APPENDIX 9A

Heritage Resources

LIST OF APPENDICES

ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED CONSTRUCTION COMPONENTS OF THE RED RIVER FLOODWAY ENHANCEMENT PROJECT

Submitted to

InterGroup Consultants Ltd.

QUATERNARY CONSULTANTS LIMITED

July, 2004

EXECUTIVE SUMMARY

In compliance with the Manitoba Heritage Resources Act, a Heritage Resources Impact Assessment was conducted for the projected Floodway Expansion Project. The assessment consisted of investigations of the West Dike area, the locations of crossings of the current Floodway, the area of known archaeological sites at the Floodway Outlet, and the portion of the west bank of the Red River that may be impacted through erosion remediation procedures.

Archaeological sites are not present along the West Dike or at any of the potential borrow locations. Examination of the areas surrounding abutments of crossings which may require reconfiguration as a result of the widening of the current channel found no areas of undisturbed ground that would contain archaeological sites.

The known sites at the Outlet area are south of the limits of construction and should be safe from impact. However, some remedial action to lessen impact by sightseers and casual visitors on the Floodway Village site (EaLf-9) is recommended. One new site, EaLf-59, a log structure, was recorded on the west bank of the Red River. Even the installation of rip-rap should not impact the site.

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1.0 INTRODUCTION

As a result of the decision to enlarge the Red River Floodway, it became necessary to conduct an archaeological impact assessment to determine if the construction will have impact upon heritage resources and to determine the types and degree of mitigation that would be required if impact were to occur.

Quaternary Consultants Ltd. was contracted by InterGroup Consultants Inc. to undertake an assessment of all areas of potential impact. The project was conducted under the terms of Heritage Permit A27-04, issued by Historic Resources Branch, Manitoba Culture, Heritage and Citizenship (Appendix A).

1.1 Location and Scope of the Project

As depicted on Figure 1, the Floodway Expansion project extends from the south of Winnipeg to north of Lockport, passing on the east side of the City of Winnipeg. The construction will consist of deepening and widening the existing channel within the boundaries of the existing Floodway. Minimal, if any, impact can be expected upon the upper bank on either side of the Floodway.

In addition, the West Dike will be augmented and extended. The augmentation will consist of increasing the elevation of the existing structure by using adjacent soils to add to the height. The western extension will occur on existing roads which will be raised in elevation.

1.2 Existing Data

The Archaeological Site Database, maintained by Historic Resources Branch, was examined. No known archaeological sites have been recorded in the vicinity of the West Dike. No archaeological sites have been recorded along the existing Floodway except at the Outlet location. The area south of the Outlet Structure contains three major sites: the Lockport Site (EaLf-1), the Fidler Burial Mounds (EaLf-3), and the Floodway Village Site (EaLf-9).

As initial archaeological investigations in the Lockport area began in the late 1800s, numerous reports containing information concerning archaeological investigations at the Lockport Site and the other adjacent sites are available (Gunn 1868; Bell 1885a, 1885b, 1885c, 1893, 1898; McCharles 1887; Bryce 1904; MacNeish and Wettlaufer 1952; MacNeish 1958; Capes 1963; Mayer-Oakes 1964, 1965; Saylor 1975; Roberts 1985, 1991, 1992; Buchner 1986, 1988; Flynn and Kogan 1991; Flynn 2002).

1.3 Study Team

The entire archaeological resources management program was directed by Sid Kroker (M.A.) (Senior Archaeologist). The field team examining the potential impact along the existing Floodway was led by Donalee Deck (M.A.) and included Barry Greco (M.A.) and Jim Ward (B.A.). The examination of the West Dyke area was conducted by Sid Kroker and Pam Goundry (B.A. Hon.).

Artifact preparation was undertaken by Sid Kroker and Pam Goundry (Research Archaeologist). The computer cataloguing was done by Pam Goundry with artifact analysis and report preparation being undertaken by Sid Kroker and Pam Goundry.

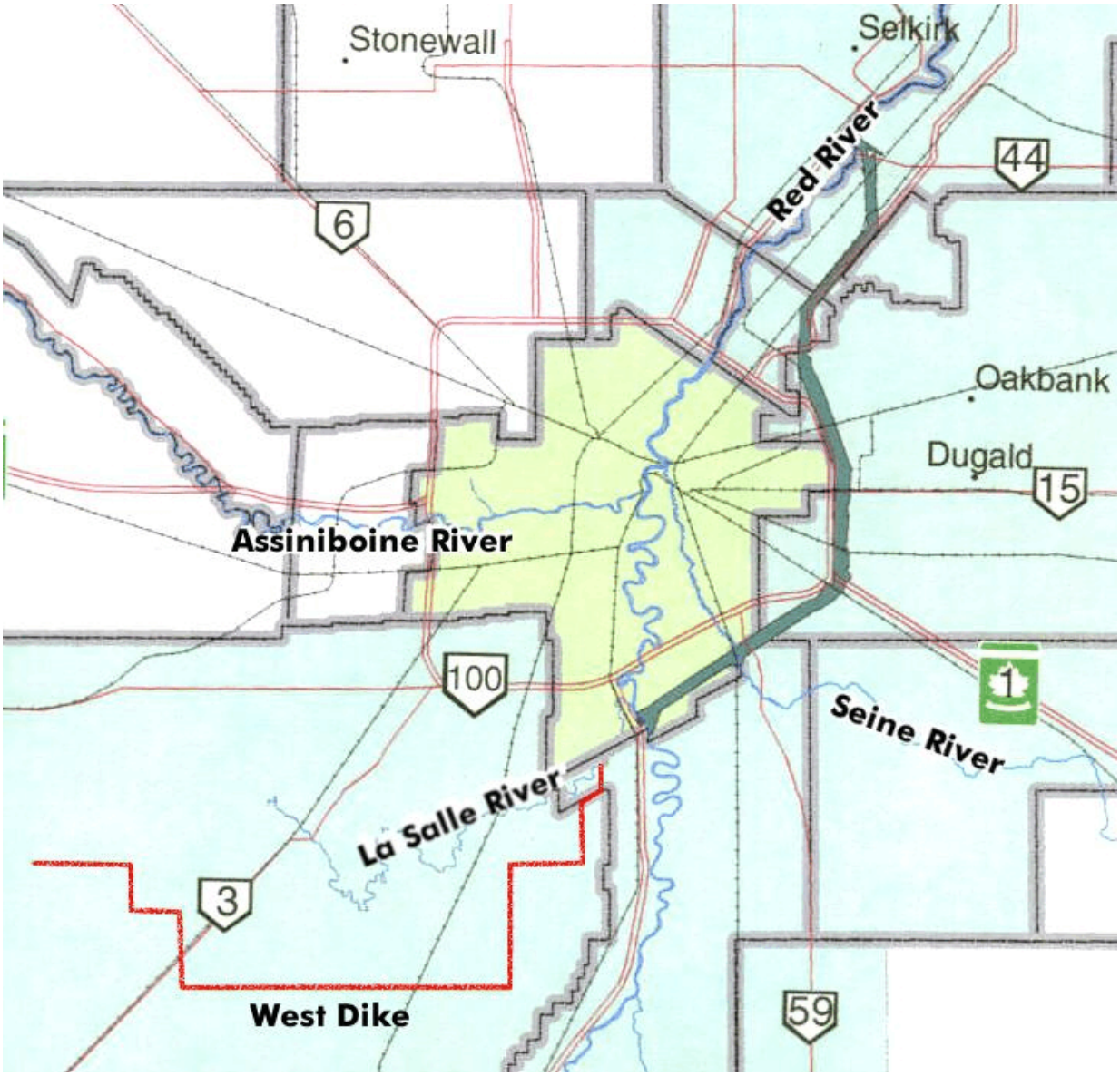


Figure 1: Study Area Showing Floodway and West Dike Locations

1.4 Investigation Methods

The locations along the Floodway and West Dike that could have the possibility of impact were examined by conducting visual surveys of the locations. Given current plans for widening and deepening the channel, it may be necessary to modify or reconfigure abutments on existing crossing bridges. The anticipated zone of construction in such a case would probably extend fifty metres on either side of the existing structure. Hence, it was determined that a radius of fifty metres around existing abutments would be assessed to determine potential archaeological impact.

Any areas that had the appearance of being undisturbed were investigated by pedestrian traverses, where the archaeological team would walk parallel traverses examining the soil surface. All breaks in vegetation were examined as were ground squirrel burrow mounds. Any location, which through topography or geography, seemed to have a potential for archaeological resources would have had shovel test investigations. A shovel test consists of digging a small hole (50 cm x 50 cm) to the sterile substrate and examining the extracted soil for artifacts and the walls of the hole for buried soil horizons.

Photographs were taken of many of the investigated areas. Documentation consisted of standard field notes concerning the area examined, terrain, degree of prior impact, and potential for archaeological resources. In cases where a heritage resources site was recorded, a standard Archaeological Site Form was compiled for filing with the Manitoba Archaeological Site Database, maintained by Historic Resources Branch, Manitoba Culture, Heritage and Tourism.

1.5 Laboratory Procedures

All artifacts recovered during the project were brought to Quaternary Consultants laboratory facilities. The specimens were washed and sorted by material class. Material of the same type (e.g., Selkirk Chert flakes) from the same location were combined under a single catalogue number.

Each artifact received a catalogue number consisting of the Borden designation for the site and a sequential number for permanent identification. The Borden designation, 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, EaLf, designates a geographical block between 50^{o} 00' and 50^{o} 10' North latitude and 96^{o} 50' and 97^{o} 00' West longitude. Within each block, archaeological sites are assigned sequential numbers upon discovery.

All pertinent data associated with the artifact was entered into the 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). The computer cataloguing program is derived from **DBASE3**® and generates individual artifact catalogue cards.

Processed artifacts were prepared for storage by inserting the specimens and the catalogue card into standard plastic storage bags, then stapling the bags closed. At the end of the project, all recovered artifacts will be delivered to Historic Resources Branch, Winnipeg.

2.0 WEST DIKE AREA

Data concerning the potential borrow areas for augmenting the height of the West Dike was provided by Warren Gendzelevich of Acres Manitoba. For the majority of the area, sufficient material could be obtained from the ditches adjacent to the existing berm. Three locations near the LaSalle River at the eastern end of the West Dike were identified as potential borrow areas. All three areas were examined and found to have had some degree of prior impact, predominately agricultural and/or landscaping. While they are located near the LaSalle River, none of the locations had specific features which would have made them optimum camping locations for nomadic hunting and gathering groups. No evidence of pre-European use of the three areas was observed.

The remainder of the West Dike was driven, with the archaeological team visually examining the land adjacent to the road right-of-way for salient features which could indicate that the area could contain archaeological resources. The western portion of the dike traverses the area that was known as the Great Hay Marsh (Hanuta 1998:Figure 8a) which encompassed large portions of Townships 7 and 8 in Range 1 West and Range 2 West. The data used in the determination of pre-agricultural landscape derives from the initial Dominion Land Surveys in the 1870s (Hanuta 1998: Appendices 1 - 7). Prior to agricultural settlement and the subsequent draining of the marsh through drainage channels, utilization of these areas would have been intermittent and short-term. During the drier portions of the year, hunting parties could have sought bison which would have grazed in the rich grasslands. However, main campsites would have been located near water sources, either the Red River or the LaSalle River.

To summarize, no topographic features or historical data indicates that there would be archaeological sites adjacent to the West Dike once it turns away from the LaSalle River. As the source areas for increasing the height of the structure will be derived from the ditches alongside the roads that make up the western portion of the dike, no archaeological impact will occur.

3.0 FLOODWAY AREA

Data concerning the expected degree of impact and maps of the relevant area were obtained from senior engineers at KGS Group. The construction is constrained to within the existing floodway and will consist of deepening and widening the existing channel. Thus, it was unnecessary to have an archaeological team investigate the upper bank of the existing Floodway. Due to the widening, reconfiguration of some of the abutments of the various bridges crossing the Floodway may be necessary. Accordingly, the archaeological team examined all crossings to determine if undisturbed areas existed within the potential impact zone if reconstruction of the abutments proves necessary. A total of fourteen crossings were investigated with the team examining both sides of the Floodway.

In addition, archaeological investigations were conducted at the Floodway Outlet area. This area is immediately adjacent to a known burial mound and archaeological sites. Due to the possibility of impact from possible erosion control measures on the west side of the Red River, opposite the Outlet structure, a distance of the lower bank was examined.

3.1 Abutment Assessments

The archaeological team visited each of the fourteen existing crossings of the Floodway and examined the area on both sides of the channel. In all cases, considerable land modification had occurred during the construction of the original Floodway and the building of the bridges for highway or railroad crossings. The area around the Inlet Control Structure has had considerable modification (Plate 1).

One area that had not had any modification beyond agricultural impact was the location that may be the future location of the St. Mary's Road Bridge. The north side of the Floodway has had an elevated berm constructed at the top of the channel but minimal impact has occurred to the south (Plate 2). Considerable residential development has occurred in the probable right-of-way on the north side of the Floodway. No evidence of archaeological resources was observed in the adjacent proximity to the Floodway. A comprehensive impact assessment would also be required for the realignment of St. Mary's Road and, at present, this is considered beyond the mandate for this project.

The degree of land modification around the abutments of existing structures is readily evident at the crossings of the TransCanada Highway (Plate 3) and the Canadian National Railroad Sprague Line Bridge (Plate 4). Other established crossings such as the Canadian Pacific Railroad Emerson Line Bridge, Highway 59 South, Highway 15, the Canadian National Railroad Redditt Line Bridge, Canadian Pacific Railroad Keewatin Line Bridge, Highway 59 North, and the Canadian National Railroad Pine Falls Line Bridge had equivalent disruption for at least fifty metres around the abutments.

A potential low level crossing at Coronation Road (Plate 5) was examined. Minimal disturbance was observed on the lateral sides of the right-of-way but no evidence of archaeological resources was present. A similar situation occurred at the actual low level crossing at Dunning Road (Plate 6). At the low level crossing at Kirkness Road, the east side has been completely impacted by Parkside Drive (Plate 7) and the west side by Provincial Road 202.

3.2 Floodway Outlet Area

The area at the Floodway Outlet shows that considerable impact occurred during the original construction (Plate 8). Portions of the Floodway Village Site (EaLf-9) and the Fidler Mounds Site (EaLf-3) were eradicated (Archaeological Site Database). However, portions of both are still present on the south side of the embankment. One burial mound (Plate 9) is located at the base of the south embankment and is located in a slightly treed area which provides a degree of site protection from impact by vehicular traffic. An intermittently used trail passes nearby. A portion of the Floodway Village Site is located at the west end of the south embankment of the Outlet Structure (Figure 2) and is in an area crisscrossed with recreational vehicle trails. Archaeological reconnaissance found no surface evidence of the site extending north of the major access trail. Examination of the south slope of the original floodway channel excavation yielded no indication that buried portions of the site remain. The site, or what remains of it, is being impacted by vehicular traffic during periods when the soil is wet (Plate 10). The archaeological team collected artifacts that were visible in the ruts.

Plate 1: Floodway Inlet Control Structure

Plate 2: Possible Location of South Abutment of Future St. Mary's Road Bridge

Plate 3: TransCanada Highway Crossing

Plate 4: Canadian National Railroad Sprague Line Bridge

Plate 5: Coronation Road Crossing Location

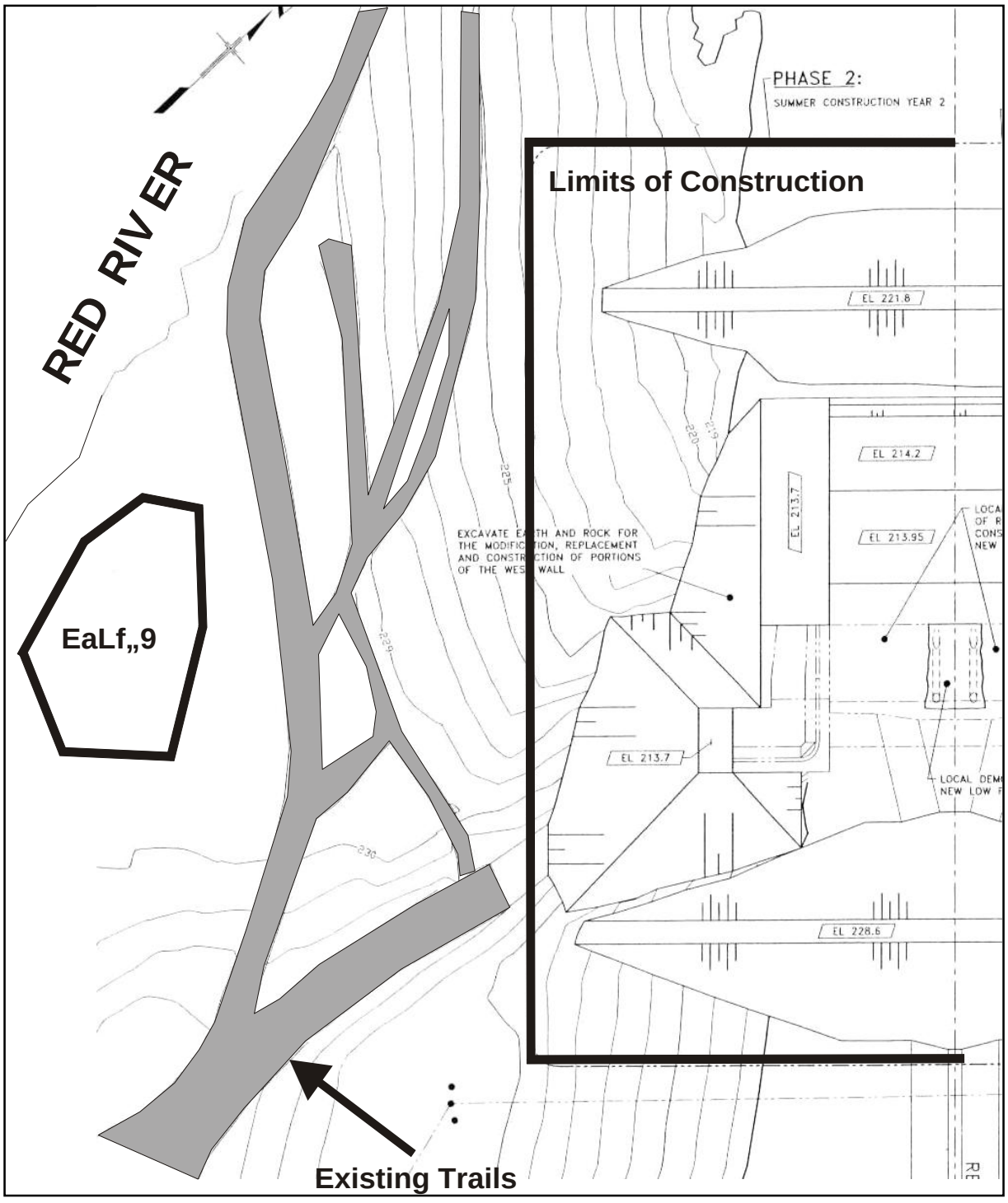
Plate 6: Dunning Road Low Level Crossing

Plate 7: Kirkness Road Crossing

Plate 8: Floodway Outlet

Plate 9: Historic Resources Branch Staff and Archaeological Team at Burial Mound

Plate 10: Vehicle Impact on Floodway Village Site (EaLf-9)



Map Showing Archaeological Site and Trails at Outlet

Figure 2: Map Showing Archaeological Site and Trails at Outlet

3.2.1 Historic Artifacts (EaLf-9)

Two container sherds, both glass, were recovered. EaLf-9:04/1 is a body sherd from an amethyst-coloured bottle. The type and contents of the bottle are unknown. EaLf-9:04/2 is a portion of a lid from a canning sealer. It is also amethyst. Amethyst containers are datable in that manganese was used as a clearing agent in early clear glass. This caused the glass to turn an amethyst colour after lengthy exposure to sunlight. Germany controlled the majority of the world's supply of manganese and the beginning of World War I sharply curtailed the available supplies for English and American glass manufacturers. They were forced to find, and use, other clearing agents. Thus, both EaLf-9:04/1 and EaLf-9:04/2 would have been manufactured prior to 1914.

3.2.2 Pre-Contact Artifacts (EaLf-9)

Fourteen Pre-Contact artifacts were curated. EaLf-9:04/3 is a thick (9.2 mm) earthenware body sherd from a cooking pot (Plate 11). It weighs 5.5 grams. The exterior surface shows textile impressions, either from manufacture in a woven fabric bag or by using a fabric covered flat paddle to strike the pliable clay while the potter was holding a solid object on the inside, thereby molding the pot. The decorative patterns on the upper rim and lip portion of these pots are the culturally diagnostic features. As this artifact derives from the undecorated portion, it is not possible to assign the pot to a specific cultural group. The temporal duration of the Late Woodland Period represented by this container is between A.D. 400 and A.D. 1750.

The remaining thirteen Pre-Contact artifacts are all lithic material, either tools or waste flakes from tool manufacture. The manufacture of stone tools is a complex process whereby a cobble of an appropriate material is struck to remove flakes which are later modified into the desired tool. The debitage from manufacture is always more frequent than tools, in part because tools were only discarded when nonfunctional or when inadvertently lost.

The detritus recovered from the Floodway Village site consists of one core of Selkirk Chert, EaLf-9:04/8, eight flakes of Selkirk Chert, EaLf-9:04/7, and one flake of grey chert, EaLf-9:04/9. The Selkirk Chert is locally available in the limestone formations at the St. Andrews Rapids. The grey chert would have derived from material relocated from the north by glacial action.

The three tools consist of a projectile point, a biface, and a uniface. EaLf-9:04/4 is a triangular projectile point made from Selkirk Chert (Plate 11). It is slightly isoscelene in shape with rounded basal corners. It measures 28.0 mm in length, 19.3 mm in width, 5.1 mm in thickness, and weighs 2.1 grams. The tip angle is 57^{o}. The point is formed from a flake and has been shaped through lateral percussion flakes and sharpened with marginal, lateral pressure flakes.

EaLf-9:04/5 is a roughly trapezoidal flake of Selkirk Chert which has been bifacially sharpened on both lateral margins (Plate 11). The artifact is 30.5 mm in length, 20.6 mm in width, and 5.1 mm in thickness. It weighs 2.9 grams. The right working edge has a width of 18.9 mm and a length of 0.5 mm indicating that it is nearly linear. The working edge angle is variable ranging between 24^{o} and 48^{o}. The left working edge has two components, a linear proximal portion and a linear distal portion which meet

at a 120^{o} angle. The left proximal working edge is 17.8 mm wide with a length of 1.5 mm and the left distal working edge is 12.9 mm wide with a length of 0.6 mm. The left proximal working edge angle is 43^{o} and the left distal working edge angle is 37^{o}. This specimen probably was hafted in such a manner that both edges could be used for fine cutting.

EaLf-9:04/6 is a Selkirk Chert flake that is triangular in cross-section (Plate 11). One natural cleavage edge has been sharpened with closely spaced micro-flakes to produce a unifacial working edge. The artifact is 19.8 mm in length, 20.3 mm in width, 10.4 mm in thickness, and weighs 3.0 grams. The working edge is 16.9 mm with a length of 0.4 mm. It has a working edge angle of 52^{o}. The steepness of the working edge suggests that this tool was used for scraping hides and the micro-flaking suggests that these were delicate hides such as rabbit or muskrat.

Plate 11: Ceramic and Lithic Artifacts from the Floodway Village Side (2x actual size)

3.3 West Bank Area

Due to the potential for bank disturbance due to erosion protection activities, the archaeological team investigated approximately 1.5 kilometres of the west bank of the Red River north of the present area of rip-rap. One new archaeological site was recorded.

EaLf-59 consists of a collapsing log structure (Plate 12), at approximately 710 River Road, located part way down the bank. It is constructed with saddle-notched logs, 12 logs high (Plate 13), and sits on limestone slabs. The saddle-notched style of construction means that the logs are notched on both the top and bottom (Plate 14). There is evidence of relatively modern use of the structure, i.e., round nails and an electrical box (Plate 15).

Historic artifacts were present: bricks, broken porcelain, fragmented stoneware containers, and large mammal bones. A sample of the porcelain ware, three sherds, was collected.

Two white ceramic sherds have evidence of the Wheat pattern. The Wheat pattern, and it's derivatives, is a long-lived popular design which was manufactured by many companies in England, a few in Scotland, at least one in Canada, and possibly one in France (Sussman 1985:7-10). In addition, Sussman notes that the Wheat pattern seems to have been manufactured solely for the North American market and, although expensive in the beginning (the 1850s and 1860s), it eventually became, by 1897, one of the cheaper dinnerwares.

EaLf-59/1 is a white body,base sherd from a cup. The body has the molded panelled appearance typical of the Wheat pattern. This cup is a thick-walled, coarser porcelain and is heavily crazed on the outer surface as well as the inner surface. Crazing is a dendritic-like pattern of cracking of the glaze which is indicative of age.

EaLf-59/2 is a thick-walled, coarser paste, white body sherd, probably from a water pitcher, either part of a dinnerware set or a wash stand set. The external surface has an embossed pattern which consists of three heads of the hops plant with stalks of another plant radiating out from them. This is the Wheat and Hops pattern. Sussman notes that Jacob Furnival and Company originated the Wheat and Hops pattern circa 1860 and other companies copied it almost exactly (Sussman 1985:41). Without a manufacturer's mark on a specimen, it is virtually impossible to distinguish the company that produced a specific artifact. The various companies that have produced this design include Clementson Brothers (1867 - 1916), Robert Cochran and Company (1863 - 1918), Alfred Meakin Limited (1914 - 1930), J. and G. Meakin (1865 - 1930s), St. Johns Stone Chinaware Company (1873 - 1899), and William Taylor (1860 - 1881). With the exception of Robert Cochran and Company, a Scottish firm, and St. Johns Stone Chinaware Company, a Canadian firm, the remainder of the pottery companies are English.

EaLf-59/2 is a small exfoliated body sherd from a plate. An indistinguishable pattern of brown lines on a white background is transfer printed on the external surface. There are no indications of a maker's mark on this sherd.

Plate 12: Log Structure on West Bank of Red River (EaLf-59)

Plate 13: Corner of Log Structure

Plate 14: Detail of Log Construction

Plate 15: Interior of Log Structure

4.0 RECOMMENDATIONS

It can be recommended that there are no archaeological concerns with regard to the upgrading and extension of the West Dike. All currently identified borrow areas have no archaeological resources.

It can be recommended that there are no archaeological concerns with the construction of the expanded floodway from the Inlet Structure to the Outlet Structure.

There are heritage resource management concerns about potential impact to known archaeological sites immediately south of the construction zone at the Outlet area. The burial mound is not in a vehicular travel route and should be safe from impact. However, the same cannot be said for the remaining portion of the Floodway Village site (EaLf-9) which is being impacted by casual visitors and fishermen who drive over the site (Plate 10). During the construction period, sightseers will probably access the area to view the construction and barricades or barriers will probably result in vehicles finding other routes, resulting in more impact to moderately undisturbed areas. Accordingly, **it is recommended** that a load of gravel be dumped over the existing ruts, thereby providing a better surface for the vehicle traffic that will likely occur anyway. This proposal has been suggested to Historic Resources Branch and they concur (Dul 2004: pers. comm.) that this would be an optimum solution to the on-going impact and would also constrain it to the area where it already exists.

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APPENDIX A

HERITAGE PERMIT

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

Manitoba
Culture, Heritage
And Tourism

Heritage Permit No. A27-04

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

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

ATTENTION: Mr. Sid Kroker

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

assess areas of proposed impact to undisturbed lands resulting from the Floodway Enhancement Project, including the West Dyke area, the Floodway Channel, the Outlet and downstream locations subject to erosion, located on 1:50,000 topographic map sheets 62 H/11, 62H/14, 62H/15, 62I/2 and 62I/3, in order to record the presence/absence of heritage resources within potential impact zones and to develop mitigative strategies for resource management if heritage resources are present;

during the period:

May 3 – 31, 2004.

This permit is issued subject to the following conditions:

(1) That the information provided in the application for this permit dated the 27th day of April 2004, 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:
December 31, 2004;

(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 heritage objects are to be deposited with the Manitoba Museum by December 31, 2004, for permanent curation and storage, unless appropriate loan requirements are arranged with the Curator of Archaeology prior to that date;
b. 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;
c. Neither the Government of Manitoba nor the party issuing this permit shall be liable for any damages resulting from any activities carried out pursuant to this permit, and the Permittee specifically agrees, in consideration for receiving this permit, to indemnify and hold harmless the Minister and the Government of Manitoba, the Minister and any employees and officials of the Government, against any and all 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 17th day of May 2004.

for Minister of Culture, Heritage and Tourism