ARCHAEOLOGICAL MONITORING AND MITIGATION OF THE INSTALLATION OF PRIMARY PIPES AND SEWER CONTROL UNITS (NORWOOD/MAIN PROJECT)

Submitted to

REID CROWTHER & PARTNERS

QUATERNARY
CONSULTANTS
LIMITED

December 1996

EXECUTIVE SUMMARY

In conjunction with the construction of the new Norwood and Main Street Bridges, renewal and upgrading of the sub-surface services entailed new installations and modifications to existing facilities. New combined sewer and forcemains were constructed along Main Street from Assiniboine Avenue on the north, across South Point, along St. Mary's Road to Tache Avenue on the south, and along Walmer Street to Lyndale Drive. Two new riverbank outfall structures were built, one on the north bank of the Assiniboine River at Bonnycastle Park and the second on the south side of the Red River at the intersection of Walmer Street and Lyndale Drive. An outfall pipe was installed from the new Mayfair Pumphouse to the south bank of the Assiniboine River.

Due to the potential for impact upon heritage resources, all mechanized excavation was archaeologically monitored. Stratigraphic profiles were recorded and diagnostic artifacts were curated.

Two new archaeological sites were recorded. DlLg-72 is situated on the west side of St. Mary's Road, thirty-five metres south of the intersection with Claremont Avenue. The recoveries, from a depth of five metres, consist of bison bones estimated to date between 6500 and 7500 years ago. DlLg-76 was discovered during the excavation of the control unit at Walmer Street and Lyndale Drive. It is a small Precontact occupation site containing lithic flakes, fire-cracked rock, and faunal remains. The lack of diagnostic artifacts precludes the determination of a date of occupation, although the stratigraphy suggests that the site was occupied more than 1000 years ago.

The excavation of the control unit at Bonnycastle Park (DlLg-21:95A) resulted in the identification of two Precontact horizons. Both contain Late Woodland ceramics, providing relative ages between 300 to 1500 years ago. The horizons could be extensive and have the potential to extend into the future impact area for the reconstruction of the Bridge of the Old Forts (Main Street Bridge).

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

The development of the new bridge and roadway system, encompassing the Main and Norwood Bridges, entails the construction of upgrades and new linkages for subsurface water and sewer systems. These components extend well beyond the localized aspects of the new northbound bridges and the connecting roadways. Much of the construction, particularly that which was placed in active rights-of-way, is adjacent to previously installed service lines. However, as these services had been put in place long before the development of the concept of heritage resource management, it was deemed necessary that the sub-surface impact activities be monitored by an archaeologist.

The construction excavation of the various components was monitored by Quaternary Consultants Ltd. under the terms of Heritage Permit A83-95 (Appendix A).

1.1 Location and Scope of the Project

As depicted in Figure 1, the project extended from Assiniboine Avenue in the north to Tache Avenue in the south and Walmer Street in the west. Two types of construction activity occurred. For the linear installation of combined sewer pipes and forcemains, vertical shafts were excavated to enable boring of horizontal pipe tunnels between the vertical shafts. At the two outflow control units (the intersection of Walmer Street and Lyndale Drive and at the southeast corner of Bonnycastle Park), large vertical shafts were excavated by backhoe.

The most extensive sewer installations occurred south of the Red River with new installations under St. Mary's Road, Eugenie Street, and Walmer Street. A short section of combined sewer line was installed on the western end of Eugenie Street linking with the existing sewer line under the middle of St. Mary's Road. A continuous tunnel was bored on the west side of St. Mary's Road from Walmer Street to Tache Avenue. Numerous vertical shafts were excavated using a 150 centimetre diameter auger. As much of the excavation occurred after freeze-up in the fall of 1995, the upper one to two metres of the excavation was undertaken with a large backhoe to break through the frozen ground. Both the backhoe excavations and subsequent augering were monitored. Mechanized boring of the horizontal pipe tunnel precludes direct visual observation. The extracted soil is usually stockpiled at the base of the vertical shaft until sufficient quantities have accumulated for removal with a backhoe and/or a crane-mounted clam.

The new installation on St. Mary's Road was tied into a new combined sewer chamber at the intersection of St. Mary's Road and Walmer Street. Additional new installation extended northward along Walmer Street to a new outflow control unit on the north side of Lyndale Drive with the outflow pipe leading into the Red River. The outflow pipe was installed in an open-cut excavation.

Installations on the north side of the Assiniboine River extended from Assiniboine Avenue to the construction perimeter of the new northbound Main Street Bridge. This construction, on the east side of Main Street, linked with the existing system which had been previously upgraded (1994/1995). A double-chambered outflow control unit was installed immediately west of the Hydro

building in the southeast corner of Bonnycastle Park. Both vertical holes were excavated by backhoe. The outflow pipe tunnel, from the base of the vertical shaft to the Assiniboine River, was hand-excavated by the construction crew. A third hole was excavated, by backhoe, to the northeast to connect with an existing sewer line.

The installations on South Point (between the Red and Assiniboine Rivers) consisted of force mains and land drainage systems. The force mains connect with a valve chamber connected to the new Mayfair Pump Station (Quaternary 1995a). Numerous intersections and linkages in this area occur with water lines and land drainage lines that extend westward. In addition, the outflow pipe from the pumphouse to the south bank of the Assiniboine River was installed in an open-cut trench.

1.2 Study Team

The entire archaeological resources management program was directed by Sid Kroker (Senior Archaeologist). The monitoring of construction excavations was conducted by Sid Kroker and Pat Carroll. The laboratory operations, which entailed preparation and identification of the recovered artifacts, were supervised by Pam Goundry (Research Archaeologist). Computer cataloguing was completed by Pam Goundry. Documentation and analysis has been undertaken by Sid Kroker and Pam Goundry.

1.3 Excavation Monitoring Methodology

The monitoring of all excavation components consisted of visual observation of the extracted soil on the auger and the walls of the excavation units. In the case of augering, the diameter of the bit and the rate of excavation permitted good observation of the majority of the excavated soil, thereby allowing recognition of changes in soil texture and/or the presence of relict soil horizons. In the cases of backhoe excavation, the extracted soil was immediately loaded into haul trucks. The small size of the excavation units, either the augering vertical shafts or the outflow control unit shafts limited the degree of observation, especially at depths below 2 metres. The limited observation was not a serious problem for the vertical augering shafts (St. Mary's Road, Walmer Street, and Main Street), but became more serious in the lower portions of the outflow control unit shafts. These shafts were sunk in stages, each stage being approximately 2 metres, with shoring installed after each stage. During the excavation in the shaft, which measured 4 x 4 metres, space and safety considerations precluded the presence of the observer at the excavation surface and resulted in viewing from the lip of the shaft only. After each stage was excavated, and prior to the installation of the shoring, the archaeologist descended to the base and inspected the vertical walls of that stage. At this time relict soil horizons, different soil strata, or cultural horizons were recorded.

During the boring of the horizontal sewer shaft, the excavators had been alerted to the potential of archaeological resources. As they were able to observe the extracted soil as it was removed, their observations were extremely useful. The underground crew was able to retrieve large mammal bone that was found during the boring of the tunnel along St. Mary's Road. A similar instance occurred with the hand-dug outflow tunnel in Bonnycastle Park, where the mining crew recovered historic faunal material encountered during the tunnel excavation.

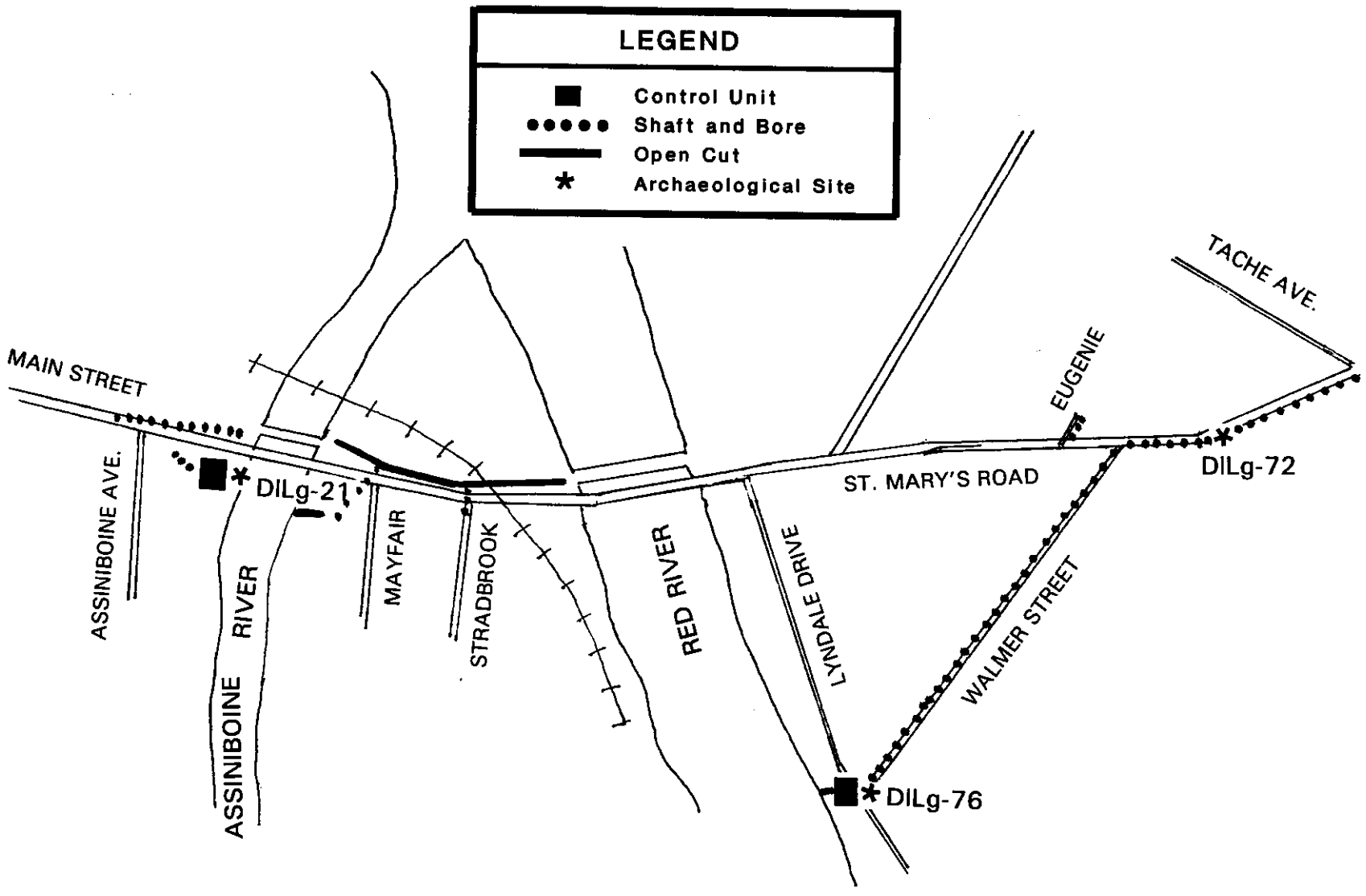

Figure 1: Location of Project Impacts

1.4 Archaeological Site Designation

Each archaeological site is assigned a Borden designation. This designation, consisting of a four-letter prefix and a numerical suffix, is a Canada-wide system of identifying archaeological sites based upon latitude and longitude (Borden 1954). The four letter identifier, DlLg, designates a geographical block between 49° 50' and 50° 00' North latitude and 97° 00' and 97° 10' West longitude. Within each block, archaeological sites are assigned sequential numbers upon discovery.

Bonnycastle Park, the section of land bounded by the Assiniboine River and Main Street, has been given the Borden designation of DlLg-21 as a result of prior archaeological discoveries. It is the location of the twenty-first archaeological site recorded within the geographical block. Because this area has, in the past, been the site of more than one archaeological project in a year, a suffix consisting of a year and a sequential project designator has been assigned. For the Bonnycastle Park location, the designator is 95A, resulting in a complete site designation of DlLg-21:95A.

Two new sites were designated. The discovery of archaeological materials along St. Mary's Road was designated as DlLg-72. The cultural horizon recorded during the excavation of the outflow control unit of the north end of Walmer Street has been designated as DlLg-76.

1.5 Laboratory Procedures

The recovered artifacts were brought to Quaternary laboratory facilities, where they were washed and sorted by material class. After the specimens had dried, all artifacts were identified by the lab personnel. Material of the same type (e.g., quartzite flakes) within the same excavation unit and level were combined under a single catalogue number. Faunal remains were, where possible, identified to element and species using Gilbert (1973), Olsen (1960, 1964), and Schmid (1972).

Each artifact received a catalogue number which consists of the Borden designation for the site—DlLg-72 (St. Mary's Road), DlLg-76 (Walmer Street), or DlLg-21:95A (Bonnycastle Park)—and a sequential number for permanent identification. All pertinent data associated with the artifact was entered into a computer cataloguing system which is based on the Canadian Heritage Inventory Network (CHIN) system (Manitoba Museum of Man and Nature 1986; Kroker and Goundry 1993:Appendix B). Processed artifacts were prepared for storage by inserting the specimens and a catalogue card into standard plastic storage bags, then stapling the bags closed. At the end of the project, all recovered artifacts (Appendix B) will be delivered to the Manitoba Museum of Man and Nature which is the repository designated by the City of Winnipeg.

After cataloguing, analysis of the individual artifacts and their contexts was undertaken. The results are detailed in the following sections of this report. Chapter 2 will discuss the stratigraphy and recoveries from DlLg-72 (St. Mary's Road). Chapter 3 will detail the recoveries from DlLg-76 (Walmer Street). Chapters 4 and 5 will provide information on the excavations that occurred on South Point and Main Street. Chapter 6 will discuss the stratigraphy and recoveries from DlLg-21:95A (Bonnycastle Park). Chapter 7 will provide an overview of the heritage resources recorded as a result of this project and recommendations for future activities within the area.

2.0 ST. MARY'S ROAD COMPONENT

The installation of new combined sewer along St. Mary's Road, and the small section on Eugenie Street, paralleled several previously existing sub-surface services. The majority of the excavation was a replacement of an existing combined sewer line and, as such, only disturbed and relocated soil was encountered. The section of original construction consisted of horizontal boring from the east side of St. Mary's Road to the existing trunk sewer in the middle of the road. Observation was not possible.

The St. Mary's Road section was at the western edge of the road, in many cases directly below the existing sidewalk. The initial excavation was a square shaft for a sewer junction chamber in the middle of Walmer Street with a southward, continuous, horizontal pipe (1200 mm diameter) extending to the Tache Avenue intersection. Vertical shafts were augered approximately every 20 to 30 metres to allow placement of the boring machinery. The base of the vertical shafts, and the horizontal tunnel, averaged 5.0 metres below surface (223.0 metres above sea level). Minor fluctuations in depth below surface occurred due to surface topography.

2.1 Stratigraphy

The stratigraphy throughout this component was relatively uniform. Minor variations in thicknesses of soil strata and resultant depth below surface of specific horizons were noted during field observation. Generally, the soil profile consisted of recent infrastructure material (concrete curbs and sidewalks, asphalt pavement, and gravel base layers) overlying natural soil strata. The uppermost stratum showed considerable soil development and consisted of a black loam with considerable tree roots, both active and dead. Below the loam horizon, estimated to date to the early part of the twentieth century, a series of riverine deposited sands, silts, and clays was observed (Figure 2). The northern holes, i.e., those closer to the Red River, tended to have a layer of sand or sandy silt at a depth of 3.0 metres. This stratum diminished to the south and had disappeared by Monck Avenue. The vertical shafts terminated prior to encountering Lake Agassiz clay. The clay horizon has been recorded at elevations of 222 metres above sea level at the excavations for the south abutment of the new Norwood Bridge (Quaternary 1996a:56).

2.2 Artifact Recoveries

No cultural horizons were observed during excavations of the vertical shafts and the only artifactual material that was recovered from this component consisted of four large mammal bones retrieved by the tunnel excavation crew while they were boring the section approximately 35 metres south of Claremont Avenue (DlLg-72). The large bones were salvaged by the excavators, who stated that there appeared to be no charcoal or dark soil in the matrix in which the bones were encountered. No evidence of butchering marks occur on these specimens suggesting that the bones derive from a natural deposit. This may have occurred when an animal became mired in mud at the riverbank when the Red River flowed through the oxbow represented by Enfield Crescent (Warkentin and Ruggles 1970:191, 255, 383).

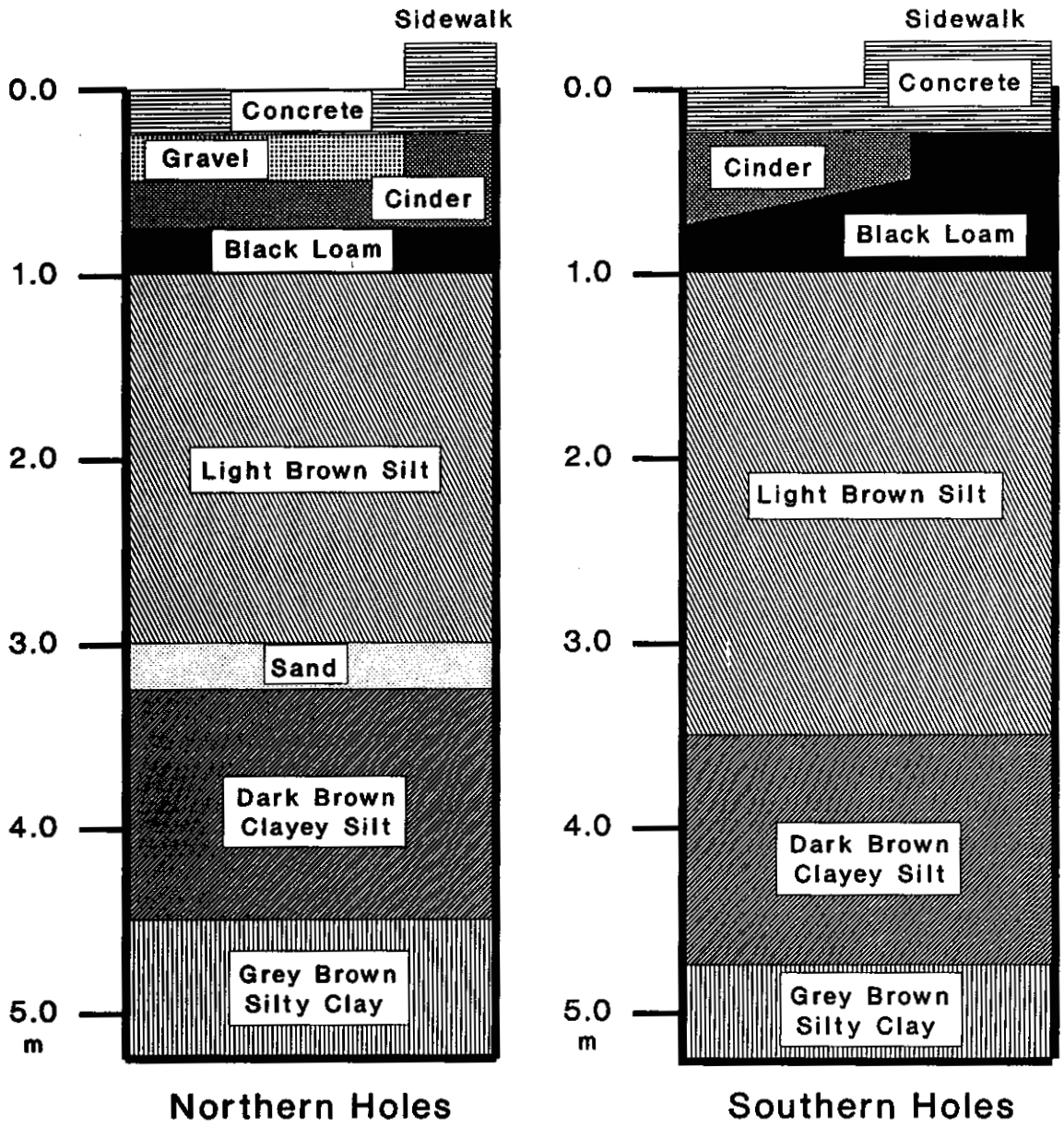

Figure 2: Generalized Soil Profiles along St. Mary's Road

Alternatively, this animal may have died upstream and the remains were transported during a spring high water episode, with the carcass being deposited on the riverbank.

The recovered bones (Table 1) have been identified as *Bison bison*. The remainder of the animal's skeleton may exist immediately adjacent to the tunnel. Radiocarbon dates were not obtained from the specimens. Based upon stratigraphy, it is estimated that this animal was incorporated into the riverine sediments approximately 1000 years after Glacial Lake Agassiz drained. Accordingly, the time range for the site is considered to be 6500 to 7500 years ago.

TAXON	CAT. #	OBJECT	QTY	WT	COMMENTS
Bison bison	1	Tibia	1	989.3	Complete
	2	Scapula	1	483.2	Incomplete
	3	Radius;Ulna	1	602.5	Incomplete
	4	Metacarpal	1	387.7	Complete
TOTAL			4	2462.7	

Table 1: Faunal Remains from DlLg-72 (St. Mary's Road)

3.0 WALMER STREET COMPONENT

The Walmer Street component consisted of installation of combined sewer pipe along the length of Walmer Street, from the chamber at the intersection of Walmer Street and St. Mary's Road to the double-chambered control unit at the north side of the intersection of Walmer Street and Lyndale Drive (Figure 1). An outflow pipe connects the control unit with the south bank of the Red River. This pipe was installed in an open-cut trench.

The installation methodology along Walmer Street was the same as that described in the St. Mary's Road component. Inspection of the vertical shafts revealed no evidence of cultural horizons. The stratigraphy encountered during the augering was very similar to that observed during the St. Mary's Road component (Figure 2). In the northern section, where the street had been built above existing ground level, the upper 1.5 to 1.85 metres consisted of clay/silt fill overlying original sediments.

The control unit is situated approximately ten metres north of the edge of Lyndale Drive and was excavated with a large backhoe. A portion of the outflow pipe trench and the first chamber were excavated during December, 1995. The operations were interrupted by a blizzard on December 8, at the same time as the excavations encountered the water table. The excavations were totally flooded and froze up. Subsequent excavation provided minimal opportunities for observation of strata thicknesses and textures, as the soils were submerged in rapidly in-flowing water, becoming mixed into a greyish soup when the backhoe bucket was excavating deeper. The second chamber, abutting on the south wall of the first chamber, was excavated during May, 1996. At this time, the water table was lower and the influx of water, when encountered at six metres below surface, was not rapid enough to obscure the stratigraphy until a depth of approximately 7.5 metres.

Due to the relatively steep slope of the river bank, the trench for the installation of the outflow pipe was never greater than 4.0 metres below surface. No evidence of cultural horizons was observed during this phase.

A small, very localized cultural horizon was encountered during the excavation of the second chamber. The archaeological deposit did not extend to the edges of the chamber excavation which measured 4 metres by 4 metres. Due to the depth (3.5 metres below surface) and the constrained working area, the entire horizon was removed *en bloc* by the backhoe and placed to one side of the backdirt pile. The material was secondarily excavated by trowel, during which a total of 480 Precontact artifacts were recovered. Earlier, during examination of the upper fill horizon, an historic artifact had been recovered.

3.1 Stratigraphy

The stratigraphy was similar to the soil profiles observed during the St. Mary's Road component. The upper horizon, beneath the top soil layer, consisted of relocated silts and clays extending to a depth of 1.65 metres below surface (Figure 3). The original riverine sediments consisted of a

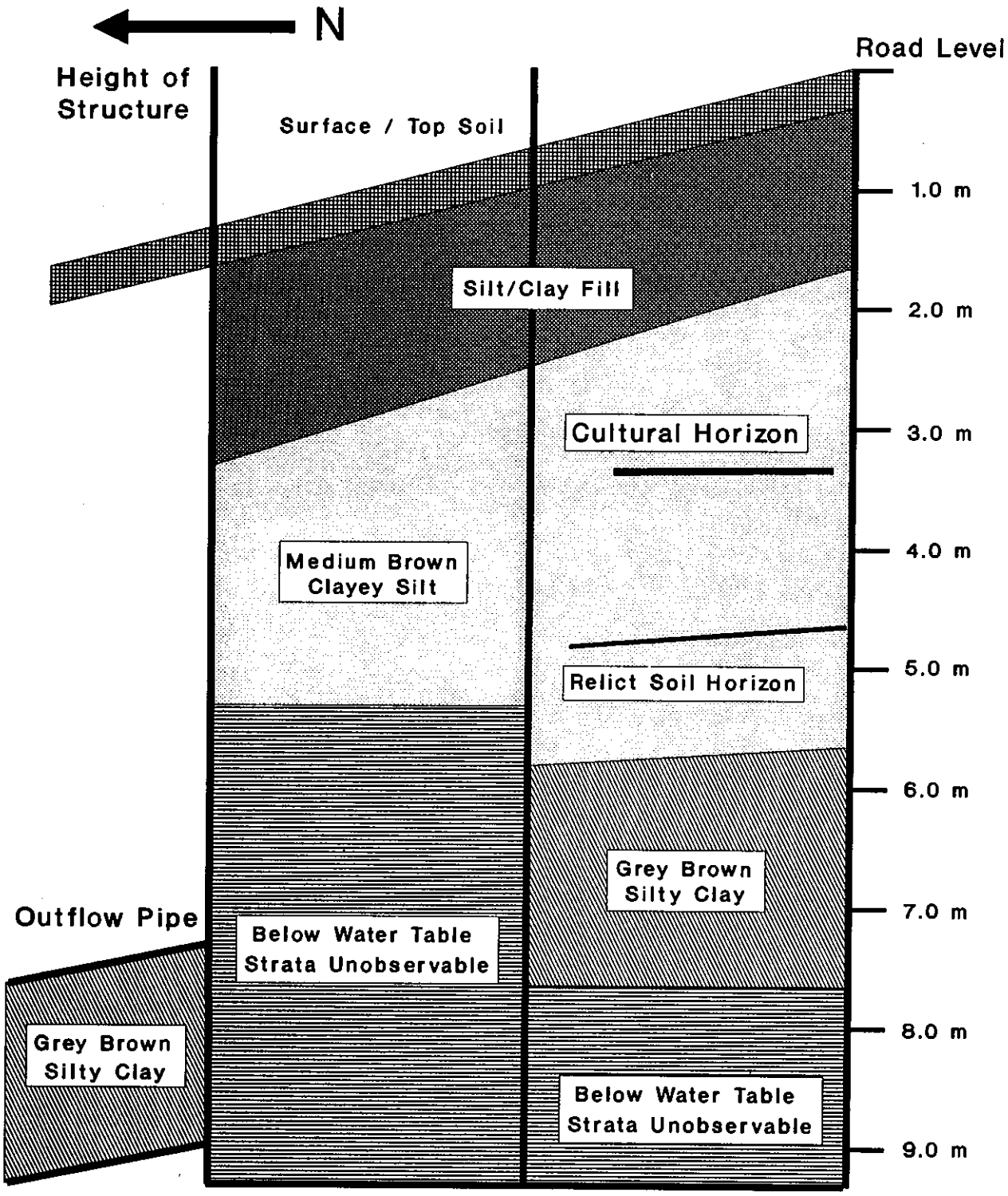

Figure 3: Stratigraphy at the Walmer Street Control Unit

medium brown clayey silt with minor variations in texture (ranging from silt, through clayey silt, to silty clay) and colour (light reddish brown, medium brown, dark yellow brown). Each change in the texture and/or colour would indicate a distinct riverine deposition episode caused by high water and/or flood situations.

The cultural horizon was observed at a depth of 3.5 metres below surface. No evidence of a relict soil horizon, associated with the cultural layer, was present. The horizon was thin (2 to 4 mm), with a slight thickening where a hearth was present. The ash and fire-cracked rock, denoting the hearth area, had a thickness of 3 centimetres.

A very thin relict soil horizon was observed at a depth of 4.6 metres, followed by a change to a grey brown silty clay at 5.6 metres. The water table was encountered at an approximate depth of 6.0 metres. It appeared that the grey brown stratum extended to base, although by 7.5 metres, the influx of water was such that only very minimal sections of unaltered soil could be observed before the movement of the backhoe bucket turned the sediments into a homogenous greyish soup.

3.2 Historic Artifact Recoveries

In the upper fill horizon, only one artifact was recovered. DlLg-76/1, the basal copper portion from a shotgun shell, is stamped with "RO...N HOOD", "SMOKE...S.", "N°", and "2". Smokeless gunpowder was introduced in the late 19th century and was seen as an improvement over black powder. As late as 1909, both types were sold in retail outlets (Ashdown 1909:1264-1268). Hogg (1982:137) notes that the Robin Hood Ammunition Co. and the Robin Hood Powder Co. of Swanton, Vermont manufactured cartridges. Many cartridge manufacturers also produced shotgun shells and DlLg-76/1 would be a product of this company. The shell has been fired as evidenced by the impression of the firing pin in the centre of the artifact. The 'No. 2' size of shot would be used for geese or rabbits, either of which may have occurred at this location. Alternatively, the artifact may have been relocated from a considerable distance during the deposition of the fill layer.

3.3 Precontact Artifact Recoveries

The Precontact horizon consisted of a small (3.5 x 3.0 m) deposit, completely contained within the boundaries of the excavation. No traces were observed on the walls of the excavation after the horizon had been removed. The central feature was a small circular hearth, measuring approximately 45 cm in diameter. Associated with the hearth were lithic detritus, fire-cracked rock, charcoal, and faunal remains. A total of 480 artifacts were recovered from the horizon.

3.3.1 Lithic Artifact Recoveries

Lithic tools were the durable components of the Aboriginal material culture prior to the Fur Trade and the introduction of metal. These artifacts, and the waste products produced during their manufacture, are the most completely preserved element. Certain types of stone, due to their crystalline structure, were favoured for tool manufacture. Once a cobble of the desired material had

been obtained, a sequential manufacturing process was initiated. Flakes were struck from the cobble and those with a sharp edge could be used as cutting tools without further modification.

In addition, flakes could be worked into a variety of shapes and types of tools, i.e., bifacial knives, wedges, scrapers, projectile points, gravers, etc. This working was done through flaking of the edge by use of billets (antler or wood hammers) or flakers—antler, bone, or ivory pointed implements which were used to press off small flakes. During the manufacturing process, a large quantity of waste flakes was produced. These provide evidence of the type of process as well as define the focus of the manufacturing activity area.

Analysis of the types of tools can provide insight into the activities that were undertaken by the occupants of the site. In addition, identification of the different lithic materials present at the site can provide indications of trade patterns and/or the geographical extent of the seasonal round of the occupants. Good quality lithic material would have been procured through trade and local materials would have been collected from quarry locations while in transit between food procurement areas.

While no lithic tools were recovered from the Walmer site, three categories of lithic artifact were recovered—detritus, fire-cracked rock, and manuports. Each indicates a different activity which occurred at the locus.

3.3.1.1 Lithic Detritus

Flakes and cores are the waste products produced during the manufacture of lithic tools from cobbles. A core is the central portion of the cobble which has been discarded after no further usable flakes can be obtained from it. While most cores usually show evidence of numerous flake scars, some may show only a few if the specimen was not producing usable flakes due to internal fracture lines, etc. Forty-one flakes and one core were recovered from the horizon (Table 2).

Six lithic material types were represented, the predominant one being limestone (30 flakes = 71.4%). The second most frequent material is locally derived Selkirk Chert (5 flakes = 11.9%), followed by rhyolite (3 flakes and 1 core = 9.5%). The remaining three material types, Knife River Flint, Swan River Chert, and quartzite, have low frequencies (1 flake each = 2.4% each).

If the probable source areas for the materials is considered, five groupings occur:

- Group I: Materials found throughout the southwestern portion of Manitoba and, in particular, at deposits such as the Souris Gravel Pits. This group includes Swan River Chert.
- Group II: Materials found to the south. The primary example of this group is Knife River Flint which occurs at quarry locations in North Dakota.
- Group III: Materials found to the east and to the north of the Red River, associated with the Canadian Shield. This group includes rhyolite.
- Group IV: Materials found throughout the province as a result of glacial transportation. This group is represented by quartzite.

Group V: Materials from nearby quarry sources. This group is represented by Selkirk Chert and limestone.

The most frequent group is Group V, representing 83.3% of the total. Group III provides 9.5%, while Groups I, II, and IV each provide 2.4%. Group V materials (Selkirk Chert and limestone) could have been found downstream on the Red River. Some materials, such as Group IV, the quartzite, could have been obtained at creek mouths and riffle areas to the west along the Assiniboine River. Group I, II, and III materials may have been obtained through long distance travel. The source area for Knife River Flint is in North Dakota and the material at the Walmer site may have been obtained through either trade or mining in North Dakota (Burns 1995:33-34).

CAT. #	ARTIFACT	MATERIAL	QUANTITY	WEIGHT
4	Flake	Limestone	30	20.0
5	Flake	Swan River Chert	1	0.2
6	Flake	Selkirk Chert	5	0.3
7	Flake	Rhyolite	3	0.9
8	Flake	Knife River Flint	1	0.1
9	Flake	Quartzite	1	0.2
10	Core	Rhyolite	1	239.2
TOTAL			42	260.9

Table 2: Lithic Detritus from the Walmer Site

This assemblage is predominantly represented by local material. The high frequency of limestone, which is not a tool-quality stone, indicates that cobbles of limestone were shattered at the site to obtain usable flakes of Selkirk Chert, which occurs as nodules in the limestone. The limestone specimens probably derived from a single activity by one individual. If these flakes are excluded from the assemblage, it would indicate that minimal lithic manufacturing occurred—perhaps the manufacture of one tool from Selkirk Chert and the sharpening of three already existing tools.

3.3.1.2 Fire-cracked Rock

Rock that is subjected to fluctuations of intense heat and cool periods tends to break in angular patterns or, in the case of a granular rock like granite, begins to decompose. A total of 30 fragments showing evidence of this type of activity were recovered: 22 granite (weighing 409.4 gms) and 8 diorite fragments (weighing 558.8 gms).

Fire-cracked rock is generally assumed to be the result of fluctuating heat situations caused by the stones' function as the outline of a hearth. While ethnographic references note the use of stones as heating agents where hot stones were placed in containers of liquid to raise the temperature for cooking, it would be logical to assume that cohesive stones, rather than granular stones, would be preferred for this use as 'boiling stones', as less of the rock material would spall off into the food. Granite and diorite cobbles tend to disintegrate after repeated hot-cold cycles and are not likely to have been used as boiling stones but rather as hearth stones.

3.3.1.3 Manuports

Manuport is an archaeological term referring to an unmodified object which could have only arrived at the location where it was found due to people carrying it there. A familiar example is the rocks that make up the circle for a tipi ring.

At this location, a single, unmodified pebble of tool-quality chalcedony was recovered. DlLg-76/11 weighs 22.6 gms and is large enough for the production of a scraper or small biface. In addition, four limestone cobbles (DlLg-76/12) were present. These cobbles, weighing 1357.7 gms, may have been used as boiling stones or were transported to the site as a possible source of Selkirk chert nodules, embedded within the cobbles.

3.3.2 Floral Artifacts

A total of 152 pieces of charcoal, weighing 4.7 gms, were recovered. These specimens (DlLg-76/15) derived from Angiospermae (deciduous trees) as opposed to Gymnospermae (coniferous trees). The charcoal probably derives from the hearth where the fire was fed with local wood from trees in the riverine gallery forest. Future research, identifying the individual species, may be useful for palaeobotanical information. However, this lies beyond the scope of this project.

3.3.3 Faunal Recoveries

The majority of the 250 faunal recoveries from the Walmer site are the residue of subsistence activities, indicating which species were hunted and butchered for food. A small percentage results from natural deposition, i.e., becoming incorporated within the sediments at the site without human intervention.

3.3.3.1 Butchering Remains

A total of 235 butchering remains were recovered (Table 3). Within the identified classes and species, the data was quantified by taxon, both in terms of quantities of specimens and their combined weight.

During laboratory analysis, all faunal material was identified to the lowest taxonomic level possible, given the condition of the artifacts. All faunal remains were examined and identified as specifically as possible: body part, age of individual, and species. Most of the specimens were severely fragmented, permitting only Class identifications. Any evidence of butchering, such as cut marks,

was recorded as was the condition, if applicable, of the specimens, i.e., charred, calcined, chewed, or gnawed.

TAXON	QTY	FREQUENCY	WT	FREQUENCY
Mammal				
Medium/Large Mammal	6	2.6	2.7	4.0
Medium Mammal	2	0.9	0.3	0.4
Small/Medium Mammal	1	0.4	0.2	0.3
Small Mammal	9	3.8	0.1	0.1
TOTAL MAMMAL	18	7.7	3.3	4.8
Undifferentiated Fish	194	82.6	8.4	12.4
Catostomidae (Sucker Family)	9	3.8	1.2	1.8
Ictalurus sp. (Catfish)	2	0.9	3.7	5.4
TOTAL FISH	205	87.3	13.3	19.6
Shellfish				
Amblema plicata (Three Ridge)	12	5.1	51.3	75.6
TOTAL FRESHWATER CLAM	12	5.1	51.3	75.6
TOTAL FOOD REMAINS	235	100.1	67.9	100.0

Table 3: Identified Faunal Taxa from the Walmer Site

In terms of quantities, fish specimens predominate (87.3%) with mammal remains providing 7.7% of the frequency and freshwater clam providing the remainder, 5.1%, of the frequency. If the weight is the determining criterion, freshwater clam becomes dominant (Table 3), providing 75.6% of the total, compared to 19.6% for fish and 4.8% for mammals. As the weight of a clamshell is out of proportion with the usable meat obtained from the clam when compared with fish, mammals, or birds, the inclusion of this specimen can skew the data considerably. If the clam shell is excluded from the calculations, the frequencies become: mammal - 8.1% by quantity and 16.7% by weight; fish - 91.9% by quantity and 83.3% by weight.

Both methods of analysis provide useful information. The numbers of individual animals represented by the faunal remains can be determined by counting the frequency of specific elements identified to individual taxa. As bone weight varies directly with usable meat weight, the weight category can provide a relative portrayal of the importance of the taxon in terms of food available to the occupants. A detailed faunal analysis, beyond the scope of this report, can determine the minimum number of each species represented in the faunal assemblage, age of specific individuals through analysis of annular rings in teeth and fish scales, season of procurement through analysis of fish scales and epiphysial adhesion, and idiosyncratic pathologies for specific individuals.

Within the mammal taxon, no species could be positively identified. The majority of mammal bones were too fragmented for identification to element and/or species and could only be assigned to the generalized size ranges. Only DlLg-76/17 could be identified to an element—a small/medium femur fragment. DlLg-78/18 consists of two medium mammal long bone fragments. DlLg-76/19 consists of six medium/large mammal unidentifiable elements that are charred and DlLg-76/16 consists of nine small mammal unidentifiable fragments that are calcined.

The majority of the fish recoveries are not identifiable to taxon, although many of the elements could be identified. Some elements such as vertebrae, ribs, and scales rarely can be assigned to a specific species. Only 5.4% of the fish remains could be identified to family or genus. Nine elements (4.4% of the fish remains) could be identified to the Sucker family which includes several species present in the Red and Assiniboine rivers (Scott and Crossman 1973). Sucker provided the largest number of identifiable elements, although catfish (*Ictalurus* sp.), with its more massive bones, dominates the identified fish recoveries by weight. None of the fish remains showed evidence of charring or calcining.

Only one species of freshwater clam was present. DlLg-76/2 consists of 12 fragments of a valve, identified as *Amblema plicata* (Three Ridge Clam).

3.3.3.2 Naturally Deposited Faunal Remains

Fifteen Sphaeriidae valves (DlLg-76/3) were curated. These specimens, with a total weight of 0.4 gms, comprise 6% of the faunal recoveries. Naturally deposited faunal remains are not always contemporaneous with site occupation. Freshwater snails (such as Sphaeriidae and Lymnaeidae) are aquatic residents and would have been deposited during high water episodes, either before or after the site occupation. The deposition would have occurred along with sediment deposition and, as such, are incorporated into the soil matrix that encapsulates the cultural deposit.

3.3.4 Samples

Samples generally consist of specimens which are recovered on a one millimetre screen and contain diverse artifacts, i.e., charcoal fragments, shell fragments, and small fragmented bone elements. Intensive detailed study of this type of recovery might result in the identification of various plant or animal species. Most of the dominant taxa are already represented by the larger recoveries and the additional information obtained through comprehensive analysis of samples usually is that of degree rather than confirming the presence of a particular taxon. Only one sample was curated, DlLg-76/34 contains bone, shell, and charcoal and weighs 76.8 grams.

3.3.5 Summary

No diagnostic artifacts are present in this localized cultural horizon. Lithic tools can provide relative dates based upon typologies. However, the residue from tool manufacture is undatable as the techniques span several millennia. Based upon the stratigraphic location of the horizon, approximately 1.8 metres below the recent fill layers, it is estimated that the site was occupied at least 1000 years ago.

4.0 SOUTH POINT COMPONENT

The installation of sub-surface services throughout the South Point area entailed upgrading existing components west of Main Street and installing new pipes east of Main Street. The original pumphouse, at the southeast corner of Stradbrook Avenue and Main Street, was demolished and new installations were connected to the new pumphouse at Mayfair Avenue. A large outfall pipe was installed from the north side of the new pumphouse to the bank of the Assiniboine River.

4.1 Pipe Installations

The construction west of Main Street primarily consisted of replacing existing pipe placements with larger diameter pipes. Where vertical shafts were excavated, they usually were immediately adjacent to existing manholes and encountered only fill deposits. Construction east of Main Street consisted of open trench excavation to install forcemains and land drainage sewer lines which connected with the new pumphouse and with lines which crossed both rivers.

The trenches east of Main Street encountered a thick layer of recent fill which extended across the area. This fill horizon, containing structural material, cinders, bottles, etc., had been previously encountered during the initial impact assessment (Quaternary 1990a) and the excavations for the C.N. Rail Overpass Reconstruction (Quaternary 1995b), the north abutment of the Norwood Bridge (Quaternary 1996a), the south abutment of the Main Street bridge (Quaternary 1996b), and the Main Street retaining wall (Quaternary 1996c). This layer extended to a depth of one and one-half metres. Below the fill horizon, undisturbed riverine sediments were encountered: silts and clays in the southern portion and sands and silts in the northern portion. No Precontact archaeological horizons were present. Stratigraphic profiles detailing these sequences have been published in the above reports.

The excavations were undertaken with a large backhoe and the extracted soils were trucked off site. During the monitoring of the excavations, diagnostic historic artifacts were retrieved from the open face of the trench excavations. As a larger scale project—the construction of the new road linking the two new bridges—was scheduled to occur in the same locality, it was decided to retain the curated specimens and analyze them in conjunction with recoveries during the road construction project (Quaternary n.d). This decision was based upon the stratigraphic data which indicated that the fill horizon was widespread and did not represent *in situ* activities, but rather it represented sequential dumping of waste material on unoccupied land.

4.2 Pumphouse Outfall Installation

A large diameter (1600 mm) outflow pipe was installed in an open-cut trench extending from the base of the pumphouse to the river edge. The excavation was done by backhoe with the majority of the extracted soils being trucked off site. Sufficient soil was retained for infill after the installation. The excavations were monitored and the stratigraphic profile was recorded.

The upper sediments consisted of sand and gravel overlying a buried top soil which extended to a depth of 63 cm. The next 60 cm consisted of alternating layers of light and dark silt which represent bank slump, with some minor soil development between slumps. A 20 cm thick sand horizon was encountered at 1.25 metres below surface, underlain by a dark brown relict soil horizon. From this depth to the base at which Lake Agassiz clays were encountered, the sediments consisted of alternating layers of light brown sand and medium to light brown silt, similar to the stratigraphic sequence recorded at the south abutment of the new Main Street Bridge (Quaternary 1996b:42-44). No relict soil horizons were present below 1.5 metres and no archaeological horizons were present.

4.3 Historical Data

An anecdotal portion of the history of the area was provided by Mr. Kenneth Sutton, now residing in St. James. His memory of events and structures in the area had been triggered by the presence of a portion of green-painted hand rail at the edge of the outfall trench excavation. Mr. Sutton remembered that, as a child during the 1930s, he and his mother had walked over the bridge to go downtown and occasionally would stop at a store just south of the Main Street Bridge to purchase a soft drink. He recalled that one had to step down from the sidewalk, where there was a green hand rail.

Archival research in the Winnipeg Henderson Directories indicated that William H. Cox operated a store at 32 Main Street between 1935 and 1938. Three residential buildings were situated between the store and the Assiniboine riverbank. Mr. Sutton's recollection of stepping down below sidewalk level corresponds with the stratigraphic data recovered during the pumphouse construction where the original soil horizon was 50 cm below the current level (Quaternary 1995a:3)

5.0 MAIN STREET COMPONENT

The installations along Main Street occurred from Assiniboine Avenue to the limits of construction of the new Main Street Bridge. The initial tie-in with existing services occurred in the central median of the street with the new pipe bored to the east side of the street, after which it continued south to a manhole adjacent to the bridge. A series of six vertical shafts were augered, with the pipe tunnel bored between them. Complications caused by the borer hitting structural steel resulted in a short section in the middle of the area being excavated by backhoe to install the pipe in an open-cut trench. Considerable prior impact was observed in most of the holes: gas lines, telephone lines, Hydro lines, and former building steel I-beam pilings.

The area that is now the parking lot for the North West Company has been occupied by a series of buildings housing numerous companies (Kroker and Goundry 1990:157-160). There were structures at 71, 75, and 77 Main Street. The first structure was at 71 Main and was erected by Memorial Marble and Tile Company in 1927. Over the years, several different business occupied these premises: Manitoba Auto Painting Company, Main Auto Painting Company, Superior Roofing Company, Canada Creosoting Company, Lighting Materials Company, Skidmore Signs, Brothan Painting and Decorating, Stavely Tire Service, HB Motors, and Pryce Motors. A second adjacent building was erected by Standard Brands Ltd in 1935. This building was numbered 75 Main. The longest-lasting business, Morley's Service Station, was established at 77 Main in 1934 and operated until 1956.

Sub-surface activities relating to the construction of these buildings, as well as the installation of services to the structures have resulted in considerable land modification in and adjacent to the impact zone for the current construction project. The thick deposits of fill (Table 4) are evidence of previous excavations in the area. The vertical steel I-beams probably were the footing support for one of the previously noted buildings.

No relict soil horizons were observed. The stratigraphic sequence was relatively uniform throughout (Table 4). The operations were conducted in late February, 1996 and the steam which occurred when the -30° air encountered the unfrozen soil from lower depths made the determination of soil colour and texture difficult. Very thin relict horizons (less than 0.5 cm) may have been obscured by the rotary action of the auger or, if present, not seen due to inclement observation conditions.

HOLE 1	HOLE 2	HOLE 3	HOLE 3A	HOLE 4	HOLE 5	STRATUM
0 - 60	0 - 250	0 - 60	0 - 165	0 - 310	0 - 95	Gravel, clay fill
60 - 180	⇓⇓⇓⇓	60 - 120	⇓⇓⇓⇓	⇓⇓⇓⇓	⇓⇓⇓⇓	Black loam
180 - 195	⇓⇓⇓⇓	120 - 225	165 - 240	⇓⇓⇓⇓	95 - 260	Medium brown clayey silt
195 - 200	⇓⇓⇓⇓	⇓⇓⇓⇓	⇓⇓⇓⇓	⇓⇓⇓⇓	⇓⇓⇓⇓	Sand
⇓⇓⇓⇓	250 - 250	225 - 228	⇓⇓⇓⇓	⇓⇓⇓⇓	⇓⇓⇓⇓	Wood
200 - 300	250 - 325	228 - 400	240 - 400	310 - 410	260 - 300	Dark brown clayey silt
300 - 303	⇓⇓⇓⇓	⇓⇓⇓⇓	⇓⇓⇓⇓	⇓⇓⇓⇓	⇓⇓⇓⇓	Sand
303 - 325	⇓⇓⇓⇓	400 - 425	400 - 420	410 - 440	⇓⇓⇓⇓	Grey brown mottled clay
325 - 400	325 - 400	⇓⇓⇓⇓	420 - 435	⇓⇓⇓⇓	300 - 380	Dark grey brown clay
400 - 450	400 - 480	425 - 505	435 - 515	440 - 485	380 - 465	Marly grey brown clay
450 - 625	480 - 560	505 - 530	BASE	BASE	BASE	Grey blocky clay
BASE	BASE	BASE				

Table 4: Stratigraphic Profiles along the East Side of Main Street

6.0 BONNYCASTLE PARK COMPONENT

The Bonnycastle Park component consisted of the excavation of three vertical shafts for the installation of outflow control units which are tied into existing land drainage sewer lines. Two of the three shafts were situated near the north bank of the Assiniboine River, immediately west of the Winnipeg Hydro structure, while the third hole was excavated to the north, approximately equidistant between the structure and Assiniboine Avenue. All three shafts were excavated, in stages, by a large backhoe, with shoring installed at each stage.

The outflow pipe from the southernmost square shaft (Hole 1) was installed in a hand-dug tunnel, extending from the shaft to the river's edge where a short trench had been excavated by backhoe. The linkage between Hole 1 and the circular Hole 2 (seven metres to the north) was also hand-dug, while the linkage to Hole 3 was bored.

The monitoring technique consisted of visual examination of the soil as it was being scooped by the backhoe bucket. The physical constraints of the dimensions of the shafts (Holes 1 and 3 - 4 x 4 metres; Hole 2 - 5 metre diameter) precluded being in the excavation when the backhoe was removing soil. After each stage had been excavated and prior to the installation of the shoring, the walls of the shaft were examined and stratigraphy recorded. The extracted soil was trucked off-site eliminating the possibility of investigating the backdirt.

6.1 Stratigraphy

The stratigraphy (Figure 4) shows that there has been considerable modification to the topography in the recent past. The upper horizon in Hole 1 consists of layers of fill of different material and slopes riverward at a steep angle. The original soils were encountered at 255 cm below surface at the northwest corner of the shaft and at 650 cm below surface at the southeast corner. A detailed soil profile was recorded with measurements taken at the northwest corner (Table 5). The depths of the strata at the south edge are indicated in Figure 4. The slope of the upper recent strata is considerable. The crew, that was hand excavating the outflow tunnel, encountered historic artifacts in recent fill layers when they had progressed three metres south of the vertical shaft.

The stratigraphy in Hole 2 was more level. The horizons observed in this shaft (Table 6) usually had equivalent strata at the same depth as the north edge of Hole 1 (Figure 4). Two cultural horizons were encountered during the excavation of Hole 2. The upper horizon, at a depth of 315 cm, was discontinuous and apparently had been disrupted by a prior event, probably erosion occurring during a high water episode. The stratum, as observed in the walls of the excavation, was sparse, with minimal content of artifacts and charcoal. The lower horizon, at a depth of 395 cm, was much thicker and was continuous around the walls of the shaft. This archaeological layer contained several ceramic sherds and faunal remains in a soil horizon heavily impregnated with charcoal. Two ash deposits indicating hearths were observed, both of which had been truncated by water erosion. The hearth on the south wall of the excavation contained ceramic basal sherds, suggesting that the pot had shattered during cooking. The western ash deposit contained only bone.

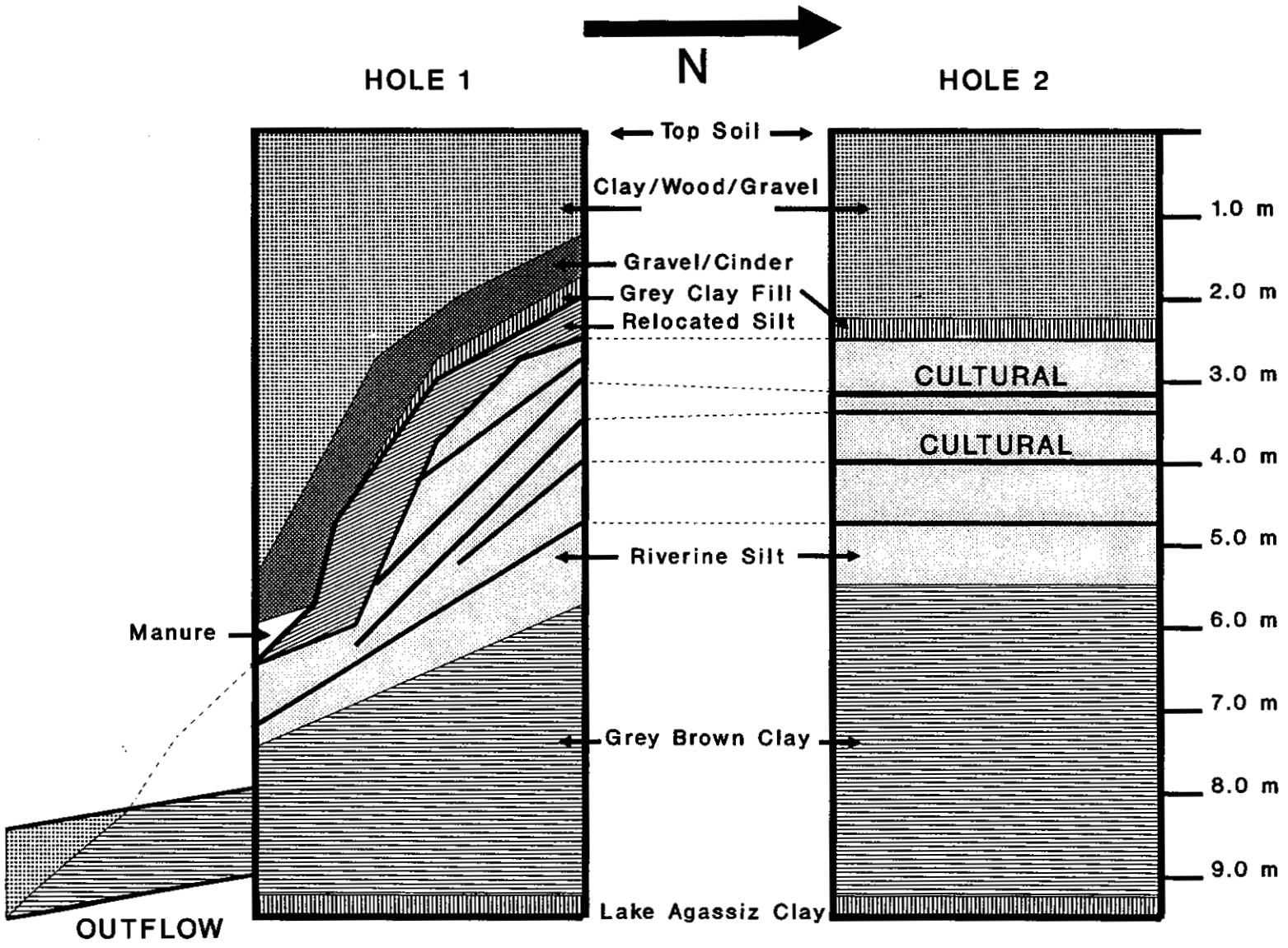

Figure 4: Generalized Stratigraphy at Bonnycastle Park

DEPTH	STRATUM
0 - 10	Top soil
10 - 120	Alternating gravel and clay fill
120 - 156	Mix of gravel and black cinder
156 - 160	Grey ash
160 - 170	Black cinder
170 - 190	Mix of grey clay and black cinder
190 - 205	Grey clay fill
205 - 213	A Horizon - brownish black loam
213 - 218	Dark brown silt - relocated fill
218 - 255	Medium brown clayey silt - relocated fill
255 - 258	Organic horizon - incipient soil zone
258 - 275	Medium brown clayey silt
275 - 277	A Horizon
277 - 305	Medium brown clayey silt
305 - 307	Double A Horizon
307 - 309	Light brown sand
309 - 338	Medium brown clayey silt
338 - 339	A Horizon
339 - 395	Medium greyish brown silty clay
395 - 395	Faint A Horizon
395 - 475	Medium brown silty clay
475 - 475	Faint A Horizon
475 - 522	Medium brown silty clay
522 - 533	Light brown sand
533 - 568	Medium brown silt
568 - 569	Marly silty clay
569 - 645	Grey brown silty clay
645 - 710	Grey brown clay
710 - 740	Hematite-stained grey brown clay
740 - 920	Blocky grey brown clay, some banding, some hematite
920 - 935	Lake Agassiz clay

Table 5: Stratigraphic Profile Recorded in Hole 1

DEPTH	STRATUM
0 - 10	Top soil
10 - 182	Alternating gravel and clay fill with brick, etc.
182 - 210	Dark grey black clay with wood
210 - 220	Sawdust with clay
220 - 241	Grey clay
241 - 249	Collapsed A Horizons (2 or 3)
249 - 280	Light grey brown silty clay
280 - 315	Medium brown clayey silt
315 - 317	CULTURAL HORIZON - appears disrupted
317 - 319	Light brown clayey silt
319 - 320	A Horizon
320 - 336	Light brown clayey silt
336 - 337	A Horizon
337 - 396	Light brown clayey silt
396 - 401	CULTURAL HORIZON - undulating
401 - 475	Light brown clayey silt
475 - 476	A Horizon
476 - 506	Light brown silty clay
506 - 537	Dark grey brown silty clay
537 - 547	Medium brown clay
547 - 610	Grey brown silty clay
610 - 720	Grey brown clay
720 - 915	Dark grey brown clay, some hematite staining at base
915 - 935	Lake Agassiz clay

Table 6: Stratigraphic Profile Recorded in Hole 2

The excavation of Hole 3 passed entirely through fill deposits from surface to the base. An iron pipe was encountered at a depth of 240 cm and the shaft terminated when it reached a large sewer pipe constructed of brick at 560 cm. The circular masonry pipe measured approximately 1.8 metres in diameter. The fill material consisted of relocated clay with some admixture of gravel, cinders, and brick fragments.

6.2 Historic Artifact Recoveries

The historic artifacts, recovered during the monitoring, have been analyzed within functional categories based on the Canadian Heritage Inventory Network (CHIN) cataloguing format. All manufacturing equipment or all hardware will be examined together, rather than examining all glass artifacts and then all metal artifacts. A total of thirty-six historic artifacts was recovered.

6.2.1 Architectural Objects

This functional category includes all artifacts which are used for the construction, the maintenance, and the furnishing of structures. These items can be made of many different materials: metal, glass, wood. Due to corrosion and fragmentation, many architectural objects are seldom identifiable to manufacturer or time period. For the purpose of this discussion, the following sub-categories will be used: Hardware and Accoutrements.

6.2.1.1 Hardware

Hardware consists of items which are used for the construction of a structure. Only house insulators were catalogued in this sub-category. DlLg-21:95A/5 is a broken, grey, tubular, pass-through insulator. It measures 65.9 mm in length and 25.9 mm in diameter. DlLg-21:95A/6 is a white, round, knob insulator (Amory 1969:661), with a groove about two-thirds up the body. There is a recessed centre at the top so that the anchoring screw or nail is flush with the top of the insulator. It is complete and quite small, measuring 23.5 mm in height with a diameter of 21.7 mm. Neither DlLg-21:95A/5 or 6 have any indication of a manufacturer.

6.2.1.2 Accoutrements

Artifacts ascribed to this category pertain to the finishing touches of a structure. Only one sherd of windowpane was catalogued. DlLg-21:95A/1 is a small, thin (1.8 mm thick), clear sherd with no decoration.

6.2.2 Containers

This category includes all artifacts, or portions of artifacts, which are used to contain products. The grouping consists of several sub-categories, two of which are applicable to the artifacts recovered from the Bonnycastle Park site:

a. Storage - the purpose of the container is to hold material, e.g., bottles, jars, tin cans, boxes; and
b. Dinnerware - the artifact is used in the serving or eating of food.

6.2.2.1 Storage

Storage containers are often the most common artifacts recovered. Products are sold, transported, carried, or stored in a container of some type. Containers come in a variety of material types, three of which—metal, wood, and glass—were recovered.

6.2.2.1.1 Metal Containers

DlLg-21:95A/8 consists of two portions of tin cans. Both are severely crushed and corroded and neither have any indication of the contents or the manufacturer. The manufacturing technique, where there is an overlapped side seam and a reinforced central component at the base and top, suggests manufacture prior to WWI.

6.2.2.1.2 Wooden Containers

DlLg-21:95A/7 is a carved piece of flat wood, possibly a stave from a bucket or pail. It measures 145.8 mm in length, 41.3 mm in width, and 7.9 mm in thickness.

6.2.2.1.3 Glass Containers

The glass container specimens consist of two incomplete artifacts. Indications of the method of manufacture, which provide information about time period and technology, are often present on glass containers. The specimens have been identified to the type of container, i.e., beverage bottle and unassignable bottle.

6.2.2.1.3.1 Beverage Bottles

As generic bottles, with paper labels, were used for both soft drinks and beer, it is often impossible to ascribe a specific product to an archaeologically recovered bottle. Thus, the bottles are assigned to the generalized Beverage class. Within this sub-type, it may be possible to identify the producer of the contents, the manufacturer of the container, both, or neither. One aqua, body,base sherd was assigned to this category.

DlLg-21:95A/3 has an embossed beaver and the word "TRADE" occurring on the base. A portion of the name of the bottler, "PE...& SONS", is embossed on the body/base juncture. As well, part of the standard ownership clause—"THIS BOTTLE IS OUR PROPERTY ANY CHARGE MADE THEREFOR SIMPLY COVERS ITS USE WHILE CONTAINING GOODS BOTTLED BY US AND MUST BE RETURNED WHEN EMPTY"—, which occurs on bottles from various Winnipeg beverage companies, is embossed vertically on the remnant of the body.

The Pelissier Brewery has a convoluted history. In 1911, Pelissier & Sons manufactured Soda Water at 721 Furby. In 1914, the company, still manufacturing Soda Water, changed its name to Beaver Brewing and Bottling Company and in 1918 it expanded from 721 to 719 Furby. A name change, to the Home Brewery, and a further expansion, from 719 to 723 Furby, occurred in 1920. At this time, Alphonse, Cleophas, and Henry Pelissier were all listed as executives of the company. The final expansion of the Home Brewery, on the Furby site, took place in 1924, with the Brewery now occupying 715 to 723 Furby. In 1925, perhaps in search of larger premises, the company moved to Osborne and Mulvey, changing its name to Pelissiers Limited. It remained at this location until 1977 when it became Kiewel-Pelissier's Breweries.

The shape of the beaver emblem on DlLg-21:95A/3, the placement of the embossed text, and the version of the manufacturer's name identify the specimen as a product of Pelissier & Sons (1911 to 1914). This type of bottle is identified by Chopping (1978:141) as MWIN BR3.

6.2.2.1.3.2 Unassignable Bottles

Artifacts in this grouping may have some identifying characteristics, such as shape or manufacturer's marks. However, the data is insufficient to permit identification of the function of the container; i.e., sealer versus milk bottle or medicine bottle versus condiment bottle. Occasionally, the style of manufacture suggests the possible contents of the container or the approximate date. The length of the mold seam can indicate a general age, e.g., if the seam extends to the lip of the bottle, it was produced after 1920.

DlLg-21:95A/2 is a small, aqua body sherd. The specimen originates from the shoulder area of a thin-walled bottle. It has no markings to identify a manufacturer, a company, or a product and cannot be dated.

6.2.3 Dinnerware

Plates, cups, bowls, etc., are types of containers and technically are catalogued as a sub-category within the container category. For purposes of analysis, dinnerware can be considered as a distinct entity and, accordingly, it is described in a separate section. Dinnerware artifacts can be composed of different materials, however, only one ceramic sherd was recovered.

DlLg-21:95A/4 is a single purple-on-white, body,base sherd from a plate. The pattern, which occurs on the body, consists of a row of small balls suspended from a double horizontal line. There is no maker's mark on the base of this sherd.

6.2.4 Faunal Remains

All of the recovered faunal specimens are the residue from food resources (Table 7) and all of the twenty-seven specimens are cow (*Bos taurus*) bones. During analysis, the body part, the age of the individual, any evidence of butchering techniques, such as cutting or sawing, and condition, i.e., charred, broken, chewed, or gnawed was recorded.

With the exception of DlLg-21:95A/20, all of the elements show evidence of butchering activities: sawing, axing, cutting, spiral fracturing, or cut marks. All of the specimens are adult animals and may represent several adult individuals. Based upon the innominates and radii, at least two different individuals are represented, although different elements show varying degrees of robustness or gracility, suggesting that as many as four or five distinct individuals may be present.

TAXON	ELEMENT	QTY	CAT. NO.	COMMENTS
Cow (*Bos taurus*)	Atlas	1	9	Adult; axed
	Humerus	2	10	Adult; sawn
	Radius;Ulna	3	11	Adult; spiral fracture
	Radius	1	12	Adult; spiral fracture
	Sacrum	1	13	Adult; axed
	Rib	2	14	Adult; sawn
	Tibia	1	15	Adult; cut marks, sawn
	Scapula	2	16	Adult; sawn; cut
	Long bone	3	17	Adult; sawn
	Vertebra	4	18	Adult; sawn; cut
	Innominate	5	19	Adult; sawn; cut
	Mandible;Tooth	2	20	Adult
TOTAL		27		

Table 7: Historic Mammal Recoveries from the Bonnycastle Park Site

6.3 Precontact Artifacts

Two archaeological horizons were encountered during the excavation of Hole 2. Both contained native ceramics, indicating that the occupations had occurred prior to the replacement of ceramic cooking vessels with metal containers introduced by European fur traders. Due to the constraints of the mechanized excavation, only those manifestations of the horizons at the edges of the vertical shaft could be investigated. Accordingly, the artifact recoveries are only indicative of the activities that had occurred at the location, rather than comprehensive.

6.3.1 Artifacts From Level 1

Level 1 consisted of an apparently disrupted horizon in that it was not continuous. The disruptive cause was probably water erosion which occurred during a high water episode after the deposition of the cultural material in the site. Traces of the horizon were intermittent around the perimeter of the shaft, with little artifact content in the soil matrix.

6.3.1.1 Ceramic Artifacts

The manufacture of earthenware containers for cooking and storage is a relatively recent technological development in Manitoba history. The Woodland period, the most recent division of Precontact times (following the Archaic period), is usually defined by the appearance of ceramics in the local material culture. The Initial Woodland Phase includes the Laurel Tradition which is characterized by decorated ceramic vessels manufactured by coiling strips of grit-tempered clay. Laurel sites, from central Saskatchewan through to northern Michigan, have dated between 200

B.C. and A.D. 1000 (Manitoba Culture, Heritage and Recreation 1989). To date, no evidence of this type of ceramic ware has been found in Winnipeg.

The Late Woodland Phase includes cultures which can be traced to the Historic Period, i.e., these peoples met the European explorers during the 18th century. In southern Manitoba, this phase includes the Blackduck Tradition and the Selkirk Tradition. Both groups manufactured pottery by the paddle and anvil technique or by formation within a fabric mold (Manitoba Culture, Heritage and Recreation 1989). The decorative techniques, particularly on the rims of the ceramic containers, are used to distinguish between the pottery of the two groups. The undecorated body sherds cannot be assigned to either tradition and are designated as generalized Late Woodland.

Blackduck and derivative ceramics are decorated with distinctive Cord-Wrapped Object Impressions (CWOI) in oblique and horizontal patterns. Punctates are also a common design element (Manitoba Culture, Heritage and Recreation 1989). The earliest date for Blackduck occupation in the vicinity is A.D. 510 (Priess, Nieuwhof *et al.* 1986) and several other occurrences have been recorded (Quaternary 1989, 1990b, 1990c, 1990d; Kroker and Goundry 1990:132-135). The other co-existing ceramic manufacturing tradition, Selkirk, has vessels which are primarily decorated with a row of punctates. The occupation sites of the Selkirk tradition indicate an affinity for the Boreal Forest, with intermittent use of the Parkland Zone. Some researchers consider the Selkirk tradition to be the direct antecedent of the Cree (Manitoba Culture, Heritage and Recreation 1989), a group of whom were noted, by La Verendrye, to be camped at The Forks in 1738. A cultural horizon, tentatively identified as Selkirk, was recorded at The Forks (Kroker 1989:150-151, 179).

Co-temporaneously with the Woodland ceramics, different decorative techniques identify earthenware products of the Plains cultures. Due to the trade nexus aspect of the junction of the two major rivers, instances of these extra-local wares have been recorded in the vicinity (Quaternary 1992:8, 10, 1994:5-8, 11). One of the distinguishing decorative characteristics is the use of incised designs rather than the CWOI or punctate decorations of the Blackduck and Selkirk traditions.

Two ceramic artifacts were recovered from Level 1. One is a neck portion of a rim sherd, while the other is a body sherd.

6.3.1.1.1 Rim Sherds

DlLg-21:95A/23, the rim sherd, is a small, 19.0 mm wide by 12.9 mm high by 6.7 mm thick, curved portion of the neck. The decoration consists of widely-spaced CWOI on the exterior surface. The vessel is composed of a laminated paste containing only small quantities of very fine grit. The decorative technique identifies the vessel as Late Woodland, and more specifically, as a late derivative form of Blackduck.

6.3.1.1.2 Body Sherds

DlLg-21:95A/24 consists of five, textile-impressed body sherds. These sherds are composed of a laminated paste which contains larger quantities of coarse, irregular-shaped grit. One of the sherds

has some carbon encrustation on the interior surface. This is the result of residue from food preparation.

6.3.1.2 Faunal Recoveries

The two faunal recoveries from Level 1 in Hole 2 are both the residue of subsistence activities. DlLg-21:95A/21 is a portion of a long bone from a large mammal. The specimen has been spirally fractured and the cortex shows evidence of weathering. This would suggest that the bone fragment lay on the ground surface for a length of time before being buried by sediment deposition during a subsequent high water episode.

DlLg-21:95A/22 is a single fish scale which cannot be identified to family. The specimen is too incomplete for aging and too weathered to provide seasonality data.

6.3.2 Artifacts From Level 2

Level 2 occurred at a depth of 395 cm below surface and consisted of cultural material resting on a moderately developed A Horizon. The horizon is more continuous than Level 1, as the soil horizon, impregnated with charcoal, was present on all sides of the excavation. Two truncated hearths, containing deposits of ash, ceramic sherds, and faunal material, were present.

6.3.2.1 Ceramic Artifacts

The only ceramic recoveries from Level 2 were body sherds. The absence of rim sherds precludes firm identification of the cultural group which produced the vessels, whose remnants were incorporated in the archaeological stratum. DlLg-21:95A/29 consists of ten basal sherds beginning to show curvature into the body portion of the vessel. Several of these sherds are very large in size: one measures 135.9 mm wide by 64.0 high by 11.0 mm thick, indicating a very large pot. The remainder of the sherds are smaller in size although the relative thickness is consistent. The paste is not laminated and has very few small fragments of grit. The surface has been smoothed with an implement which has left irregularly spaced shallow grooves running horizontally on the exterior surface. The interior surface has no evidence of carbon encrustation, however, slight traces of carbonized material adheres to the exterior of some of the sherds. The configuration of the base suggests that the vessel is a globular specimen more characteristic of Blackduck or Selkirk ceramics rather than the conical base of Laurel. As such, the age of the horizon would be between A.D. 600 and A.D. 1700.

6.3.2.2 Faunal Recoveries

All of the eleven faunal recoveries from Level 2 are again the residue of subsistence activities (Table 8).

The mammal specimens predominate, particularly the bear elements—DlLg-21:95A/25 (four radius fragments) and DlLg-21:95A/26 (five ulna fragments). The radius fragments fit together, producing an almost complete element. The ulna fragments also fit together, producing the proximal portion

of the element. The medium/large mammal undetermined fragment (DlLg-21:95A/27) may also be bear, however not enough is present to identify it even to element—mandible, skull, scapula, or innominate.

TAXON	QTY	FREQUENCY	WT	FREQUENCY
Mammal Medium/Large Mammal Carnivora Ursidae *Ursus americanus* (bear)	1 9	9.1 81.8	3.2 91.0	3.4 95.9
TOTAL MAMMAL	10	90.9	94.2	99.3
Undifferentiated Fish *Ictalurus* sp. (Catfish)	1	9.1	0.7	0.7
TOTAL FISH	1	9.1	0.7	0.7
TOTAL FOOD REMAINS	11	100.0	94.9	100.0

Table 8: Identified Faunal Taxa from Level 2

The *Ictalurus* specimen, DlLg-21:95A/28, is a cleithrum. Catfish are common in the Red and Assiniboine Rivers (Scott and Crossman 1973).

7.0 SUMMARY AND RECOMMENDATIONS

The widespread components of this part of the Main/Norwood Bridge Project encompassed the north and south banks of both the Assiniboine River and the Red River. Two new archaeological sites were located: DlLg-72 on St. Mary's Road and DlLg-76 at the intersection of Walmer Street and Lyndale Drive. New archaeological horizons containing diagnostic Precontact ceramics were recorded at DlLg-21 (Bonnycastle Park), a site previously identified as the fur trade centre, Upper Fort Garry.

Large portions of the impact zone contained no archaeological resources, i.e., the Mayfair Pumphouse outfall component, most of the St. Mary's Road component, and the Walmer Street component. Other portions of the project recorded only evidence of recent deposition, either through waste disposal (South Point) or land modification (Main Street).

Given the numerous instances of the presence of archaeological resources adjacent to the riverbanks of both rivers, any excavations in proximity to either the Red or Assiniboine River should be monitored by an archaeologist. While some areas may not contain any more than very recent deposits, as was the case for the south abutment of the Main Street Bridge (Quaternary 1996b) or the Mayfair Pumphouse outfall, the potential for Fur Trade and Precontact occupation sites of various sizes remains very high.

Accordingly, Quaternary Consultants Ltd. **recommends that riverbank excavations in conjunction with the refurbishment of the Norwood Bridge and the reconstruction of the Main Street Bridge be monitored by an archaeologist.**

Also, due to the presence of the archaeological site encountered during the construction of the C.N. Rail Overpass retaining wall (DlLg-68) as well as the outlier component of that site at the north abutment of the northbound Norwood Bridge, Quaternary Consultants Ltd. **recommends that excavations in conjunction with the reconstruction of Main Street between the Norwood Bridge and the Main Street Bridge be monitored by an archaeologist.**

8.0 BIBLIOGRAPHY

Amory, Cleveland
1969 *1902 Edition of the Sears, Roebuck Catalogue*. Bounty Books, Crown Publishers, Inc., New York.

Ashdown Hardware Company
1909 *Ashdown Catalogue*. Ashdown Hardware Co., Winnipeg.

Borden, C.E.
1954 A Uniform Site Designation Scheme for Canada. *Anthropology in British Columbia* 4:44-48.

Burns, Tammy Elizabeth
1995 Monomineralic Lithic Resources of the Precontact Period in Manitoba, with Special Reference to Monomineralic Quartz. *Manitoba Archaeological Journal*, Volume 5, No. 1. Winnipeg.

Chopping, George C.
1978 *Bottles of the Canadian Prairies*. Self-published: George C. Chopping, Spy Hill, Saskatchewan.

Gilbert, B. Miles
1973 *Mammalian Osteo-Archaeology: North America*. Missouri Archaeological Society, Columbia, Missouri.

Henderson Directories
n.d. *Henderson Directories for Winnipeg (1874-1996)*.

Hogg, Ian V.
1982 *The Cartridge Guide*. Stackpole Books, Harrisburg, Pennsylvania.

Kroker, Sid
1989 *North Assiniboine Node Archaeological Impact Assessment*. The Forks Renewal Corporation, Winnipeg.

Kroker, Sid and Pamela Goundry
1990 *Archaeological Monitoring of the Stage I Construction Program*. The Forks Renewal Corporation, Winnipeg.

1993 *Archaeological Monitoring and Mitigation of the Assiniboine Riverfront Quay*. The Forks Renewal Corporation, Winnipeg.

Manitoba Culture, Heritage and Recreation, Historic Resources Branch

1989 *A Glossary of Manitoba Prehistoric Archaeology*. Manitoba Culture, Heritage and Recreation, Historic Resources Branch, Winnipeg.

Manitoba Museum of Man and Nature

1986 Guides and Manuals for Processing Archaeological Materials. E.L. Syms (Ed.). Winnipeg.

Olsen, Stanley J.

1960 Post-Cranial Skeletal Characters of *Bison* and *Bos*. Harvard University, Peabody Museum, *Papers of the Peabody Museum of Archaeology and Ethnology*, Volume XXXV, No. 4.

1964 Mammal Remains from Archaeological Sites: Part I, Southeastern and Southwestern United States. Harvard University, Peabody Museum, *Papers of the Peabody Museum of Archaeology and Ethnology*, Volume LVI, No. 1.

Priess, Peter J., P.W. Nieuwhof and S.B. Ebell

1986 Archaeological Investigations of the Junction of the Red and Assiniboine River, 1984. Parks Canada, *Research Bulletin* No. 241.

Quaternary Consultants Ltd.

1989 *Provencher Bridge Project Archaeological Impact Assessment*. On file with Wardrop Engineering Inc. and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1990a *Archaeological Assessment of Impact Zones on South Point for the Proposed Norwood/Main Street Bridge Project*. On file with Reid Crowther & Partners and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1990b *Heritage Resources Impact Assessment for Proposed York & St. Mary Avenue Extensions (Main Street - Pioneer Boulevard)*. On file with I.D. Systems Ltd. and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1990c *Assessment of Archaeological Resources Within St. Mary Avenue Extension Right-of-Way*. On file with I.D. Systems Ltd. and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1990d *St. Mary Archaeological Recovery Project: Interim Report*. On file with City of Winnipeg Streets and Transportation Department and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1992 *Archaeological Monitoring of Sub-surface Activities at the B&B Building.* On file with The Manitoba Children's Museum and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1994 *Archaeological Mitigation at the Travel Manitoba Idea Centre at The Forks.* On file with Manitoba Industry Trade and Tourism, Travel Manitoba and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1995a *Archaeological Monitoring and Pumphouse Relocation Component: Main/Norwood Bridge Project.* On file with Reid Crowther & Partners and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1995b *Archaeological Monitoring and Mitigation of the C.N. Rail Overpass Reconstruction - Mile 0.40, Rivers Subdivision P.D. No. 94-32.* On file with Reid Crowther & Partners and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1996a *Archaeological Monitoring and Mitigation of the Northbound Norwood Bridge Construction Project.* On file with Reid Crowther & Partners and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1996b *Archaeological Monitoring of the Northbound Main Street Bridge Construction Project.* On file with Reid Crowther & Partners and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1996c *Archaeological Monitoring of the Main Street Retaining Wall for the C.N. Overpass Reconstruction Project.* On file with Reid Crowther & Partners and Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

n.d. *Archaeological Monitoring and Mitigation of the Northbound Main Street Road Construction.* [In Preparation]

Schmid, Elisabeth

1972 *Atlas of Animal Bones: For Prehistorians, Archaeologists, and Quaternary Geologists.* Elsevier Publishing Company, Amsterdam.

Scott, W.B., and E.J. Crossman

1973 Freshwater Fishes of Canada. Environment Canada, Fisheries and Marine Services, Fisheries Research Board of Canada, *Bulletin* 184.

Warkentin, John and Richard L. Ruggles

1970 *Historical Atlas of Manitoba 1612 - 1969.* Manitoba Historical Society, Winnipeg.

APPENDIX A

HERITAGE PERMIT

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

Manitoba
Culture, Heritage
and Citizenship

Heritage Permit No. A83-95

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 augering activities relating to the boring of water forcemain and land drainage sewer installation as part of the Main/Norwood Bridge project, to record the presence or absence of heritage resources;

during the period:

November 6, 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 5th day of November 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:

July 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 and the relevant Borden designation will be DlLg-33/95G or DlLg-32/95C, as applicable;
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.

Dated at the City of Winnipeg, in Manitoba , this 6th day of November 1995.

N. Finlayson

for Minister of Culture, Heritage and Citizenship

APPENDIX B

CATALOGUE OF RECOVERED ARTIFACTS

SPECIMEN CATALOGUE RECORD

Site: DLLG-72 ST. MARY SEWER Area: RED RIVER

Client: REID CROWTHER Acc. No.:

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
1	1	TIBIA BISON BISON	BONE PALAEO-INDIAN		19951208
2	1	SCAPULA BISON BISON	BONE PALAEO-INDIAN		19951208
3	1	RADIUS; ULNA BISON BISON	BONE PALAEO-INDIAN		19951208
4	1	METACARPAL BISON BISON	BONE PALAEO-INDIAN		19951208
	4				

SPECIMEN CATALOGUE RECORD

Site: DLLG-76 WALMER STREET Area: RED RIVER

Client: REID CROWTHER Acc. No.:

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
1	1	CARTRIDGE	COPPER HISTORIC		19960530
2	12	VALVE AMBLEMA PLICATA	SHELL PRE-CONTACT		19960530
3	15	VALVE SPHAERIIDAE	SHELL PRE-CONTACT		19960530
4	30	FLAKE	LIMESTONE PRE-CONTACT		19960530
5	1	FLAKE	SWAN RIVER CHERT PRE-CONTACT		19960530
6	5	FLAKE	SELKIRK CHERT PRE-CONTACT		19960530
7	3	FLAKE	RHYOLITE PRE-CONTACT		19960530
8	1	FLAKE	KNIFE RIVER FLINT PRE-CONTACT		19960530
9	1	FLAKE	QUARTZITE PRE-CONTACT		19960530
10	1	CORE	RHYOLITE PRE-CONTACT		19960530
11	1	PEBBLE	CHALCEDONY PRE-CONTACT		19960530
12	4	COBBLE	LIMESTONE PRE-CONTACT		19960530
13	8	FIRE-CRACKED ROCK	DIORITE PRE-CONTACT		19960530
14	22	FIRE-CRACKED ROCK	GRANITE PRE-CONTACT		19960530
15	152	CHARCOAL ANGIOSPERMAE	CHARCOAL PRE-CONTACT		19960530
16	9	UNIDENTIFIABLE MAMMALIA	BONE PRE-CONTACT		19960530
17	1	FEMUR MAMMALIA	BONE PRE-CONTACT		19960530
18	2	LONG BONE MAMMALIA	BONE PRE-CONTACT		19960530
19	6	UNIDENTIFIABLE MAMMALIA	BONE PRE-CONTACT		19960530
20	4	PHARYNGEAL ARCH CATOSTOMIDAE	BONE PRE-CONTACT		19960530
21	1	MAXILLA CATOSTOMIDAE	BONE PRE-CONTACT		19960530
22	1	CLEITHRUM CATOSTOMIDAE	BONE PRE-CONTACT		19960530
23	1	QUADRATE CATOSTOMIDAE	BONE PRE-CONTACT		19960530
24	1	ANGULAR CATOSTOMIDAE	BONE PRE-CONTACT		19960530
25	1	HYOMANDIBULAR CATOSTOMIDAE	BONE PRE-CONTACT		19960530

SPECIMEN CATALOGUE RECORD

Site: DLLG-21:95A BONNYCASTLE WATER Area: RED RIVER

Client: REID CROWTHER Acc. No.:

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
1	1	WINDOWPANE	GLASS HISTORIC	HOLE 1	19951219
2	1	SHERD BOTTLE	GLASS HISTORIC	HOLE 1	19951219
3	1	SHERD BOTTLE	GLASS HISTORIC	HOLE 1	19951219
4	1	SHERD PLATE	PORCELAIN HISTORIC	HOLE 1	19951219
5	1	HOUSE INSULATOR	PORCELAIN HISTORIC	HOLE 1	19951219
6	1	HOUSE INSULATOR	PORCELAIN HISTORIC	HOLE 1	19951219
7	1	FRAGMENT PAIL?	WOOD HISTORIC	HOLE 1	19951219
8	2	FRAGMENT CAN	TIN HISTORIC	HOLE 1	19951219
9	1	ATLAS BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
10	2	HUMERUS BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
11	3	RADIUS; ULNA BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
12	1	RADIUS BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
13	1	SACRUM BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
14	2	RIB BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
15	1	TIBIA BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
16	2	SCAPULA BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
17	3	LONG BONE BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
18	4	VERTEBRA BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
19	5	INNOMINATE BOS TAURUS	BONE HISTORIC	HOLE 1	19951219
20	2	MANDIBLE; TOOTH BOS TAURUS	BONE; TOOTH HISTORIC	HOLE 1	19951219
21	1	LONG BONE MAMMALIA	BONE LATE WOODLAND	HOLE 2	19960108
22	1	SCALE FISH	SCALE LATE WOODLAND	HOLE 2	19960108
23	1	RIM SHERD NECK	EARTHENWARE LATE WOODLAND	HOLE 2	19960108
24	5	BODY SHERD BODY	EARTHENWARE LATE WOODLAND	HOLE 2	19960108
25	4	RADIUS URSUS	BONE LATE WOODLAND	HOLE 2	19960108

SPECIMEN CATALOGUE RECORD

Site: DLLG-21:95A BONNYCASTLE WATER Area: RED RIVER

Client: REID CROWTHER Acc. No.:

Cat. #	Qty	Object Name / Object Type	Material / Cultural Phase	Location / Unit	Coll. Date
26	5	ULNA URSUS	BONE LATE WOODLAND	HOLE 2	19960108
27	1	UNDETERMINED MAMMALIA	BONE LATE WOODLAND	HOLE 2	19960108
28	1	CLEITHRUM ICTALURUS	BONE LATE WOODLAND	HOLE 2	19960108
29	10	BODY SHERD BASE	EARTHENWARE LATE WOODLAND	HOLE 2	19960108
	17				