (Wikipedia 2022).

## 6.0 Archaeological Sites

There are numerous archaeological sites within 1km of the study area and are on file with HRB.

A Dominion Land Survey Map dated from 1871 (**map 5**) indicate no developments in the study area.

## 7.0 Methodology

WSA used a combination of systematic and regular pedestrian survey of exposed soils and removed fill, close observations of sub-surface construction excavation and photography to monitor for cultural and human remains.

## 8.0 Discussion

Three areas were monitored during excavation (**map 2**).

### 8.1 Location 1 and Fraser's Grove Park

Fraser's Grove Park footprint was approximately 5m east/west x 10m north/south (5m x 5m at north half, tapering to 1.5m at south end) (center point NAD 83 Zone 14U 636177m E, 5533400m N) (**map 2**). The excavator was instructed to remove the surficial soils gradually to a depth of approximately 40 cms (**photograph 2**). One deep test pit (extending northwest/southeast) was excavated at either end of the



footprint (**photograph 3**). These test pits were approximately 2.5m to 3m in length and were excavated to a depth of 150 cms.

#### 8.1.1 Stratigraphy

Soil description as follows:

0-4 cms was a sod layer consisting of dark grey-black loam,

4-160 cms was greyish sandy/silty clays grading to grey-tan silty clays (**photograph 3**).

Very sparse charcoal flecks observed at approximately 50 cm. The soil profile showed no signs of any disturbances. There was a remarkable lack of any modern refuse, with only a fragment of white plastic disposable knife and a small fragment of asphalt shingle was observed in the entire excavation.

### 8.2 Location 2 Fraser's Grove Park

The footprint at Location 2 in Frasier's Grove Park had a dimension of 2m north/south and 2m east/west and was located approximately 9m south of an earthen dike running parallel with the Red River, just inside an area of mature oak trees (NAD 83 Zone 14U 636141m E, 5533443.19m N) (**photograph 4**).

The excavator was instructed to excavate a single bucket width (approximately 0.6m wide bucket) trench to a maximum depth of 150 cm DBS, removing the soils at 10-20 cm increments. The bucket struck a 5" diameter polyethylene pipe on the second pass, breaking the top open releasing water which was not under pressure. Work was paused for just a moment, before moving south 1m and continuing the trench. The pipe was left exposed and was flagged for inspection by the City of Winnipeg.

#### 8.2.1 Stratigraphy

Soil description as follows (**photograph 5**):

0 - 5 cms grey-black silty loam

5 -30 cms dark grey-tan silty clays

30 -160 cms grey-tan silty clays

No refuse of any kind was observed in this trench.

### 8.3 Location 3 Kildonan Park

The footprint in this location was identical in size & dimensions as location 1 in Frasier's Grove Park, but with the tapered end to the north (NAD 83 Zone 14U 636188m E, 5533852m N) (**photograph 6**). The surface removal occurred in increments, to an approx. depth of 40cm, with 2 deep tests at the north & south ends.

#### 8.3.1 Stratigraphy

Soil description as follows (**photograph 7 and 8**):

0 - 8cm sod layer/topsoil consisting of disturbed dark grey loam with sparse intrusive gravel & small plastic refuse (bottle caps, etc.)

8-24cm a distinct lens of light grey tan sandy/silty clay

24 - 160cm grey-tan silty clays, sparse charcoal was observed at approx. 60cm

### 8.4 Results

No artifacts, features or human remains were encountered in the three study areas.



## 9.0 Recommendations

KGS Group (KGS) contacted White Spruce Archaeology (WSA) on behalf of the City of Winnipeg (CoW) to conduct a Heritage Resource Impact Assessment for the Newton Force Main River Crossing located on River Lots 18 and 69 in Parish of Kildonan, which is currently known as Kildonan Park and Fraser's Grove Park (**map 1 and 2**).

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Our recommendations are as follows:

1. Based on the lack of any archaeological artifacts, features, and human remains located in study locations, we recommend the area be cleared of any other archaeological potential.
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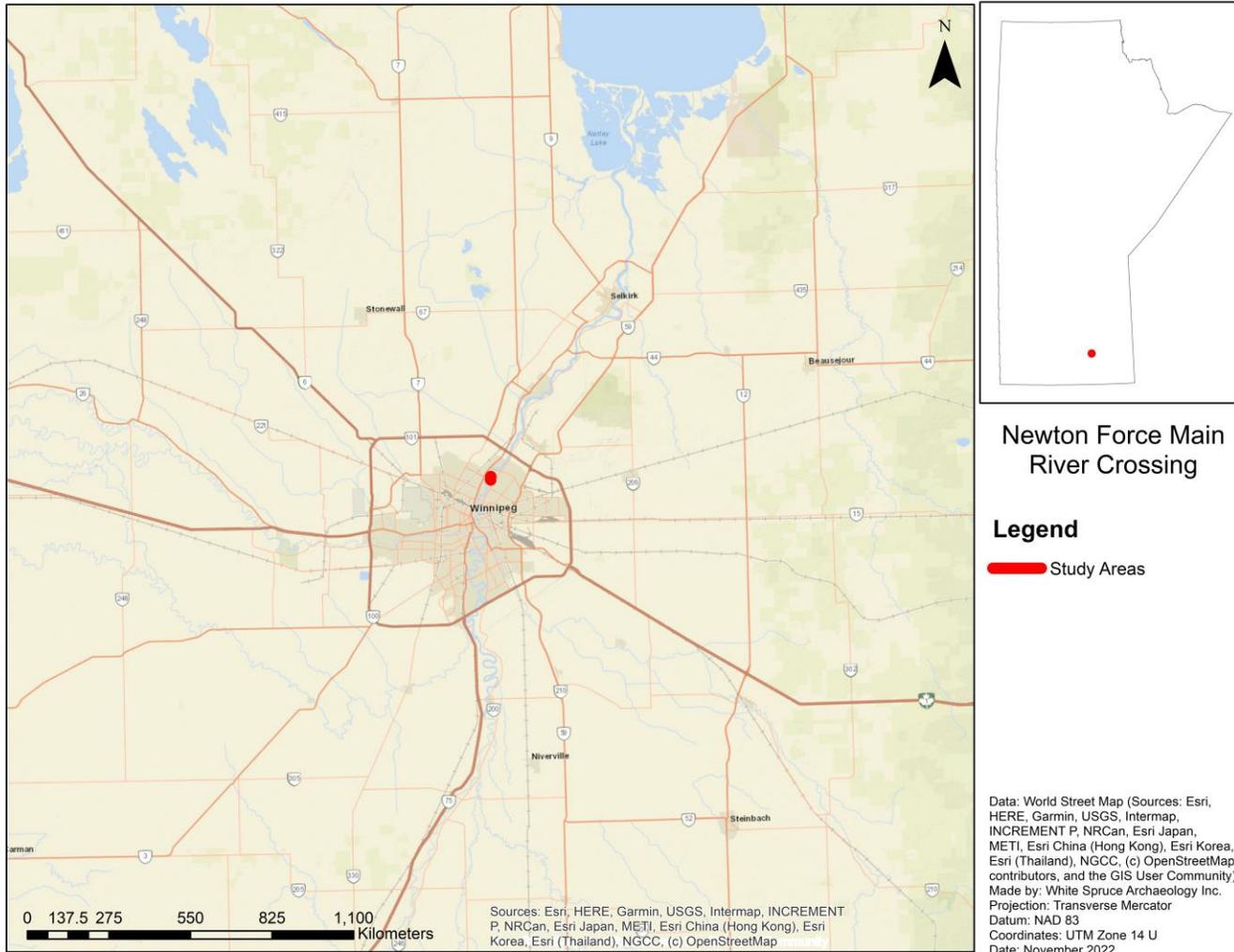
## Appendices

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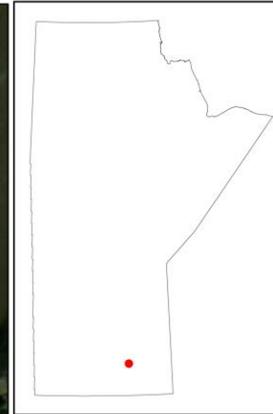
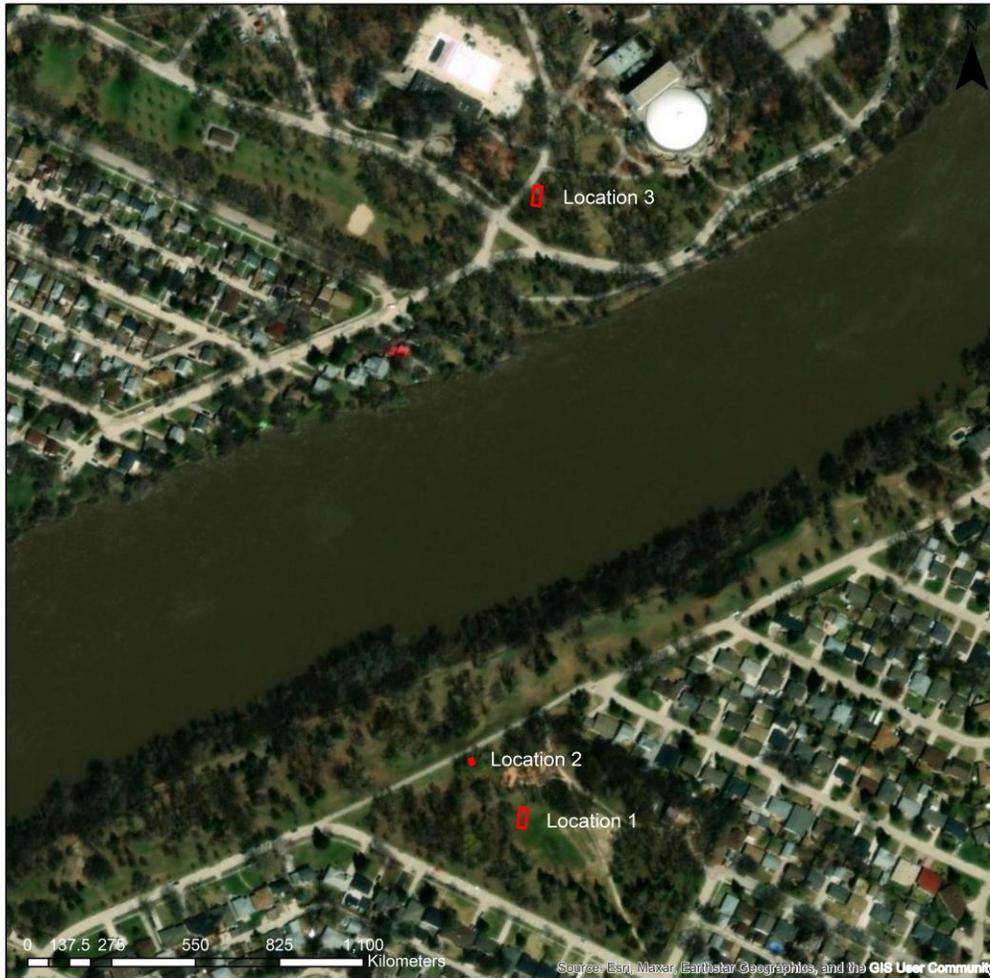


## Appendix 1 - Maps

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Map 1. Study location



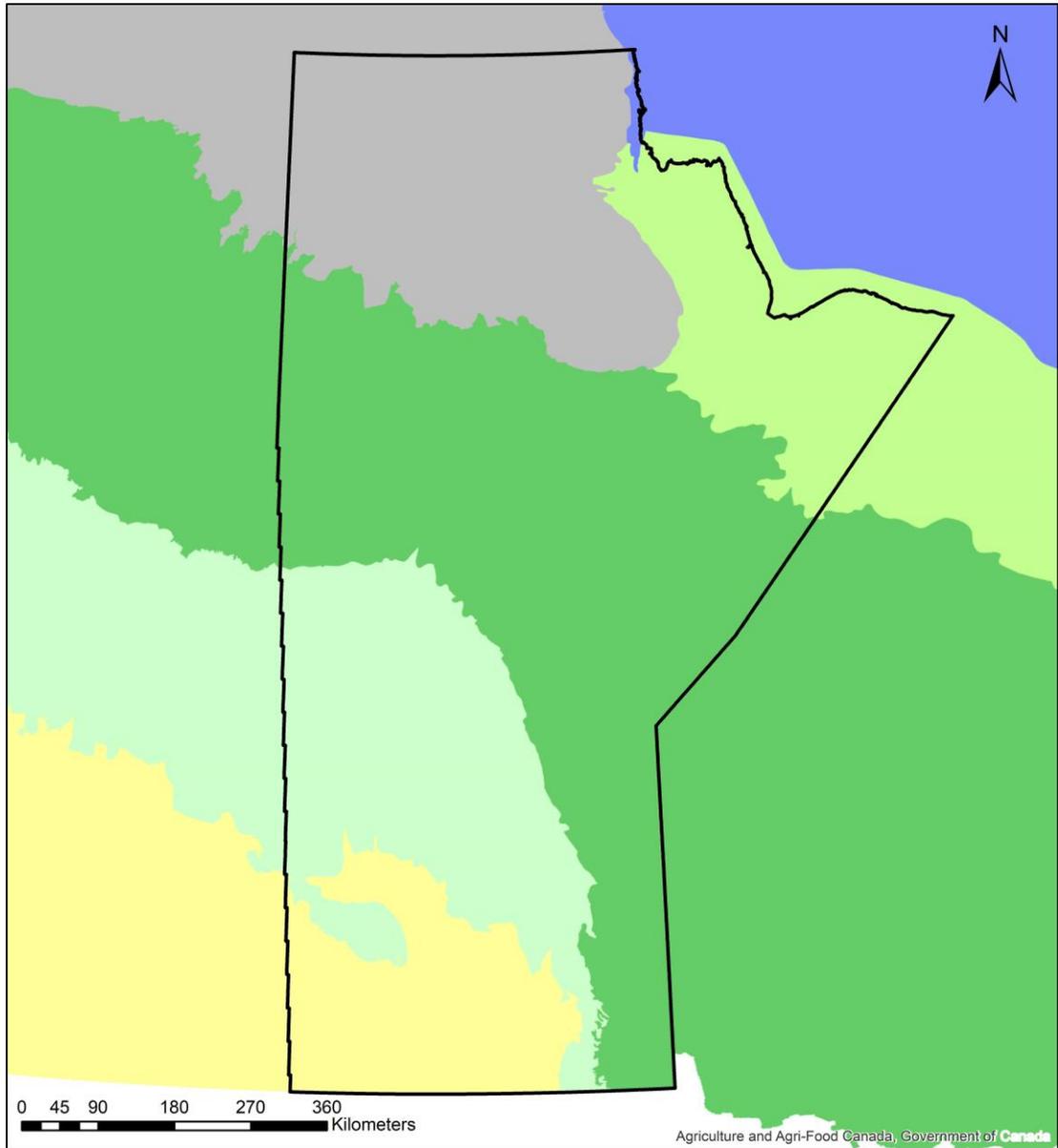
### Newton Force Main River Crossing

#### Legend

— Study Areas

Data: World Street Map (Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community)  
Made by: White Spruce Archaeology Inc.  
Projection: Transverse Mercator  
Datum: NAD 83  
Coordinates: UTM Zone 14 U  
Date: November 2022

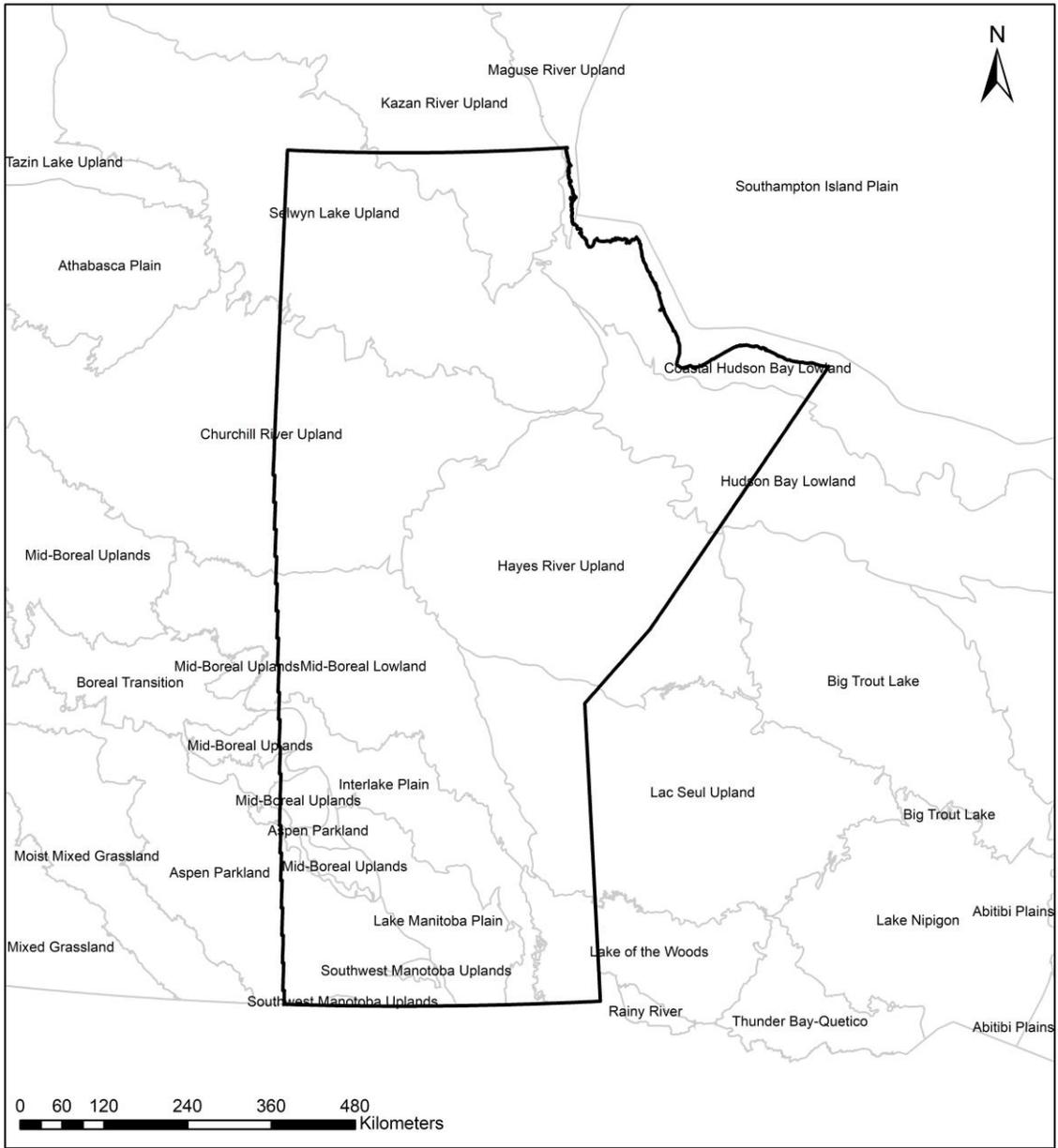
Map 2. Study locations 1 to 3



**Legend - Eozones**

- |          |                   |                  |                   |                    |
|----------|-------------------|------------------|-------------------|--------------------|
| Manitoba | Arctic Cordillera | Taiga Shield     | Atlantic Maritime | Montane Cordillera |
|          | Northern Arctic   | Hudson Plains    | Taiga Cordillera  | Boreal Plains      |
|          | Southern Arctic   | Boreal Shield    | Boreal Cordillera | Prairies           |
|          | Taiga Plains      | Mixedwood Plains | Pacific Maritime  |                    |

Map 3. Map of the Prairie Ecozone in Manitoba



**Legend - Ecoregions**

-  Manitoba
-  Ecoregions

Map 4. Map of the Lake Manitoba Plain Ecoregion in Manitoba





## Appendix 2 - Photographs

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Photograph 1. Fraser's Grove Park, looking north, showing location 1 with dyke in the background. Excavation crew are seen protecting a tree



Photograph 2. Fraser's Grove Park location 1, looking south, showing surface removed to approx. 50cm DBS



Photograph 3. Fraser's Grove Park, location 1, showing east profile of southern deep trench



Photograph 4. Fraser's Grove Park, location 2, looking north, showing dike in the background



Photograph 5. Fraser's Grove Park, location 2, showing west profile



Photograph 6. Kildonan Park, looking north, showing test location



Photograph 7. Kildonan Park, northern deep trench, east profile detail showing possible 1950 flood deposit (lighter colored clay lens) at 8-24 cm DBS



Photograph 8. Kildonan Park, southern deep trench, south profile



Appendix 4- Heritage Permit

DRAFT



*The Heritage Resources Act (Subsection 14(2) and Sections 52 and 53)*

**Heritage Permit No. A87-22**



Pursuant to Section/Subsection: 53 of *The Heritage Resources Act*:

**Name:** Matthew Singer  
White Spruce Archaeology Inc.

**Address:** 22 Victor Pleshko Place  
Winnipeg MB R3V 0A4

**Attention:** Matthew Singer

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

Conduct a heritage resource impact assessment (HRIA) of directional drill sites relating to the City of Winnipeg Newton Force Main River Crossing in Kildonan and Fraser's Grove Parks in the City of Winnipeg.

during the period:

**October 3 to November 1, 2022 (window)**

This permit is issued subject to the following conditions:

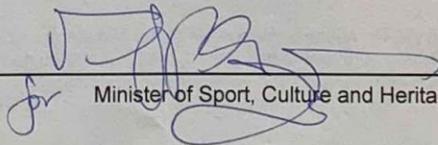
- (1) That the information provided in the application for this permit dated the **September 16, 2022** is true in substance and in fact;
- (2) That the permittee shall comply with all of the provisions of *The Heritage Resources Act* and any regulations or orders thereunder; PLEASE NOTE ATTACHMENT RE: CUSTODY AND OWNERSHIP OF HERITAGE OBJECTS;
- (3) That the Permittee shall provide to the Minister a written report or reports with respect to the Permittee's activities pursuant to this permit, the form and content of which shall be satisfactory to the Minister and which shall be provided on the following dates: **March 31, 2023**
- (4) That this permit is not transferable;
- (5) This permit may be revoked by the Minister where, in the opinion of the Minister, there has been a breach of any of the terms or conditions herein or of any provision of *The Heritage Resources Act* or any regulations, thereunder;



(6) Special conditions:

- a. The permittee must obtain permission from any landowner, lessee or regulatory authority as applicable, concerning access to any property to be examined;
- b. Neither the Government of Manitoba nor the party issuing this permit shall be liable for any damages resulting from any activities carried out pursuant to this permit, and the Permittee specifically agrees, in consideration for receiving this permit, to indemnify and hold harmless the Minister and the Government of Manitoba, the Minister and any employees and officials of the Government, against any and all actions, liens, demands, loss, liability, cost, damage and expense including, without limitations, reasonable legal fees, which the Government, Minister or any employee or official of the Government may suffer or incur by reasons of any of the activities pursuant to or related to this permit.
- c. The permittee has, along with this permit, received enclosure:  
*Provisions Regarding Found Human Remains Under THE HERITAGE RESOURCES ACT, And Manitoba's Policy Respecting the Reporting, Exhumation and Reburial of Found Human Remains (1987).*

Dated at the City of Winnipeg, in Manitoba, this 3rd day of October 2022

  
\_\_\_\_\_  
Minister of Sport, Culture and Heritage

**Manitoba Sport, Culture and Heritage  
Historic Resources Branch**