

**ARCHAEOLOGICAL MONITORING OF
PUMPHOUSE RELOCATION COMPONENT:
MAIN/NORWOOD BRIDGE PROJECT**

Prepared for

REID CROWTHER & PARTNERS

**QUATERNARY
CONSULTANTS
LIMITED**

August, 1995

1.0 Introduction

In conjunction with the redevelopment of the Main and Norwood Bridges, relocation of the City of Winnipeg Water Utility pumphouse is required. This component, currently located on the east side of Main Street, will be constructed on the west side of Main Street, adjacent to the south bank of the Assiniboine River. Due to the potential for archaeological resources, Quaternary Consultants Limited was contracted to provide archaeological monitoring of the excavations required for the construction. The operation was conducted under Heritage Permit A62-95 (Appendix A) issued by Historic Resources Branch, Department of Culture, Heritage and Citizenship.

The construction process consists of a series of operations undertaken by PCL Constructors Prairie Inc. First, a footprint excavation (13.5 x 15 metres) was excavated to a depth of 140 centimetres below surface (Figure 1). The second component was the drilling and pouring of six caissons, by Subterranean (Manitoba) Ltd., on the perimeter of the footprint (Figure 1). Subsequently, several piles were driven between the caissons. Next, the building is to be constructed at the current floor level of the footprint excavation, after which the soil under it is excavated and the structure sinks down to rest on the caissons and piles.

The footprint excavation occurred before the archaeologist was notified that the project was under way. Upon notification, the site was visited and the visible stratigraphy was recorded. The excavation of the six caissons was monitored (the drilling crew were most accommodating, ensuring adequate time to examine all soils on the auger bit). The caisson holes were drilled into bedrock. However, archaeological monitoring was only necessary for the periods when the excavation was proceeding through riverine sediments. The monitoring for each caisson ceased when Glacial Lake Agassiz clays were reached.

Some prior information about the stratigraphy had been obtained when a geo-technical soil study was undertaken by HBT AGRA Limited in 1993 (Quaternary 1994). This small-diameter test hole had recorded two buried soil horizons.

1.1 Study Team

The excavation monitoring was conducted by Sid Kroker. Documentation and analysis has been undertaken by Sid Kroker and Pam Goundry.

2.0 Observations

The walls of the footprint excavation were examined. Evidence of a fieldstone basement wall was observed in the extreme southeast corner. The structural remnant extended minimally into the footprint (Figure 1). Soil profiles were recorded on the north and south walls. These are presented in Table 1. In both cases, undisturbed sediments were encountered relatively near the surface.

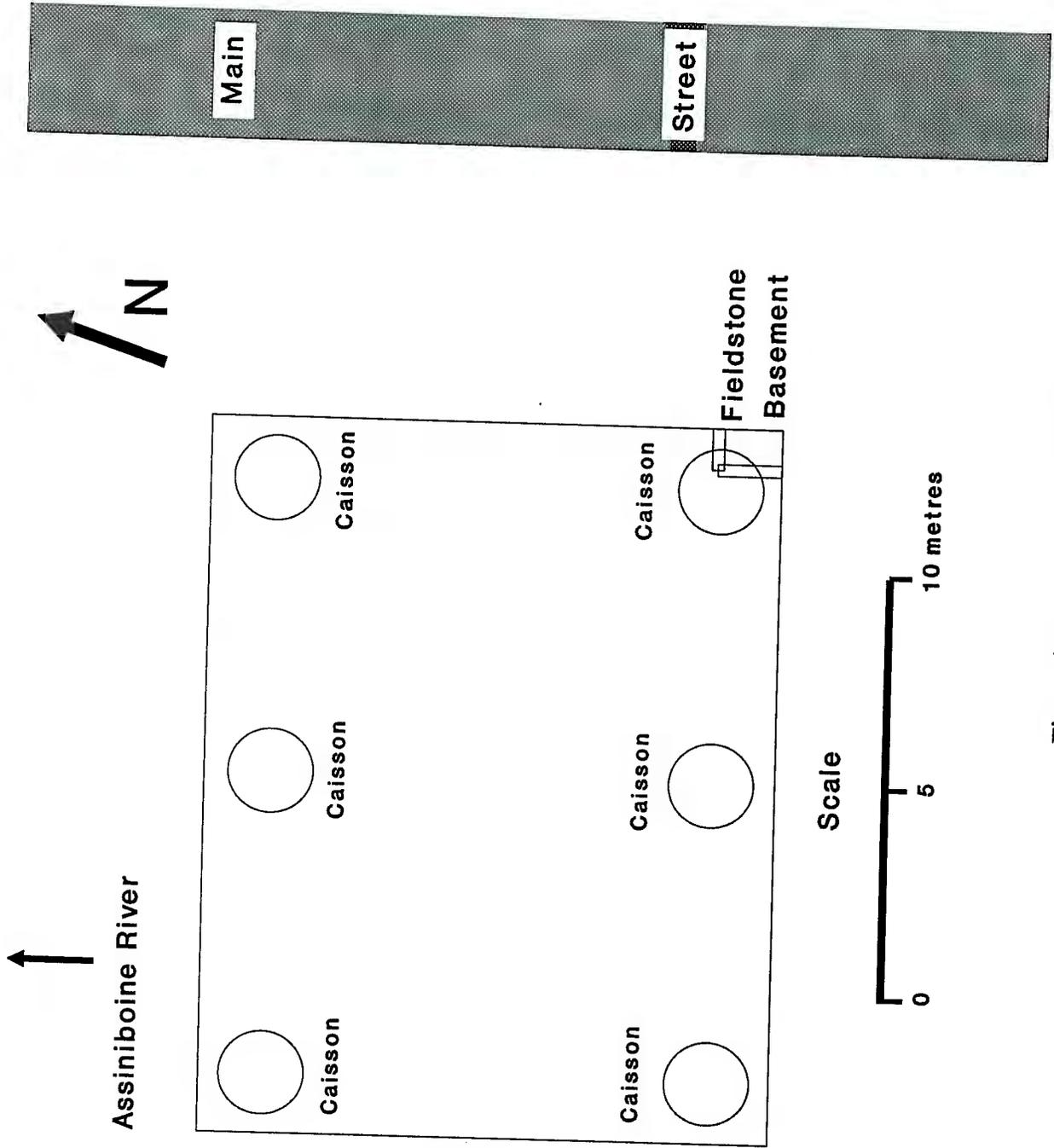


Figure 1: Map of Area of Impact

North Wall Stratigraphy		South Wall Stratigraphy	
Depths (cm)	Component	Depths (cm)	Component
0 - 5	Asphalt	0 - 17	Concrete
5 - 30	Gravel	17 - 40	Gravel
30 - 50	Clay Fill	40 - 50	Clay Fill
50 - 72	Black silty loam	50 - 70	Clay/Structural debris
72 - 85	Tan sandy silt	70 - 90	Black clayey loam
85 - 95	Brown-black silt	90 - 120	Medium orange-brown silt
95 - 135	Light red-brown silty clay	120 - 124	Dark brown silt
		124 - 140	Medium red-brown silt

Table 1: Stratigraphic Profiles of the Upper Excavation

The two profiles are quite similar, with the exception of the additional structural debris component in the south wall. The black loam horizon probably represents the soil surface after the last recorded flood in the 19th century (1881). The lower dark horizon would represent the soil surface prior to that flood, having developed upon sediments deposited by any or all of the earlier 19th century floods (1861, 1852, or 1826).

Six caisson holes were drilled within the footprint area. All provided very similar profiles. Faint traces of buried soil horizons were observed in some of the holes. These all occurred in the upper 50 centimetres and were most strongly defined in Caisson 3 where they occurred at depths of 15 and 20 centimetres below the footprint floor. The relict soil strata occurred within deposits of medium brown silt which extended to 300 centimetres below floor level. Sediments between 300 and 580 centimetres consisted of yellow-brown sand and sandy silt, with lower strata being primarily silty clay and/or clay. Glacial Lake Agassiz clays were encountered at relatively uniform depths, ranging around 800 centimetres. The clay deposits immediately above the dark grey Agassiz sediments were heavily stained with hematite.

The basement wall in the southeast corner of the excavation extended to a depth of 230 centimetres below the level of the parking lot. The 1905 Fire Insurance Atlas (Public Archives of Manitoba) depicts a series of structures along the west side of Main Street between the rivers. The Henderson directories indicate that most were rooming houses which had been constructed during the 1880s.

3.0 Recommendations

No evidence of early European or Pre-Contact Aboriginal occupations was observed during the archaeological monitoring of the caisson drilling program. No artifacts were curated.

In view of the fact that all observed buried soil horizons were culturally sterile, **it is recommended that no further archaeological monitoring is necessary.**

4.0 Bibliography

Quaternary Consultants Ltd.

- 1994 *Archaeological Monitoring of Geo-Technical Investigations on South Point*. On file with Reid Crowther & Partners; Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

APPENDIX A
HERITAGE PERMIT



Heritage Permit No. A62-95

FORM 11

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

Name: Quaternary Consultants
Address: 130 Fort Street
Winnipeg MB R3C 1C7

ATTENTION Mr. Sid Kroker

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

monitor the Caisson drilling and footprint excavation for relocation of water pumphouse on the south bank of the Assiniboine River, west of Main Street;

during the period:

July 17, 1995 to March 31, 1996

This permit is issued subject to the following conditions:

- (1) That the information provided in the application for this permit dated the 13th day of July 19 95, is true in substance and in fact;
- (2) That the Permittee shall comply with all 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, 1996
- (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. All surface collections, excavations, etc. are to be carried out using the provenience system established for use at The Forks;
- b. All heritage objects (artifacts) recovered from The Forks are to be catalogued according to the CHIN system with the relevant Borden designation;
- c. All heritage objects from The Forks are to be deposited with the Manitoba Museum of Man and Nature by March 31, 1996, for permanent curation and storage, unless appropriate loan requirements are arranged with the Curator of Archaeology prior to that date;
- d. A complete set of archaeological field records, catalogue sheets, laboratory analysis records, photographs, reports, etc. are to be deposited with the Manitoba Museum of Man and Nature upon completion of the archaeological research, or sooner if required; and any subsequent revisions or additions to these records are to be filed as soon as possible thereafter;
- e. All computer systems and programs employed in archaeological research should be compatible with the computer system established for The Forks;
- f. Appropriate arrangements and funds should be made available for the conservation of perishable heritage objects collected from The Forks;
- g. In the event that any human remains are encountered during the excavations, all activity in that particular locus will cease immediately, and the Historic Resources Branch notified immediately so that appropriate action can be determined and taken;
- h. The Permittee will be on-site supervising all aspects of the field work, including the removal of the railroad overburden during site preparation, at least 75% of the time, but when the Permittee must be absent, a qualified designate acceptable to Historic Resources Branch (copy of vita to be filed prior to commencement of field work) shall be present;
- i. The Permittee shall be responsible for the conduct of the laboratory analysis of recovered heritage objects and information to be included in the permit report;
- j. The report identified in #3 above shall conform at a minimum to "The Contents and Format of a Heritage Resource Impact Assessment" (copy attached)
- k. Neither the Government of Manitoba nor the party issuing this permit 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 action, liens, demands, loss, liability, cost, damage and expense including, without limitation, reasonable legal fees, which the Government, Minister or any employee or official of the Government may suffer or incur by reason of any of the activities pursuant to or related to this permit.

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Dated at the City of Winnipeg, in Manitoba, this _____ 13th _____ day of _____ July _____ 1995.



Minister of Culture, Heritage and Citizenship