

**A Cultural Resources Management Plan
Specific to Menomonee River Valley
Redevelopment Project Lands in the City
of Milwaukee, Milwaukee County, Wisconsin**



Report of Investigations Number 545

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Redevelopment Project Lands in the City of
Milwaukee, Milwaukee County, Wisconsin**

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Management Summary

Menomonee Valley Partners, Inc. (MVP) received a 2003-2004 Costal Management Grant sponsored by the Wisconsin Costal Management Program, Department of Administration, to fund the “Menomonee Valley Cultural Resource Project.” The grant in part supports the preparation of a Cultural Resource Management Plan (CRMP) specific to lands of the Menomonee River Valley Redevelopment Project (Project), MVP requested and authorized Great Lakes Archaeological Research Center (GLARC) to prepare the CRMP and perform research supporting it. The CRMP covers the proposed Project area which is comprised of approximately 1476 acres located in the central area of the City of Milwaukee in Milwaukee County, Wisconsin. Portions of the area represent brown fields, and these and surrounding properties will be developed for commercial, light industrial, and recreational uses. MVP solicited the CRMP, as well as a supporting land use history study in order to assist planners, future landowners, or other parties responsible for the development of the property understand their historic preservation responsibilities as stipulated under Section 106 of the National Historic Preservation Act of 1966, as amended (Pub. L. 89-665; 80 Stat. 915:16 U.S.C. 470); and Chapters 44.40 and 157.70 of the Wisconsin Statutes. In addition, completion of the CRMP provides future historic preservation direction for continued development of Project lands.

Prior to completing the CRMP, GLARC compiled a land-use history about Project lands. This history is derived from archival and geomorphological research and provides a context for defining and interpreting the range of site types that may occur within the Project boundary. Review of geotechnical data identifies the depth of the historical fill that mantles the Menomonee River valley and the types of surface environments that existed prior to circa 1836 when the valley began to be in-filled. The historical and geotechnical data contribute to the Project CRMP by providing a basis for characterizing the archaeological potential of Project lands and offering recommendations for the investigation, evaluation, and management of known and potential archaeological sites or deposits. Across the Project area, landforms having the greatest potential to yield intact buried cultural resources are the bluff bases followed by bluff tops. Bluff slopes and the valley floor show a lower potential. In contrast, architectural structures predating 1954 are distributed throughout the Project area. More than 250 structures require evaluation regarding the eligibility/ineligibility of each for inclusion in the National Register of Historic Places.

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Chapter 1: Project Background Data

Introduction

Menomonee Valley Partners, Inc. (MVP) received a 2003-2004 Costal Management Grant sponsored by the Wisconsin Costal Management Program, Department of Administration, to fund the "Menomonee Valley Cultural Resource Project." The grant in part supports the preparation of a Cultural Resource Management Plan (CRMP) specific to lands of the Menomonee River Valley Redevelopment Project (Project), MVP requested and authorized Great Lakes Archaeological Research Center (GLARC) to prepare the CRMP and perform research supporting it. The CRMP covers the proposed Project area which is comprised of approximately 1476 acres located in the central area of the City of Milwaukee in Milwaukee County, Wisconsin. (Figure 1). Project lands are variously owned by the City of Milwaukee, public corporations, tribal interests, or private parties, and define brown fields and actively used properties all of which may be redeveloped or improved for commercial, light industrial, and recreational uses. Federal assistance has been and will continue to be solicited for Project development, and as a result, MVP determined a need for a CRMP, as well as a supporting land use history study (Appendix A). The purpose of the CRMP is to assist MVP officials and others responsible for planning and improving Project tracts understand and fulfill their historic preservation responsibilities. These responsibilities are stipulated both under Section 106 of the National Historic Preservation Act of 1966, as amended (Pub. L. 89-665; 80 Stat. 915:16 U.S.C. 470) regarding the identification, documentation, evaluation, and management of cultural resources associated with a development project receiving Federal funds or requiring a Federal permit (<http://www2.cr.nps.gov/law/NHPA1966.htm>); and under Chapters 44.40 and 157.70 of the Wisconsin State Statues. Completion of the current study and CRMP is an initial step toward understanding compliance issues regarding federal and state historic preservation matters and provides future historic preservation direction for the continued development of Project lands.

GLARC staff prepared the CRMP and completed a related land use history about the Project

area. The land use history study contributes valuable data to the Project CRMP, and researchers performed both tasks in accordance with historical and archaeological procedures set forth in *Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (published in the *Federal Register*) and *Guidelines for Public Archeology in Wisconsin, as Revised* (Kolb and Stevenson 1997), which is jointly endorsed by the Historic Preservation Division of the Wisconsin Historical Society and the Wisconsin Archeological Survey, a statewide professional organization.

Land Use History

In order to understand how the Project area may have been used in the past and what this means regarding current cultural resources management needs, GLARC prepared a land use history context about Project lands. The goals of the research are to develop a culture history context for the area, identify the types of sites that may be present, acknowledge conditions that encouraged people to exploit the area, and recognize natural and cultural events that have potentially masked or destroyed sites located within the lower Menomonee River valley. The land use history draws upon archival/literature research, including geomorphological studies, in order to explore how Project area landscapes have changed during the past 13,000 years and how humans have adapted to or encouraged this change. Data generated by the land use study contributes to the CRMP by identifying areas with a low, moderate, or high potential to yield archaeological deposits. Archival/literature research suggests that across the study area, the potential for encountering unrecorded cultural resources may be characterized as low, moderate, or moderate-to-high.

Cultural Resources Management Plan

As stated, the Project CRMP is based upon data generated by the land use history study as well as currently accepted archaeological procedures. The purpose of the CRMP is to provide guidelines to Project planners, developers, and managers regarding the identification, evaluation, and management of

previously recorded or unrecorded cultural resources located within the general Project boundary. Toward this goal, the CRMP discusses 1) procedures to be used for identifying and evaluating sites during future cultural resources management studies, 2) criteria for determining a site's significance in terms of its eligibility for inclusion in the National Register of Historic Places, and 3) preservation issues that should be considered regarding the long term management and interpretation of significant archaeological resources.

Project Location and Current Land Use

The Project area is located in Milwaukee County, Wisconsin and defines the central portion of the City of Milwaukee between its downtown and south side, and borders or straddles the Menomonee River. In terms of historical landmarks, the study area is bordered on the north by Clybourn Street, on the east by 2nd Street, on the south by National Avenue, and on the west by the imaginary extension of 40th Street between Clybourn Street and National Avenue (Figure 1). A legal description of the property places it within the S5/16 of Section 25 and the N3/4 of Section 36 of Township 7 North, Range 21 East; and the S1/2 SW1/4 SW1/4 SE1/4 & W1/4 SE1/4 SE1/4 of Section 29, the S1/4 of Section 30, the N5/8 of Section 31, and the N13/16 N9/16 of Section 32 of Township 7 North, Range 22 East (USGS Milwaukee, Wis. 7.5' Quad 1958/1971). In outline, the redevelopment area roughly resembles a rectangle encompassing approximately 1476 acres and having maximum dimensions of 4750 feet (ft) north-south and 14,400 ft east-west. The acreage is variously identified as brown fields, railroad yards, abandoned and active commercial properties, recreational facilities, storage yards, stock pens, parking areas, and transportation routes. Redevelopment of the area will focus upon the brown fields, which will be improved for commercial, light industrial, and recreational purposes.

Project Personnel

During the study, personnel from GLARC performed archival and literature research and produced the CRMP. Dr. Michael M. Gregory served as the principle investigator, oversaw project management, performed archival research, and authored the CRMP. Ms. Katherine E. Rognsvoog and Mabelle Lee produced report graphics and formatted the final report for distribution. Editorial oversight of the report has been provided by Ms. Jennifer R. Harvey. All supporting documentation related to the study and CRMP is curated at the office facility of GLARC, which is located at 427 East Steward Street in Milwaukee, Wisconsin.

Report Organization

The report is comprised of five chapters and three appendices. The content of the chapters is as follows:

Chapter 2 presents a combined cultural overview and land use history for the Project area. The overview covers the prehistoric through the historical periods. The discussion about the historical period is brief and ends during the early twentieth century by which time the majority if not all of the valley marsh had been in-filled (John Gurda's work for MVP provides an overview of the valley from the mid-to-late nineteenth century to the present). An inventory of cultural sites located within the Project boundary and within a one-mile radius of it is included. The chapter opens with a brief discussion about natural conditions that have shaped the valley or drawn people to it during the past 13,000 years.

Chapter 3 discusses the Section 106 process. In general terms, the chapter presents an outline regarding how the process works, when it applies, who is responsible for insuring it is properly executed, a time frame for project review,

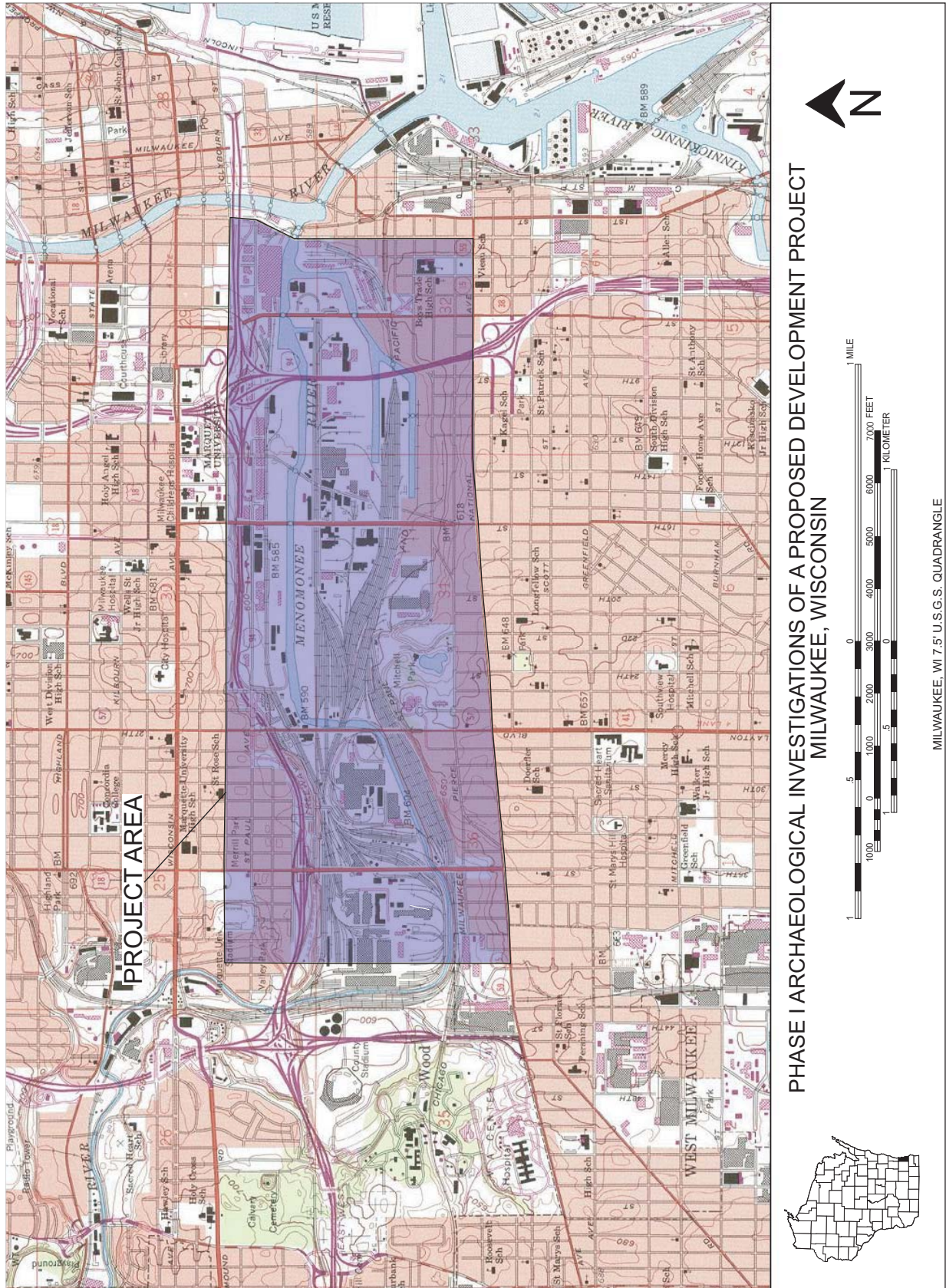


Figure 1. Location of the Menomonee River Valley Redevelopment Project.

cultural resources management studies of the Project area, criteria for evaluating an archaeological or architectural property's eligibility for inclusion in the National Register of Historic Places, and issues to consider when determining long term preservation or conservation and interpretation treatments for a significant property. Data generated by the land use history study are discussed in terms of what portions of the Project area have a low, moderate, or high potential to yield archaeological deposits.

Chapter 5 summarizes the results of the current study and draws the conclusion that a variety of unrecorded and recorded cultural resources may exist within the Project area, but that much of the area has a low or moderate potential to yield archaeological deposits.

The appendices that follow Chapter 5 present project correspondence, archaeological site inventory forms, and limited geomorphological data.

Chapter 2: Land Use History and Cultural Context

Introduction

The culture history sequence for the general Project area reflects a continuous human occupation that extends approximately 12,000 years into the past. During this time, a variety of prehistoric and historical cultures and traditions utilized the region as people traversed, exploited, and settled the Menomonee River valley. With time, human occupation and use of the land changed in response to developing environmental, social, and economic conditions. Evidence of these local changes is documented in archaeological and historical records related to the region. Much of this evidence has been summarized in prior overviews produced for the general region and its cultures (Benchley et al. 1983; Benchley et al. 1997; Birmingham et al. 1997; C. Mason 1988:23-97). The cultural history overview that follows, utilizes the cited publications in order to develop a culture history context organized chronologically from prehistoric through historical periods for the region of which the valley is a part. In order to fully appreciate the cultural sequence and conditions that influenced it, a summary account of the local environmental history is provided, identifying natural factors that may have influenced cultural change.

The local environment supported prehistoric and historical peoples, who left evidence of their activities in the form of archaeological sites recorded within the Project area and a one-mile wide zone around it. These sites (Appendix B) are identified in a following section and provide local details regarding discussions about the temporal periods comprising the culture history overview. While the overview is not encyclopedic in its presentation of regional sites, it does identify the range of known and potential site types that may be expected to occur within the larger region of which the valley is a part.

The Environmental Setting

The physical landscape of the valley is a product of glacial deposits modified by erosional, fluvial, and lacustrine processes, which in turn have been influenced during the past 170 years by urban development. Through time, a variety of floral and faunal communities established themselves within or

adjacent to the valley depending upon climatic conditions coupled with local hydrological conditions and human activity. Prior to approximately 13,000 years before the present (B.P.), the Green Bay Lobe of the Wisconsin glaciation covered the area, and after its retreat, left a distinct landscape marked by a series of north-south or northeast-southwest trending *cuestas* (Martin 1965:208). Physiographically, these features define the Eastern Ridges and Lowlands province (Martin 1965:209-233), which is characterized by a sequence of distinct, topographically lowland and low upland areas. As a result, relief within the region is low, and “the dominant thing in eastern Wisconsin is the plain” (Martin 1965: 209).

Drainages within the province frequently follow the longitudinal axis of *cuestas* or are sometimes influenced by morainic features. While these topographical features may in part dictate the course of the Menomonee River through Milwaukee, more likely the course is the result of bedrock surface topography and outcrops, glacial discharge features, and past lake levels. The lower stretch of the Menomonee River follows a pre-glaciation valley that drained eastward into the Michigan basin (Foley et al. 1953:22-23, and 36). Once re-exposed by post-Pleistocene erosion, the valley captured and confined the river’s route, and became somewhat deeper. Outcropping bedrock is visible along segments of the right valley wall and occurs north and west of Miller Park.

Within Milwaukee County, the Menomonee River defines one of the major drainage systems, and in the past, offered a range of exploitable resources and created varied topographic settings. The drainage system probably served groups more as a source of subsistence needs and routes for foot travel than as a primary water route into or out of the region given the landscape’s low relief, the river’s shallowness, and the resulting ease of movement across the land. As the river passed through the Project area, greater topographic relief existed in the past than is currently observed due to urban cut-and-fill improvement activities, which leveled, or gently contoured many areas, especially those adjacent to the river bluffs. By these actions, high areas have been lowered, while

lowlands have been filled for the purpose of creating firm, dry ground.

Although the Project area is part of an urban/commercial setting, in the past, the range of available historical faunal and floral resources reflected those of the Carolinian or upper Austrial biotic zone. This zone is restricted primarily to the southeastern corner of the state (Jackson 1961:9-10) and encompasses all of Milwaukee County. A rich variety of flora and fauna characterize the zone, including home range and migratory animals, especially waterfowl, and competing woodland and prairie plant species. During the prehistoric past, the availability of lake side and inland natural resources surrounding the river valley varied as the area experienced significant climatic changes during the past 13,000 years. Through time, the floral and faunal resources, coupled with topography, soils, and water courses offered a wide variety of materials and conditions that human groups exploited for subsistence, trade, and mobility needs.

Beginning after 13,000 B.P., the climate began to warm as the glacier Green Bay Lobe retreated and conifers spread across the landscape together with mega fauna such as mammoth. Over the next 2500 years, the climate warmed to a degree that by 9000 B.P., only relict stands of conifers may have survived in and bordering the Menomonee River valley, which came to be dominated by a hardwood forest. The hardwood forest probably continued to exist as the climate became warmer and drier beginning just prior to 5500 B.P. This warming and drying trend continued for approximately 2000 years and resulted in oak openings breaking up the closed deciduous forest (Griffin 1997:97-98).

By circa 3500 B.P., precipitation increased and temperatures cooled becoming similar to those of today. In general, soon after 3500 B.P., the vegetation cover observed by Euro-Americans had established itself (Griffin 1997:107), although within the river valley, vegetation continued to change in response to changing lake levels.

Lake levels rose to approximately present day levels by 350 B.P. but continued to rise through the period 4275-4425 B.P. After which, lake levels remained high with short term fluctuations until

approximately 3325 B.P. (Kolb and Goldstein 1982:86), when the water level began to fall, reaching present levels by 2000 B.P. (Stoltzman 1997:134)

Prior to circa 7000 B.P. (Kolb and Goldstein 1982:86), when lake levels were low, the Menomonee River would have created a valley (Need 1983:24) through glacial deposits as it encountered and flowed around bedrock outcrops similar to those north and west of Miller Park at the western end of the Project area. As lake waters rose, the lower Menomonee River valley would have been flooded, becoming an estuary, which eventually became closed off by sand and gravel deposited by long shore, southward currents moving across the estuary's mouth (Rose 1978:16). The barrier beach created by these deposits protected the estuary from wave actions, helped trap sediments, and encouraged the development of marsh vegetation. As marsh deposits and alluvium filled the estuary, the entire valley took on the appearance of a shallow marsh, which is what the area is described as during 1835 (Rose 1978:16). After the mid-1830s, Euro-American settlers began to develop the area, and in subsequent decades agriculture and commercial interests removed much of the historic vegetation.

Due to its marshy character, historical vegetation covering the valley floor probably varied very little until the base of the bluffs was encountered. Along bluff bases, the upper, drier portion of the floodplain would have supported a forest, rather than a marsh association, comprised of black ash, black alder, cottonwood, elm, hawthorn, hickory, maple, red oak, white oak, elm, ironwood, butternut, Lynn, burr oak, sugar maple, hickory, and willow (Vliet 1848). Similar vegetation probably covered bluff slopes with the exception that more mesic forest vegetation decreased in frequency and undergrowth became less dense. Moving away from the bluff top edges, the forest showed more openings and eventually gave way to meadows or prairie and intermittent oak savannahs or thickets, which extended across the bordering uplands.

As stated, these vegetation associations probably established themselves soon after circa 4000 B.P., and provided prehistoric and historical peoples a rich range of floral and faunal subsistence resources.

In season, forests and prairie vegetation yielded a variety of nuts, seeds, tubers, berries, and other raw materials to eat or to produce baskets, mats, and additional material items. Similarly, the area offered an array of faunal resources represented by mammals (including bison, white-tailed deer, raccoons, beaver, mink, and muskrat), birds (turkey, grouse, passenger pigeons, and various water fowl), fish (suckers, catfish, lake trout, and salmon), and other aquatic species (clams, crabs or crayfish, turtles, and frogs), all of which could be hunted or fished. From the valley area, prehistoric and historical peoples could exploit floral and faunal resources associated with Lake Michigan or inland forests and prairies.

Other resources that may have drawn historical people to the area to be exploited were marsh grasses and dolomites. One may assume that marsh grasses grew thick in the area and would have lent themselves for harvest and use by local residents. The area appears to have been too marshy for agriculture, although the soil types that may have supported and suggested agriculture activities have never been mapped. Project area soils have not been described or mapped because rapid, late nineteenth century industrial development of the valley resulted in the burial of all natural surfaces and associated soil deposits (Steingraeber and Reynolds 1971: Sheets 66 and 67). Quarries were established at the western end of the study area, and once abandoned in part created the setting for Miller Park.

The entire Project area reflects the recent historical land use practices for which it has served. Currently, the proposed redevelopment tract serves commercial, recreational, industrial, transportation, and urban functions. During the past, the area drew prehistoric and historical groups to it by offering abundant natural resources, or conditions that fostered its industrial and commercial development. Evidence of this draw is manifest in documentary records, at archaeological sites, and across the Project area's landscape.

Previously Recorded Sites Within or Located Adjacent to Redevelopment Lands

Prehistoric and historical peoples took advantage of the resources offered by the Project area and left evidence of their presence. Review of Wisconsin State Historic Preservation Office files and archaeological publications reveals fourteen previously recorded archaeological or burial sites located completely or partially within the Project boundary, while 40 sites are located outside, but within one-mile of it (Table 1, Figure 2). Many of the 54 sites are ones recorded by Charles E. Brown, who during the early twentieth century, took a strong interest in Wisconsin's archaeological past while he worked at the Wisconsin Historical Society. Brown learned about many site locations either from historical research or from individuals, who reported sites to him. Unfortunately, many valley related sites described by Brown either lay buried under urban fill, or no longer existed at the time he recorded them, having been destroyed during the mid-nineteenth century as a result of urban improvements. Few of the sites reported by Brown for the Project area have been field verified.

The suite of previously reported sites within or immediately surrounding the Project area is comprised of 23 prehistoric, 21 historical, and 10 unknown era sites (Table 1). The prehistoric sites consist of a campsite/village, a mound/village/campsite complex, a lithic scatter and mound, two lithic scatters, three cemeteries/burials, and fifteen mounds or mound groups. Many of the mounds or mound groups are associated with cemeteries or burials, and all are located on bluff tops overlooking the Menomonee River valley. Other site types are scattered throughout the area. Of the 23 prehistoric sites, only 47 Mi 55/BMi 103 and Mi 395 are tentatively affiliated with a temporal period. Site 47 Mi 55/BMi 103 is associated with the Woodland period while site 47 Mi 395 is linked to the Late Archaic and Late Woodland periods (Benchley 1992:17).

Represented among the 21 historical sites (Table 1) are eight Native American and twelve Euro-American sites, and one site that has not been assigned an ethnic affiliation. The Native American sites consist of four campsites/villages, three cemeteries/burials, and one campsite/village with associated agricultural fields and burials. Six of the eight sites are culturally affiliated with the Potawatomi. The suite of Euro-American sites is comprised of three trading posts, four shipwrecks, and five cemeteries.

Other prehistoric and historical sites probably occurred in all directions from the Project area, especially along the bluff tops. If such sites existed, they, similar to many of the previously recorded sites, have been destroyed as the result of intensive urban development. Regardless of whether previously recorded sites still exist, their former presence indicates that past people lived along and possibly within the valley, and the sites contribute to a better understanding about the area's culture history and the role the valley served in past peoples' economic and social lives. Prehistoric people certainly exploited valley resources as suggested by one isolated find—"a fine polished stone celt"—dredged from the valley floor near 26th Street (Brown 1916:39). If other prehistoric and early historical sites exist within the valley, they almost certainly lay buried beneath recent historical fill used to in-fill the marsh in order to create firm, dry land upon which to build commercial and industrial facilities.

Prehistoric Period

Cultural resources management studies performed in and about the metropolitan Milwaukee area, in addition to historical records, demonstrate or suggest that a continuous line of evidence documenting human use of the area may date back as far as 12,000 years before the present (B.P.). Material remains recovered from the metropolitan area indicate that each of the four major cultural periods identified in Wisconsin (Benchley et al. 1997; Birmingham et al. 1997) occupied or at least in some way exploited the general area. The four major cultural periods are as follows: the Paleoindian (12,000-to-10,000 B.P.), the Archaic (10,000-to-2800

B.P.), the Woodland (2800-to-1000 B.P.), and the Late Prehistoric or Mississippian (1100-to-350 B.P.). The Late Prehistoric/Mississippian period includes the Oneota culture group.

The Paleoindian Period (12,000-to-10,000 B.P)

The earliest humans to occupy southeastern Wisconsin and Milwaukee County are associated with the Paleoindian tradition. The earliest peoples of this period are characterized by nomadic hunters and gatherers, who exploited large Pleistocene mammals, such as mammoth, and produced distinctive fluted projectile points types called Clovis and Folsom. While the group's subsistence base was heavily slanted toward the pursuit of large mammals, limited contextual data combined with ethnographic data about extant hunter-gatherer groups (Cleland 1966:49) suggests that their diet also included significant proportions of native plant foods and a variety of smaller mammals, reptiles, birds, and fish. Presently, the Paleoindian period is subdivided into Early and Late components based upon the presence or absence of fluted (Clovis, Gainey, Folsom, and Chesrow) or non-fluted (Plainview, Milnesand, Browns Valley, Scottsbluff, Eden, Agate Basin, and others) lanceolate points (Mason 1981, 1986).

Given the ephemeral nature of typical Paleoindian occupations, many sites have succumbed to erosional processes or historical land use practices. Others may lay buried beneath thick deposits associated with post-settlement alluvium or in-filled wetlands. Similarly, the possibility exists that the valley area was inundated by ancestral waters of Lake Michigan, forcing early inhabitants to occupy lands located further inland. Thus, as a result of climatic, hydrologic, and cultural conditions, the known distribution of Paleoindian sites within Milwaukee County and southeastern Wisconsin is probably not a reliable indicator of the intensity or spatial distribution of early prehistoric use of an area. While no Paleoindian projectile points have been reported for the Menomonee River valley or lands immediately adjacent to it, Paleoindian projectile points have been reported for portions of Milwaukee County located to the northwest, west, and south (Overstreet 1991:294-305).

Table 1
Archaeological and Burial Sites Associated with Menomonee River Valley Redevelopment Project
lands or Located Within a One-mile Radius of the Project Boundary

Site #	Burial #	Name	Type	Study Unit	T-R-S
MI 30	BMI 158	Story Burials	cemetery/burial	Prehistoric, unknown	7N-21E-26
MI 52*	BMI 136	Buck Mounds	conical mounds, cemetery/burial	Prehistoric, unknown	7N-22E-32
MI 53	BMI 132	Roger's Mound	conical mound	Prehistoric, unknown	7N-22E-30
MI 54	BMI 131	Dunlop Mound	conical mounds	Prehistoric, unknown	7N-22E-29
MI 55*	BMI 103	none	effigy mound(s), cemetery/burial	Prehistoric, Woodland	7N-22E-31
MI 57	BMI 104	Trowbridge-Carey	conical, effigy & other mounds; campsite/village; cemetery/burial; corn hills/garden beds	Prehistoric, unknown	7N-21E-36
MI 65	BMI 129	Juneau Group	effigy mounds, cemetery/burial, enclosure/earthworks	Prehistoric, unknown	7N-22E-28
MI 68	BMI 128	none	effigy mound, cemetery/burial	Prehistoric, unknown	7N-22E-28
MI 69	BMI 133	Stanhope Mounds	mounds, cemetery/burial	Prehistoric, unknown	7N-22E-30
MI 70	BMI 134	Hawley Mound	effigy mound(s), cemetery/burial	Prehistoric, unknown	7N-22E-30
MI 74	BMI 135	none	conical mounds, cemetery/burial	Prehistoric, unknown	7N-22E-30
MI 77	BMI 130	Buttles Mound	conical mound	Prehistoric, unknown	7N-22E-29
MI 84	BMI 153	none	cemetery/burial	Unknown	7N-22E-28
MI 86*	BMI 147	none	cemetery/burial	Unknown	7N-22E-29/32
MI 87*	BMI 159	none	cemetery/burial	Unknown	7N-21E-25
MI 88	BMI 154	none	cemetery/burial	Unknown	7N-22E-29
MI 89*	BMI 144	Lime Ridge Village	campsite/village, cemetery/burial, corn hills/garden beds	Historical, Potawatomi	7N-22E-30
MI 94*	????	none	cemetery/burial	Prehistoric, unknown	7N-21E-36
MI 96	BMI 155	Kneeland Graves	cemetery/burial	Historical, unknown	7N-22E-29
MI 98		none	corn hills/garden beds	Unknown	7N-22E-29
MI 105		Michigan St.	campsite/village	Historical, Potawatomi	7N-22E-28
MI 107		Wisconsin St.	enclosure/earthworks	Unknown	7N-22E-28
MI 109*		Mitchell Park Village	campsite/village	Prehistoric, unknown	7N-22E-31
MI 114		none	corn hills/garden beds	Unknown	7N-22E-20
MI 135	BMI 151	none	cemetery/burial	Unknown	7N-22E-28
MI 136*	BMI 137	Walker's Point Mounds	effigy & linear mounds, cemetery/burial	Prehistoric, unknown	7N-22E-22
MI 170*	BMI 157	none	cemetery/burial	Prehistoric, unknown	7N-21E-36
MI 185*		Jacques Vieau, Sr.	trading/fur post	Historical, Euro-American	7N-22E-31
MI 186*	BMI 149	none	cemetery/burial	Historical, Native American	7N-22E-31
MI 187		none	campsite/village	Historical, Potawatomi	7N-22E-19
MI 192		John Kinzie Post	cabin/homestead	Historical, Euro-American	7N-22E-29
+	BMI 146	none	cemetery/burial	Historical, Native American	7N-22E-30
MI 199*		none	workshop, campsite/village	Unknown	7N-22E-29
MI 203		Kenozhaykum's Village	campsite/village	Historical, Potawatomi	7N-22E-29
MI 205*		none	campsite/village	Historical, Potawatomi	7N-22E-32
MI 207		Runner's Village	cemetery/burial	Historical, Potawatomi	7N-22E-32
MI 212		Solomon Juneau Post	trading/fur post	Historical, Euro-American	7N-22E-29
MI 214	BMI 91	none	conical & other mounds, cemetery/burial	Prehistoric, unknown	6N-21E-1
MI 222	BMI 148	none	cemetery/burial	Unknown	7N-22E-33
MI 237	BMI 99	none	effigy & other mounds, cemetery/burial	Prehistoric, unknown	7N-21E-25
MI 238	BMI 100	none	mound, cemetery/burial	Prehistoric, unknown	7N-21E-25
MI 239	BMI 92	none	mounds, cemetery/burial	Prehistoric, unknown	6N-21E-2
MI 395		none	unknown	Prehistoric, unknown	7N-21E-35
MI 396		none	unknown	Prehistoric, unknown	7N-21E-35
MI 397		none	unknown	Prehistoric, unknown	7N-21E-35
MI 477		<i>Muskegon</i>	shipwreck	Historical, Euro-American	7N-22E-33
MI 479		<i>Nile</i>	shipwreck	Historical, Euro-American	7N-22E-33
MI 483		<i>Twin Brothers</i>	shipwreck	Historical, Euro-American	7N-22E-33
MI 484		<i>Emily A. Roelofson</i>	shipwreck	Historical, Euro-American	7N-22E-29
	BMI 23	Calvary Cemetery	cemetery/burial	Historical, Euro-American	7N-21E-26
	BMI 26	Unnamed cemetery	cemetery/burial	Historical, Euro-American	7N-21E-35
	BMI 29*	none	cemetery/burial	Historical, Euro-American	7N-22E-31
	BMI 73	none	cemetery/burial	Historical, Euro-American	7N-22E-30
	BMI 88	2nd Ward Cemetery (aka Gruenhagen Cemetery)	cemetery/burial	Historical, Euro-American	7N-22E-19

* Site/burial or burial located completely or partially within the Project area.

At least five well documented Clovis sites are reported for southeastern Wisconsin (Overstreet 1991:294-295); however, none are located within Milwaukee County; the closest is site 47 Wk 407, which is located northwest of the city of Waukesha in Waukesha County. Within Milwaukee, fluted points have been recorded from Oak Creek, which is located south of the Project area, but the points have not been positively identified to the Clovis, Gainey, Folsom, or Chesrow complex. Folsom sites are recorded from the western portion of the region (Overstreet 1991:297), while Gainey sites cluster northwest of Milwaukee County in Dodge County (Overstreet 1991:295-296), and Chesrow sites are known primarily from Kenosha County toward the south (Overstreet 1991:298-299). Within Milwaukee County, only two Early Paleoindian sites are recorded: 47 Mi 364, which also yielded Late Paleoindian and Archaic materials, and 47 Mi 383, which yielded only early materials. Other Early Paleoindian materials have probably been found in the county, but have yet to be widely reported. If more are found, they will no doubt be discovered buried beneath Holocene deposits in river valleys or on eroded upland surfaces.

Late Paleoindian projectile point types are more widely recorded for Milwaukee County, although none have been reported in or near Project lands. Similar to early points, late points are recorded south of the Menomonee River valley and probably represents a biased distribution reflecting more the location of areas being investigated than an accurate, inclusive record of past exploitation of the region. Four Late Paleoindian sites are reported for the county, and three—47 Mi 368, Mi 369, and Mi 417—are located within the USGS Greendale, Wisconsin 7.5' Quad (1958/1971/1976) adjoining the southern edge of the Milwaukee, Wisconsin 7.5' Quad (1958/1971), which shows the Project area. Additional Late Paleoindian artifacts have probably been found in the region, but have yet to be reported. Similarly, unreported sites probably exist, either buried under fill in river valleys, or lying exposed or shallowly buried in upland settings that have yet to be archaeologically investigated.

The Paleoindian tradition is poorly understood in Milwaukee County owing to a lack of sites and the interpretational challenges inherent in determining exactly how the changing conditions of the glacial environment influenced the areas physiography and settlement pattern as ice sheets melted. Early and Late Paleoindian groups occupied southeastern Wisconsin and Milwaukee County, but whether any exploited the Menomonee River valley remains unknown. By 10,000 B.P., lake waters were at a level permitting humans to occupy the margins of the valley and exploit its resources. Not until circa 9500 B.P. would water levels have dropped to a point that allowed people to access the valley floor. As a result, the potential of encountering Early Paleoindian sites within the valley is very low, while, prior to the bluff tops being graded to accommodate urban improvements, the potential for Paleoindian sites was moderate-to-high. In general, the potential of encountering Paleoindian tradition sites within the Project area is moderate at best, and will be restricted to sites associated with the later end of the period. Such sites if present will in all likelihood be restricted to the margins of the valley floor where they will be buried beneath a combination of natural and urban fill.

The Archaic Period (10,000-to-2800 B.P.)

Following the Paleoindian period is the Archaic period, which is commonly defined on four basic criteria: the presence of stemmed and notched projectile points and knives, the absence of pottery containers, burials in natural knolls or flat cemeteries as opposed to man-made mounds, and a reliance on a subsistence strategy based on modern flora and fauna (Stoltman 1997:114). When the Holocene climatic regime began to change, becoming more moderate, Pleistocene vegetational patterns shifted toward modern associations and distributions. In addition, gregarious ungulate populations declined; however, hunting continued to be important to prehistoric peoples, who reoriented their activity to the exploitation of white-tail deer, migratory waterfowl, and a variety of small mammals. Similarly, fishing and the utilization of plant resources remained or became more important.

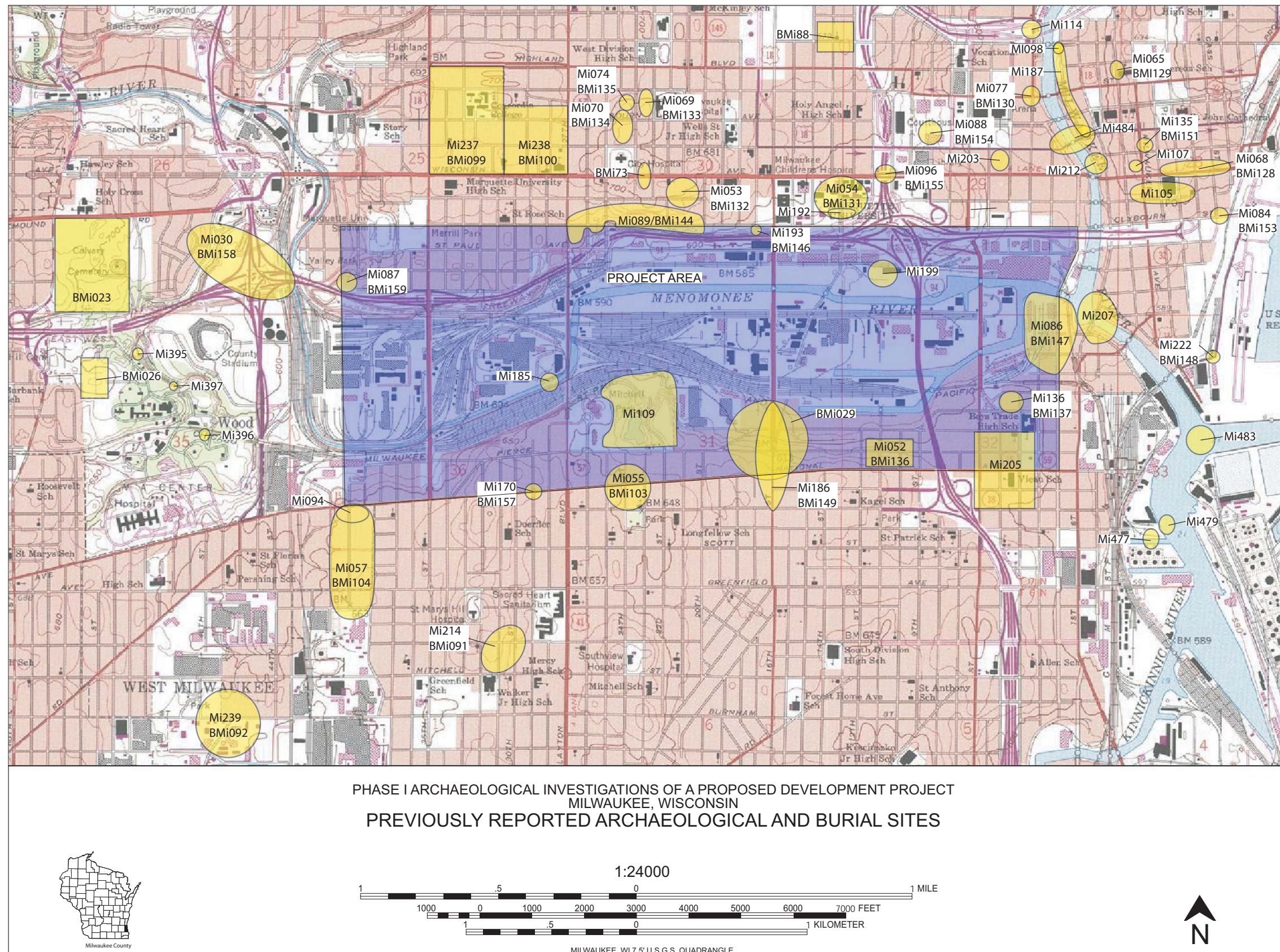


Figure 2. Location of the Menomonee River Valley Redevelopment Project and previously recorded sites within one-mile of the Project boundary.

This change is not only reflected in prehistoric dietary remains, but also in stone tool assemblages. Projectile point styles became more diverse; and ground stone, woodworking, and seed/nut processing implements increased in frequency. In addition, a complex suite of tools associated with fishing and harvesting of riverine shellfish appeared. Finally, cold-hammered copper artifacts became more abundant. As a result of these changes, which continued to evolve through time, the Archaic period is commonly divided into three temporal divisions: Early Archaic (10,500-7500 B.P.), Middle Archaic (6000-3200 B.P.), and Late Archaic (3200-2500 B.P.). Similar to Paleoindian sites, many Early and Middle Archaic sites have probably been eroded away or lay buried within river floodplains, others have been inundated by Lake Michigan. Across the region, isolated projectile point finds and small surface scatters of lithic artifacts are the most frequent indicators that Archaic people occupied and exploited the area.

Within the Project area, no previously reported Archaic period sites or materials are known; however, immediately west of the area and within the grounds of the V.A. Medical Center, a Late Archaic period site has been recorded (Benchley 1992; Van Dyke 1989). Site 47 Mi 395 (Benchley 1992:17-18) is described as an unplowed multi-component site affiliated with the Late Archaic and Late Woodland periods. Two additional lithic scatters—47 Mi 396 and Mi 397—recorded on the Medical Center grounds may date to the Archaic period based on a lack of ceramic artifacts, but an Archaic temporal affiliation has yet to be conclusively demonstrated (Benchley 1992:29 and 38-39). All three sites are believed to have served as repeatedly occupied campsites or resource extraction loci.

Further a field and toward the northwest and south, probable Archaic period and known Late Archaic-to-Early Woodland period transition sites are reported. Brown (1901:11-12; 1916:38) mentions a number of copper artifacts, which almost certainly date to the Archaic period, recovered from along the Menomonee River in Wauwatosa and along the Kinnickinnic River in South Milwaukee. In addition several Archaic period burial sites are reported west

and south of the lower river valley (Overstreet 1980:77-83). These burial sites suggest that contemporaneous peoples knew about the valley and may have extracted natural resources from it as well as used it as a route of travel. Unfortunately, many of the sites, especially those that may have existed along the bluff tops bordering the valley, have been destroyed by rock quarrying activities or urban development. Similar to Paleoindian sites, Archaic sites may lay buried beneath sediments deposited after lake levels rose between 6350 and 3055 B.P., and all or parts of the lower Menomonee River valley was inundated, creating an estuary.

The Woodland Period (2800 to 1000 B.P.)

As the Archaic tradition neared its end beginning circa 2800 B.P., some groups began to adopt new technologies, and social and economic practices. These changes elaborated upon Archaic traits and are identified as the production of pottery, the construction of earthen burial mounds, and the cultivation of plants (Benchley et al. 1997:87). In addition, greater external exchange of exotic goods occurred and populations increased. The increase in population resulted in new subsistence needs with Woodland peoples exploiting a range of environmental zones, including upland, lowland-riverine, and lakeside settings. While subsistence strategies continued to rely heavily upon hunting and gathering, horticulture became progressively more important. By 1000 B.P., corn horticulture, supplemented by hunting, fishing and gathering, was the major subsistence basis of most groups occupying areas where the growing season exceeded 140 days. Concurrently, settlement patterns began to shift from ones based upon seasonal nomadism towards those oriented toward the occupation of large, semi-permanent villages coupled with seasonal movements to resource procurement camps. Based upon changes in the appearance of distinctive ceramic wares and projectile point types recorded in stratigraphic context or associated with radiocarbon dates, the Woodland period is commonly sub-divided into Early Woodland (2800-2300 B.P.), Middle Woodland (2300-1600 B.P.) and Late Woodland (1600-900 B.P.) periods.

Datable Early Woodland materials have not been recorded within the Project boundary or on lands immediately adjoining it. Such remains are reported for greater Milwaukee County although related habitation or special use sites have not been formally excavated or reported in the archaeological literature (Overstreet et al. 2000:17). As a result of a lack of detailed information, the Early Woodland sub-period is not well known for Milwaukee County in general and the Project area specifically. Early people no doubt exploited the natural resources the valley marsh offered, but evidence of this use has yet to be conclusively documented. In addition, much of the evidence has probably been destroyed by urban improvements.

The following Middle Woodland period is in part characterized by the construction of conical burial mounds (Stevenson et al. 1997:157). Several conical mounds are reported to have existed along the bluff tops overlooking the lower Menomonee River valley, and are recorded as sites 47 Mi 52/BMi 136, Mi 53/BMi 132, Mi 54/BMi 131, Mi 57/BMi 104, Mi 74/MBi 135, Mi 77/ BMi 130, and Mi 214/MBi 94 (Brown 1916). Unfortunately, none of the seven sites exists today, and no artifacts are known to survive for any of the mounds. As a result, no data exists that permits an interpretation that conclusively dates the mounds to the Middle rather than the Late Woodland. Certainly by the Middle Woodland, people knew about and exploited the natural resources of the lower valley, and one or more of the conical mounds probably reflected this knowledge and use.

Greater evidence exists for use of the Project area by Late Woodland people, who built several mound groups using characteristic effigy figures and perhaps conical ones along the bluff tops bordering the lower valley. Effigy mounds, which take the shapes of beavers, birds, canines, deer, turtles, birds, bear, water spirits (panthers), and other forms, were constructed across southern Wisconsin and adjoining areas between 1300 and 900 or 800 B.P., also recognized as A.D. 700 to 1100 or 1200 (Birmingham and Eisenberg 2000:138). Such mounds and mound groups are frequently associated with marshy areas and are interpreted as territorial markers, designating

a groups use of associated wetland resources (Casey 2003). In addition to possibly controlling access to natural resources, mounds may have also served social functions, reflecting symbolic or religious meaning for a group(s) and structuring the way in which the group(s) related to its surroundings and cosmos (Birmingham and Eisenberg 2000:127-136).

Regardless of the exact function of the mounds, those in southeastern Wisconsin are not randomly distributed, but are located in regards to ecological conditions such as marshes (Casey 2003:69). Three effigy mounds or mound group sites are recorded as having been completely or partially present within the proposed Project boundary which once embraced an extensive marsh. These sites consist of a water spirit/panther effigy mound (47 Mi 55/BMi 103, the National Avenue Effigy) recorded along National Avenue above 24th Street (Brown 1916:69-70); another water spirit/panther, together with a linear mound (47 Mi 136/BMi 137, the Walker's Point Mounds) reported northwest of the intersection of Virginia and Grove streets (Brown 1916:66-67); and two water spirits/panthers, together with conical and linear mounds (47 Mi 57/BMi 104, the Trowbridge-Carey Mounds) bounded by National and Greenfield avenues, and 33rd and 35th streets (Brown 1916:70-76). A village site may have been associated with the Trowbridge-Carey Mounds site; however, the village site was not formally excavated, and the mounds and mound groups reported by Brown have been destroyed by street grading and other urban improvements. Other conical, circular, and effigy mounds existed immediately adjacent to the study zone: the round Twenty-First Street Mound, also known as Rodger's Mound, south of Grand Avenue (Brown 1916:53), the eight conical Buck Mounds located south of National between 4th and 8th avenues (Brown 1916:67-68), and a possible small, nondescript mound at the Tire Swing site, 47 Mi 395, located on the grounds of the V.A. Medical Center (Benchley 1992:17). While it is known that Late Woodland peoples knew about the Menomonee River valley and no doubt exploited the natural resources it offered, details about the people's use or occupation of the area remain largely unknown. As of yet, archaeologists do not know if the lower

Menomonee River valley served as a year round residence for people or if it was only exploited for part of the year, perhaps from Spring through Fall, especially during fish runs and during rice harvesting.

The Mississippian Period (1100 to 350 B.P.)

By the end of the Late Woodland, evidence of the development of new culture groups appear in the Midwest and define the Mississippian period. The Mississippian period refers to late prehistoric horticulturists, who occupied the Midwest and Southeast. A broad distinction is generally drawn between Middle Mississippian cultures associated with the tributaries and fertile alluvial plains of the Mississippi River south of St. Louis, Missouri; and the Upper Mississippian or Oneota groups who inhabited the basins and drainages north of St. Louis.

Middle Mississippian cultures are characterized by six attributes or trends. These consist of (1) a shift to a more intensive horticultural system dependent upon maize cultivation in riverine settings; (2) a hierarchy of planned communities including regional centers, ceremonial locations, hamlets, farmsteads, and extractive facilities; (3) a general increase in local population densities; (4) the development of complex sociocultural systems recognized for their members' multiplicity of roles and status relations; (5) an elaboration of a complex iconography serving as a widespread integrative symbolic system; and (6) the maintenance of extensive extra-regional trade relationships (Griffin 1985:63). With the exception of the Aztalan site, which is located in Jefferson County, no other well documented archaeological sites exhibiting a Middle Mississippian affiliation have been identified within Wisconsin. No such sites are known from Milwaukee County (Overstreet et al. 2000:17).

In contrast, Oneota, or Upper Mississippian sites are more widely distributed throughout the upper Midwest. In Wisconsin, the Oneota occupied sedentary and semi-sedentary settlements associated with many of the state's regions; however, the densest population aggregates appear to be associated with the southern half of the state (Gibbon 1970, 1982; Glenn 1974; Overstreet 1978). Oneota people are

generally viewed as village farmers who pursued maize horticulture, but also fished and hunted (Brown 1982; Hall 1962). While general agreement exists that a genetic tie links Oneota/Upper Mississippian and Middle Mississippian groups, the precise nature of this tie remains in dispute (Hall 1986; Overstreet 1989). In contrast, archaeologists generally accept that historical period Native Americans are descendents of the group (Overstreet 1997:292).

A well documented Oneota occupation has not been documented in Milwaukee County (Overstreet et al. 2000:18); however, several potential Upper Mississippian sites or deposits (Indian Prairie and the Spring Grove site) are reported along portions of the Milwaukee River northeast of the current study area (Brown 1916:85-88). While the possibility exists that Oneota peoples once used the Project area, given the lack of related materials, for example shell tempered ceramics, and in the absence of large Oneota sites within the surrounding county area, this is not a given. If Oneota people used the lower valley area, evidence of their presence has yet to be found or has been destroyed or masked by activities related to urban development.

Historical Period Native Americans

While the historical Native Americans encountered by Europeans entering the Wisconsin territory during the seventeenth century are descendants of the Oneota, many later transplanted Native American groups are associated with the state, especially eastern Wisconsin, including the greater Milwaukee metropolitan area. These later groups used the state and greater Milwaukee metropolitan area first as a refuge and later as a home. Political and economic events far to the east had profound and lasting effects on native populations as they participated to greater-and-greater degrees in the newly established and competitive fur trade. Aggressive practices pursued by fur trading groups resulted in the displacement and migration of many populations to eastern Wisconsin. Groups such as the Chippewa, Ottawa, Sauk, Mesquakie (Fox), Huron, Potawatomi, Kickapoo, Miami, Mascouten, and Illini moved into the region (C. Mason 1988:84-97),

swelling the traditional population comprised of the Winnebago, Menomoni, and Santee Dakota (Mason 1988:80-84). The Potawatomi in particular appear to have established a strong presence in the Milwaukee region, although other tribal groups similarly used the area.

At various times during the historical period, the Milwaukee, Menomonee, and Kinnickinnic River valleys served a variety of Native American groups (Brown 1916:25-29): the Potawatomi, the Menomoni, the Ojibwa, the Ottawas, the Mesquakie (Fox), the Sauk, and the Winnebago (Ho-Chunk). This is especially true of lower valley areas near the present and former port facilities of Milwaukee, where Brown (1916) references historical Native American villages located along the bluff tops and bases bordering the valley. Within this area, the most frequently identified Native American group is that of the Potawatomi, who maintained and no doubt shared villages with members of other groups.

Brown (1916) mentions and locates three village sites bordering the valley, and references several others located adjacent to the study area. The three villages are the Lime Ridge Village site (Brown 1916:54-55) located along Clybourn between 20th and 26th streets and occupied by Potawatomi as late as 1841; Panschkenana's Village (Brown 1916:65-66) located at 6th Street and National and occupied by Potawatomi until at least 1841; and the Runner's Village (Brown 1916:67) located between Walkers Point and the Menomonee River and occupied by Potawatomi. Other village sites include Kenozhaykum's Village (Brown 1916:52-53) located along the Milwaukee River above its juncture with the Menomonee River and occupied by Potawatomi through at least 1841, a Winnebago site occupied circa 1875 and overlooking the Milwaukee Road shops (Brown 1916:64), a circa 1850 camp located near the 16th/Vliet streets intersection (Brown 1916:64), and a mid-nineteenth century Menomoni Indian camp established along 17th Street between Vine and Brown streets (Brown 1916:65).

In addition, during the early historical period, a network of trails crossed or bordered the study area (Brown 1916:26). The Mukwonago Trail followed the bluff top on the south side of the lower valley

and intersected the Chicago Trail at Walker's Point. Before this intersection, the Mukwonago Trail gave rise to a section of trail that traversed the valley along a route that became part of Emmer Lane and intersected the Waukesha Trail on the north side of the valley. The Waukesha Trail coursed east-west across the bluff top bordering the north side of the valley and joined/split from the Sauk Trail, which may have been created by the joining of the Chicago and Mukwonago trails, on the east side of the Milwaukee River. The Sauk Trail continued north along the bluff top bordering Lake Michigan. These trails probably followed prehistoric routes leading south, north, and west from the lower valley.

In summary, by the mid-nineteenth century, the primary Native American residents in the metropolitan area were the Potawatomi, who ceded the valley lands to the United States by treaty during 1833; however, as mentioned, other Native American groups visited and occupied the Milwaukee area during the mid-to-late nineteenth century.

Euro-American Settlement and Development

Prior to the fur traders, the first documented European to visit the Milwaukee area is identified as Father Pierre Marquette. His visit took place during a 1674 trip he made from Green Bay to Chicago. Two years later, he was followed by Father Claude Allouez. At the close of the century, John Buisson de St. Comes is reported to have been storm bound in the area (Buck 1876:10), and thereafter Euro-American visits became more frequent.

By the end of the 17th century, the Milwaukee area, with its sheltered harbor and river connections, served as a fur-trade center. Beginning during the early eighteenth century, the commercial and social development of the area expanded and continued to do so through the twentieth century, especially after 1818 when Solomon Juneau arrived in the village and laid the groundwork for the establishment of Milwaukee as a permanent Euro-American community (Buck 1876:10; Smith 1985:113). Pioneer settlement of Milwaukee began in earnest after signing of various Indian treaties beginning in 1831, during which time the government

obtained control and ownership of all lands north and east of the Milwaukee River, and later west and south of it.

The years following 1835 saw increased immigration and commerce. The construction of Milwaukee's first warehouse at the river's mouth, as well as the presence of two taverns, a saw mill, and several frame and log structures marked notable town improvements during 1838. Demographically, by 1840, immigrants, including a large population from Germany, had settled the area, and much of the land surrounding the city, including portions of the lower Menomonee River valley had been claimed for agricultural purposes. The population continued to increase, and by 1876, Milwaukee had grown from a small hamlet numbering some 700 residents in 1836, to an urban center boasting a population of more than 100,000 (Buck 1876). In the process, the early environmental setting, including topographic features, underwent tremendous modification. This would have been evident in portions of the Project area where improvement activities focused upon filling portions of the great marsh bordering the Milwaukee and Menomonee rivers with materials graded from bluff tops and slopes or dredged from the rivers and port. The purpose for in-filling the marsh was to create firm, dry lands, which could be developed.

During 1843, city fathers began making improvements to the harbor using Congressional financial assistance. Eventually by 1857, a new entry to the harbor had been cut, known as the straight cut (Gurda 1999:78), and this development encouraged additional harbor improvements, which extended further up the Menomonee River. As the harbor developed, canals were cut through the lower Menomonee River marsh and new docks were created (Figure 3). Development of the valley, including its western end would intensify during and following the 1860s.

While commerce had played a central role in Milwaukee's early economic history, beginning during the 1860s, local industry expanded and began to surpass commerce in significance. In the process, industrial development transformed all of the Menomonee River valley (Gurda 1978:62).

Industry's rise to prominence and the transformation of the valley occurred because 1) Milwaukee's financial leaders recognized they could profit from investing their money in manufacturing, 2) the Civil War made Great Lakes cities into shipping and supply centers, especially with the Mississippi River closed, and 3) technological advancements, for example steam power, encouraged decentralization of manufacturing, permitting the Menomonee River valley to become an industrial center (Gurda 1978:62-63). Served by the port where bulk cargos such as coal, ore, stone, etc. could be received, and by cheaper railroad service, which could bring additional natural resources to the factories and take finished materials away, the valley occupied a prime location within the developing national transportation and trade network.

Improvement to the valley began in earnest during 1869 with filling and dredging operations, and by the 1890s, the entire valley east of the Veterans Home had been filled and developed. In addition, probably during the 1870s, a new channel was cut for a segment of the river in the southwestern portion of the valley, with the old river channel being filled and built upon (Figure 4). Major industrial interests developing the valley (Figures 5, 6, and 7) included Plankinton Meat Packers, the Falk Corporation, Red Star Yeast, the Milwaukee Road shops, Pfister and Vogel Tannery, and various other meat packers, tanneries, stock and rail yards, and coal and lumber storage facilities (Merritt and Snook 1980:1-100). Today, many of these interests are gone, the land either existing vacant, or buildings abandoned or being rehabilitated. As a result, numerous valley properties await redevelopment.

A Chronological Listing of Events Affecting the Lower Menomonee River Valley

The reader will note that the following dates are referenced as either B.C. or A.D., while other dates in the text are presented as B.P., or before present dates. In order to convert B.C. to B.P. dates, one only has to add 2000 years to the B.C. date. In order to convert an A.D. to B.P. date, one must

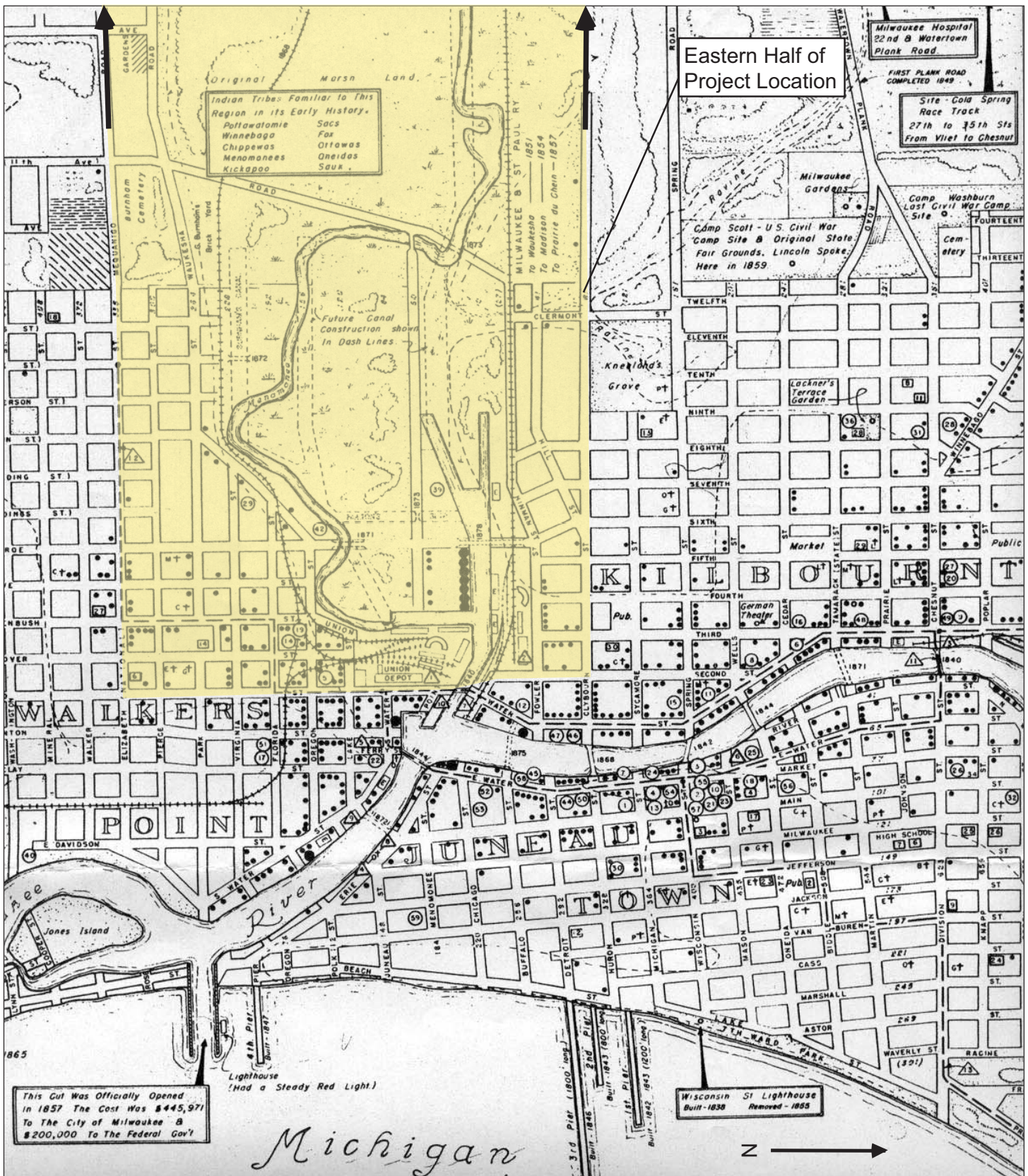


Figure 3. The eastern half of the Menomonee River valley as it appeared in 1870 with later improvements and a partial of the Menomonee River Valley Redevelopment Project boundary superimposed upon it (The City of Milwaukee 1958).

subtract the A.D. date from 2000. The following are identified as significant dates in the history or development of the valley:

Post-12,000 B.C. – large scale retreat of the glacial sheet, allowing for the creation of earliest of the proto-Lake Michigan: Glenwood stage of Glacial Lake Chicago (Mason 1981:71-72).

Ca. 9,990 B.C. – Glacial sheet re-advances (Mason 1981:72-73).

Ca. 9,500 B.C. – Glacial sheet begins retreating, forming Lake Algonquin, a large melt water pond south of the Two Rivers Glacial Front (Kolb and Goldstein 1982:86).

Ca. 9,250 B.C. – the first Ice Age hunters using fluted projectile points probably enter the Upper Great Lakes region (Mason 1997:89).

Ca. 8,000 B.C. – Late Paleoindians using lanceolate projectile points are present in Wisconsin and overlap with early Archaic peoples, especially in the southern portion of Wisconsin (Mason 1997:98).

– Warmer, moister climatic conditions begin to prevail (Stoltman 1997:119).

– the water level of Lake Michigan begins to drop from approximately 605 ft (compared to 580 ft above mean sea level today) to 230 ft by 7500 B.C. (Mason 1997:98; Stoltman 1997:119).

8,000/5500-4000 B.C. – the Early Archaic stage, which is marked by stemmed and notched bifaces (Stoltman 1997:116).

Ca. 7000 B.C. – oak-hardwood forests develop in southern Wisconsin (Griffin 1997:97).

5000 B.C. – the terminus of Lake Michigan's Chippewa stage marks the lowest level lake waters attain; all beach deposits and

associated archaeological sites of this stage are now inundated (Kolb and Goldstein 1982:86).

Ca. 4350 B.C. – lake levels are at approximately present day levels (Kolb and Goldstein 1982:86).

4000-1200 B.C. – the Middle Archaic stage, which is marked by large side-notched projectile points/knives (Stoltman 1997:121).

Ca. 3500 B.C. – mid-Holocene dry period begins in Wisconsin, causing a decline in deciduous forests and an increase in oak savannas and prairies (Griffin 1997:101 and 103).

2300+/-75 B.C. – the Nipissing stage of Lake Michigan reaches its highest levels, approximately six meters above southern lake basin water levels (Kolb and Goldstein 1982:86).

Ca. 1500 B.C. – the mid-Holocene dry period comes to an end in southern Wisconsin (Griffin 1997:103)

– oak savannas continue to replace deciduous forests in southern Wisconsin (Griffin 1997:103 and 106).

1275 B.C. – the Lake Michigan Algoma stage begins, marking a period when water levels begin to fall, although during most of the stage water layers remain about three meters higher than the current lake level (Kolb and Goldstein 1982:86).

1200-500/

100 B.C. – the Late Archaic stage, which is marked by the sudden appearance of new projectile point styles, small stemmed and corner-notched points, and a decline in the use of native copper (Stoltman 1997:134).

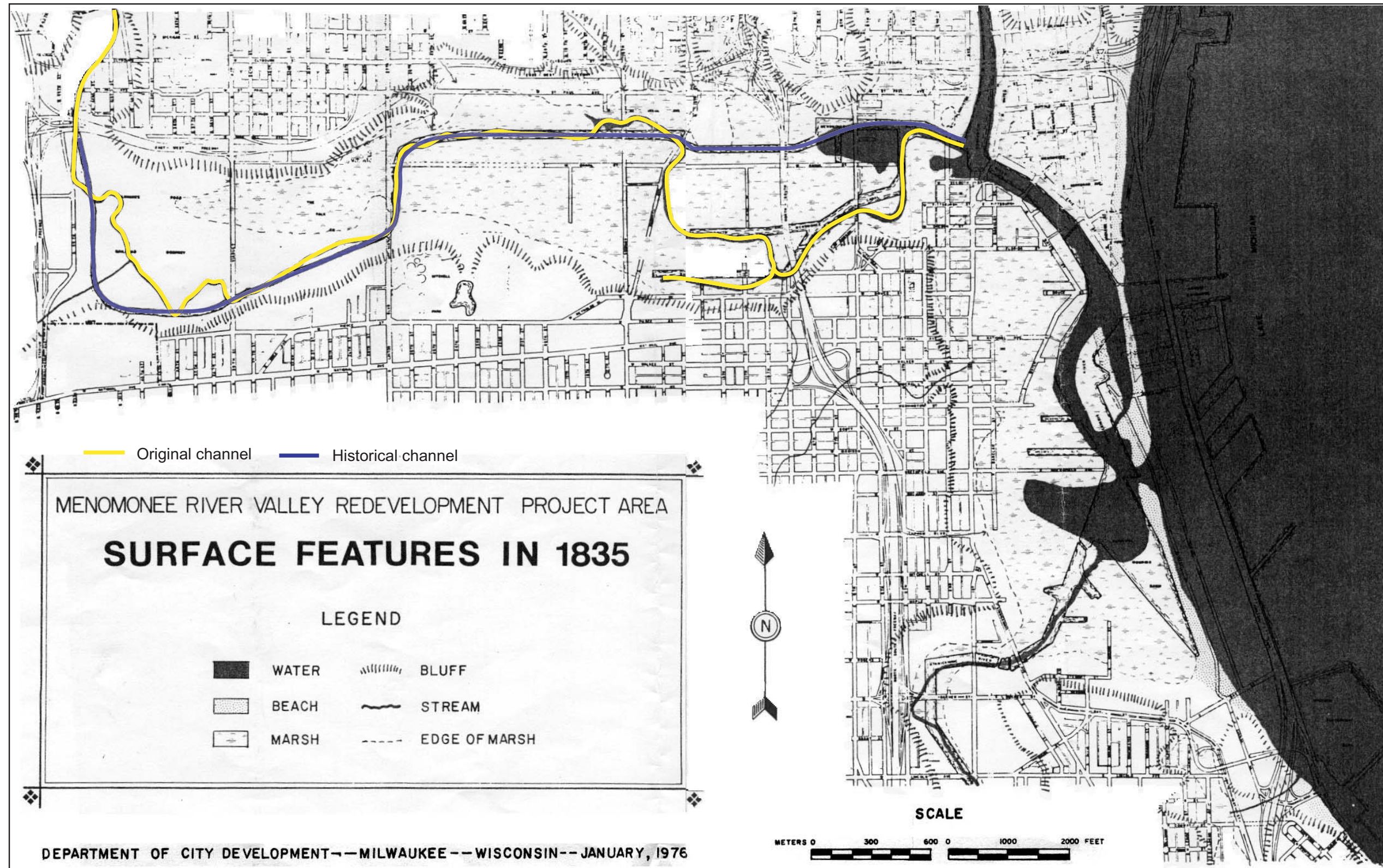


Figure 4. The Menomonee River Valley Redevelopment Project boundary superimposed upon Menomonee River valley surface features recorded during 1835 (The City of Milwaukee 1976).

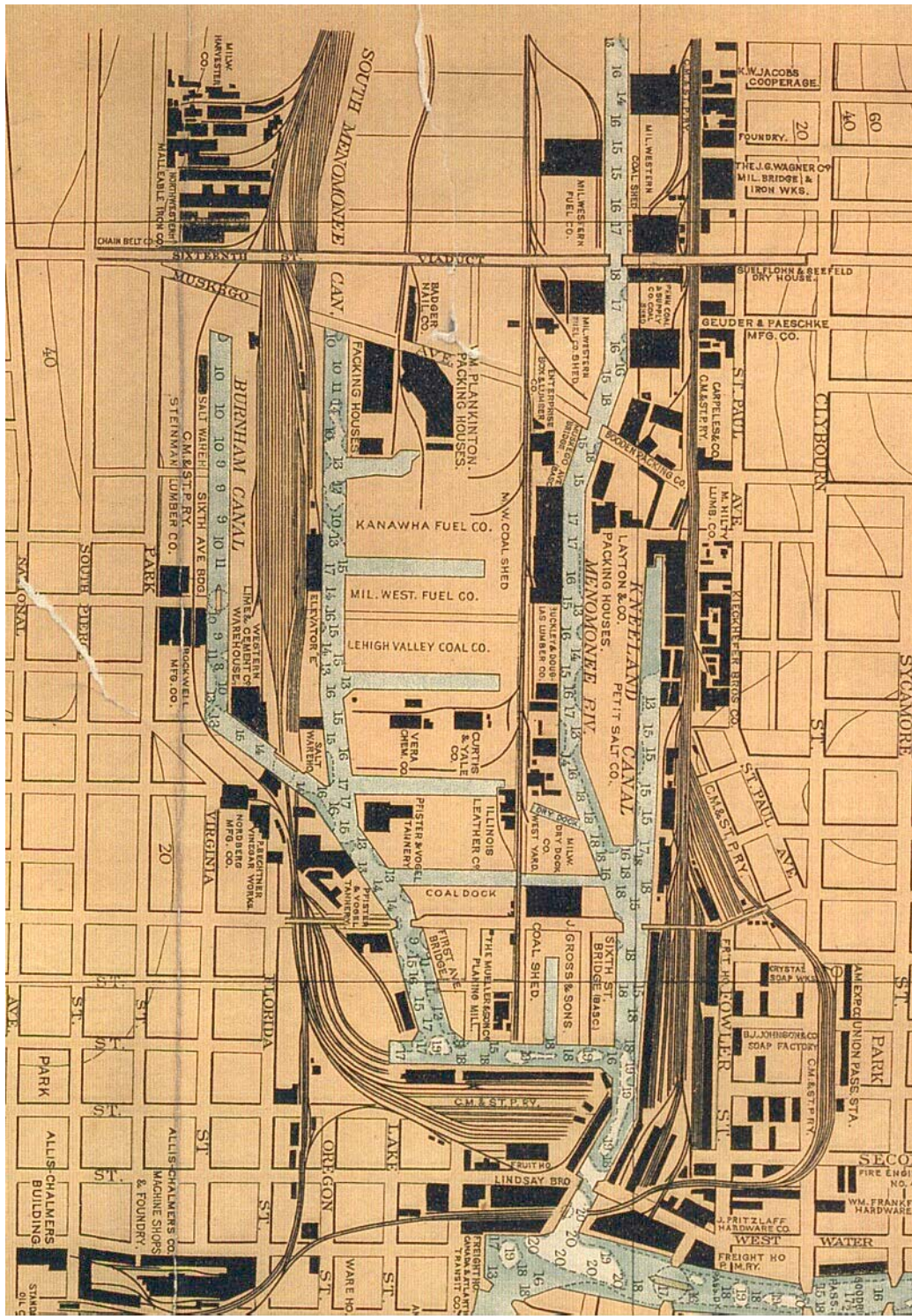


Figure 5. Urban and industrial improvements shown for the lower Menomonee River Valley during 1912 (U.S. Army Corps of Engineers 1912).

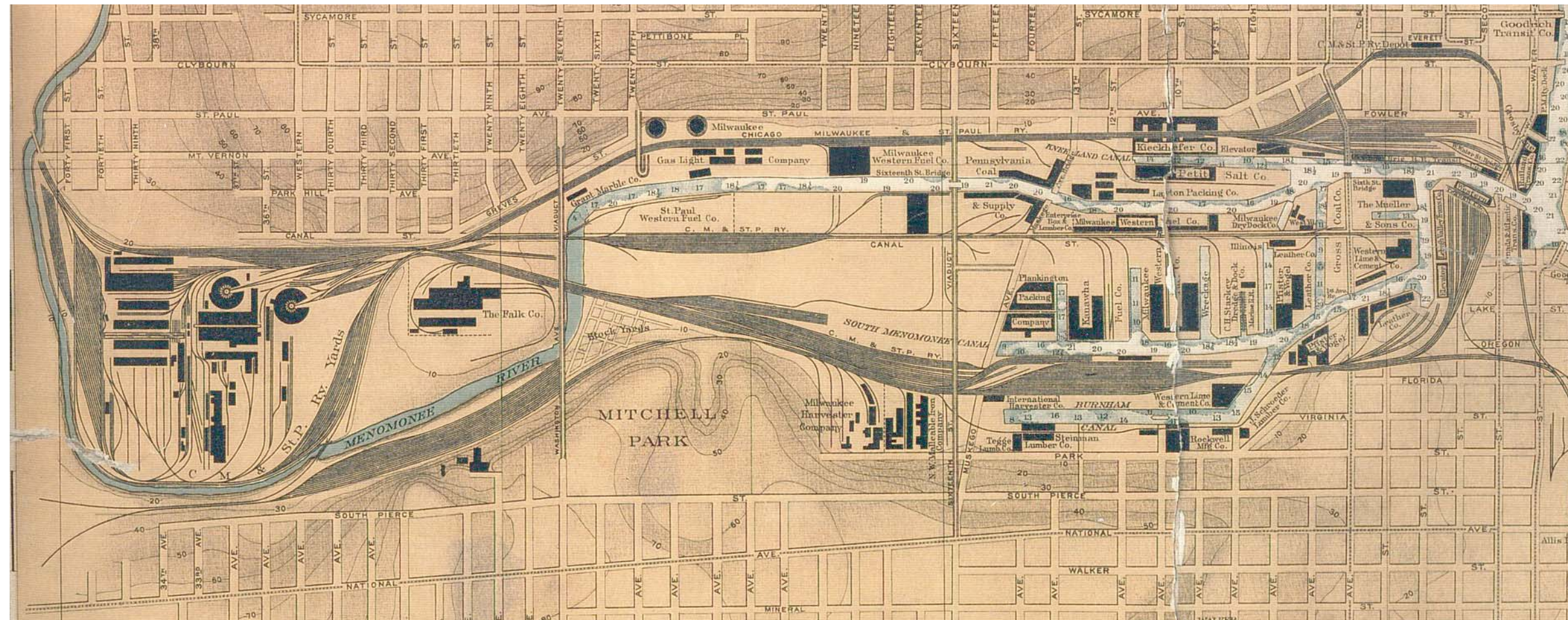


Figure 6. Urban and industrial improvements shown for the lower Menomonee River valley during 1916 (U.S. Army Corps of Engineers 1916).

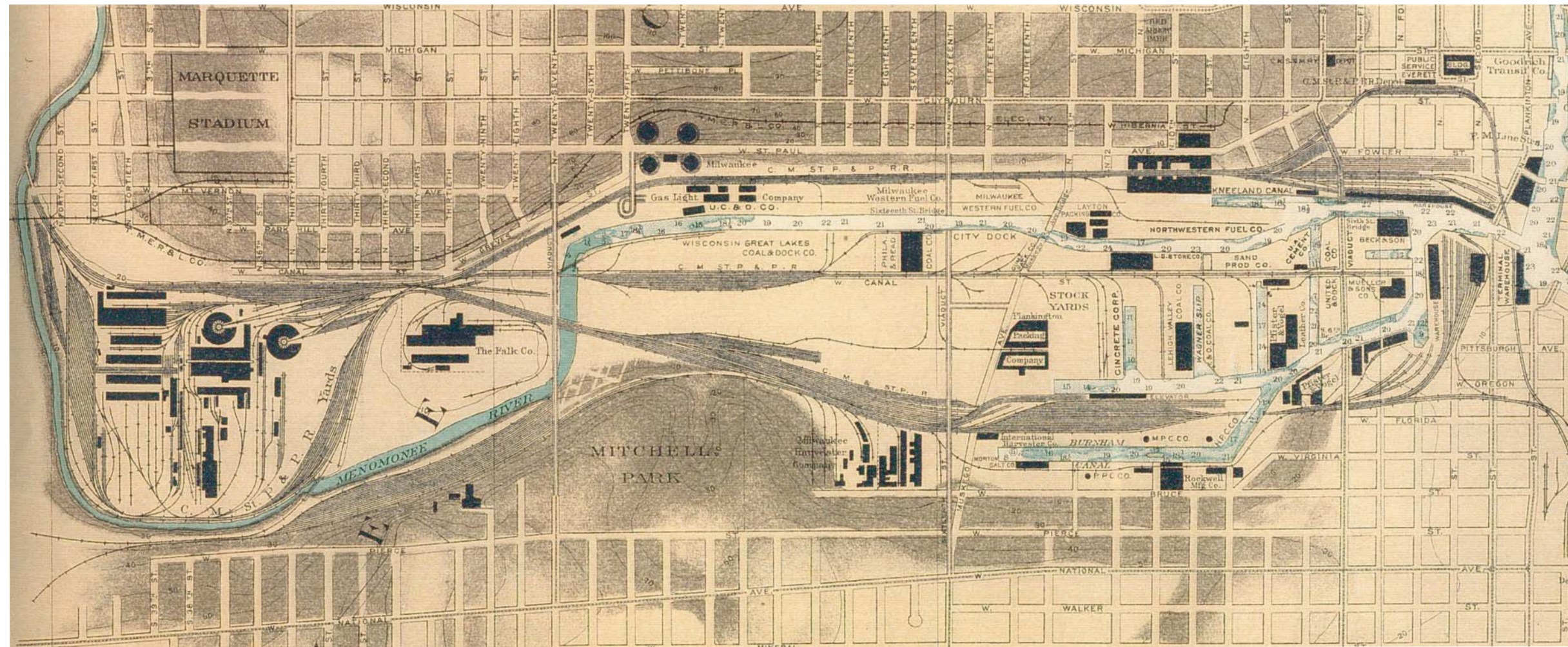


Figure 7. Urban and industrial improvements shown for the lower Menomonee River valley during 1931 (U.S. Army Corps of Engineers 1931).

- Post-1000 B.C. – hardwood forests become more common (Griffin 1997:103).
- Ca. 500 B.C. – the Lake Michigan Algoma stage ended with lake levels falling to present day levels, at least in macro-scale terms (Kolb 2004:3).
- 500-0 B.C. – ceramic production begins in Wisconsin (Behm 1997:21).
- 500 B.C.-A.D. 100 – the southeastern Wisconsin Early Woodland period, which may mark the beginning of the construction of conical mounds (Stevenson et al. 1997:155-156).
- A.D. 1 – the Red Ocher complex, which spans the Archaic to Woodland traditions, ends (Stevenson et al. 1997:143).
- A.D. 100-300 – the southeastern Wisconsin Middle Woodland stage, which is marked by the construction of conical burial (Stevenson et al. 1997:165).
- A.D. 400/500-1200 – the southern Wisconsin Late Woodland stage, which is marked by effigy mounds, the bow and arrow, settled village life, and cultivated plants (Stevenson et al. 1997:174).
- A.D. 800-1350 – the Middle Mississippian culture of the American Bottoms region in southwestern Illinois rises, flourishes, and declines (Green 1997:204).
- A.D. 950-post 1650 – the Upper Mississippian culture group known as the Oneota occupy and dominate much of southern Wisconsin (Overstreet 1997:255-291).
- Ca. A.D. 1050 – the first Middle Mississippian people enter Wisconsin (Green 1997:206).
- Ca. A.D. 1100 – the Middle Mississippian center of Cahokia achieves its greatest power (Green 1997:218).
- Ca. A.D. 1100 – Aztalan reaches its greatest level of power and influence.
- A.D. 1620 – Nicolet is the first European to “discover” the Wisconsin area (Kay 1979:403).
- A.D. 1640-1670 – the Iroquois wars in the eastern Great Lakes area displace the Sauk, Mesquakie (Fox), Potawatomi, Ottawa, Petun, Mascouten, Miami, and Kickapoo to the Wisconsin area (Kay 1979:403-404).
- Post-1760 – segments of the Potawatomi and Ottawa tribes return to the Wisconsin coast of Lake Michigan after first returning to their eastern Great Lakes homelands (Kay 1979:404-405).
- 1795 – Aug. 20, the first white man, Jacques Vieau, begins building his cabin in Milwaukee in what will become Mitchell Park.
- 1818 – Solomon Juneau arrives in Milwaukee
- 1820s &
1830s – members of the Menomini tribe, who are known to have settled in ethnically mixed villages far beyond the boundaries of their tribal lands, are sighted in villages at Milwaukee (Kay 1979:416).
- 1832 – bison are extinct in Wisconsin (Kay 1979:403).
- 1833 – with the Treaty of Chicago, the Chippewa, Ottawa, and Potawatomi cede all their lands located along the western shore of Lake Michigan to the United States government (Schafer 1927:48).
- 1834 – portions of the river valley are surveyed by the General Land Office

- Byron Kilbourn and George Walker arrive in Milwaukee (Gurda 1999:26).
- 1835 – eight-two ships call on Milwaukee harbor (Gurda 1999:46).
- 1836 – remaining portions of the river valley are surveyed by the General Land Office.
- 1837 – James Buck estimates that a work crew cut away least 50 ft of bluff located north of Michigan Street, with the barrowed soil used to fill a portion of the adjoining Third Ward marsh (Gurda 1999:30).
- 1845 – approximately 1000 ships call on Milwaukee harbor (Gurda 1999:46).
- 1846 – Jan. 31, the Village of Milwaukee receives a city charter from the territorial government (Gurda 1999:56).
- 1847 – the territorial legislature charters Wisconsin’s first railroad, the Milwaukee & Waukesha (Gurda 1999:81).
- 1848 – June 8, the Territory of Wisconsin attains statehood.
- Fall 1849 – roadbed for the Milwaukee & Waukesha Railroad is begun along the north side of the lower Menomonee River valley (Gurda 1999:81).
- 1850 – Nov. 12, the locomotive *Wisconsin* carried two cars and fifty passengers up the river valley to Wauwatosa (Gurda 1999:81).
- 1853 – construction began for the straight cut, which would become the new harbor entry (Gurda 1999:78).
- Mid-1850s – John Plankinton and Frederick Layton establish a packing complex in the valley; the complex eventually grew to cover fourteen acres (Gurda 1999:119).
- 1857 – construction completed for the straight cut (Gurda 1999:78).
- 1869 – the Milwaukee & St. Paul Railroad established a large stockyard in the valley north of Mitchell Park Domes (Gurda 1999:126).
- Business leaders launch the Menomonee Improvements for the valley, the intent being to dredge a network of canals and slips, and create dry land between them (Gurda 1999:126).
- 1874 – first widely circulated descriptions regarding the polluted nature of the Menomonee River or related canals (*Milwaukee Sentinel* 1874: July 17 and 18).
- 1878 – first viaduct crossing the valley at 6th Street is completed and is later replaced during 1908 (Gurda 2003b:12).
- 1880 – the main shops of the Chicago, Milwaukee, & St. Paul Railroad begin to open on a 160-acre tract west of current 35th Street (Gurda 1999:127).
- the largest brickyard in the region located near modern 13th Street on the valley’s south rim and owned by George Burnham produced more than 15 million pale yellow bricks (Gurda 1999:127).
- 1886 – May 3, striking factory works demanding an eight hour work day sweep through the Menomonee River valley intent on shutting down any opened plants; the strike proved unsuccessful (Gurda 1999:152 and 155).
- Aug. 27, a Grand Jury tours the “river nuisance” and concludes that “the filth in the rivers came from the distillery and the tanneries, and also to some extent from the breweries; that very little came from other sources” and a touring lecturer states that “the river is simply disgusting. Why, I nearly stifled as the steamer came up the harbor this morning” (*Milwaukee Sentinel* 1886).

- 1889 – the Falk Company begins construction of a 70,000 square foot facility in the western portion of the valley, and the complex is completed during 1900 (Gurda 2003a).
is underway (*Milwaukee Journal* June 27, 1928:7).
- 1890 – the city installed a “garbage crematory” in the valley east of 16th Street, creating later protest by residents of the Grand Avenue district when summer winds carried incinerator odors into the area (Gurda 2003b:13).
1933 – the viaduct crossing the valley at 35th Street is completed (Gurda 2003b:12).
– the number of employed wage earners had dropped from 117,658 in 1929 to 66,010 (Still 1948:479).
- 1890 – Sept. 5, health inspectors tour the Menomonee River and find “at certain places, nothing but an open sewer, filled with filth and reeking with refuse” (*Milwaukee Sentinel* 1890).
1953 – Milwaukee County Stadium opens (Gurda 2003b:14).
- 1895 – the viaduct crossing the valley at 16th Street is completed and is later replaced during 1929 (Gurda 2003b:12).
1957 – Milwaukee Braves win the World Series (Gurda 2003b:14).
- 1902 – Milwaukee existed as an “unusually compact city” thanks to the concentration of industrial jobs in the Menomonee River valley and only Boston and Baltimore could boast more residents per acre (Gurda 2003b:11).
1969 – the Valley power plant is completed (Gurda 2003b:14).
- 1910 – the viaduct crossing the valley at 27th Street is completed and is later replaced during 1929 (Gurda 2003b:12).
– the Falk Company facility has expanded to 250,000 square feet and houses more than 1,000 workers during the busiest production months (Gurda 2003a).
1986 – Jan. 1, the Milwaukee Road merges with the Soo Line, marking the beginning of the end for the Milwaukee Road shops in the valley (Mayer 1987:380).
- 1920 – decline begins in the demand for leather goods as wartime need disappeared and changing life styles brought about by the automobile and modern living reduced the need for tanned leather (Still 1948:494-495).
1991 – the Potawatomi Bingo and Casino facility opens 153 years after Native Americans quit their claim to the land ceded to the United States government (Gurda 2003b:14).
- 1928 – June 27, new stock yards have been built at Canal Street and Muskego Avenue, and the work of dismantling the Union stockyards located at the foot of 19th Avenue and the cattle pens just east of the 27th Street viaduct
2001 – Miller Park opens.

Summary

The lower Menomonee River valley drew prehistoric and historical groups to it by offering abundant natural resources, easily traversed ground, and water access, all located, at least during recent historical times, adjoining a larger commercial and industrial port city: Milwaukee. Evidence of these draws is reflected in documentary records, at archaeological sites, and along residential and commercial blocks.

Based upon the culture history context developed from existing overviews (Benchley et al. 1997; Birmingham et al. 1997; Brown 1916; Mason 1988; Overstreet 1991), a variety of previously recorded archaeological site types existed within the

Project area, and other, unrecorded sites linked to any period or tradition of the past 12,000 years may exist. In the past, large portions of the lower Menomonee River marsh, which was in-filled during the nineteenth century, would not have been inhabitable by humans, who exploited its natural resources, but lived or camped along the edges of the valley. Unfortunately, many of the previously reported sites recorded within or bordering the Project area have been destroyed or masked by urban development. Beneath the historical fill covering the marsh, one is likely to find camp sites or components of now destroyed larger sites as well as numerous isolated artifacts lost or left by people while they fished, hunted, gathered the wild resources, especially rice, offered by the marsh and river.

Chapter 3: Federal Cultural Resources Management Legislation and Regulations

The National Historic Preservation Act (<http://www2.cr.nps.gov/laws/NHPA1996.htm>)

Introduction

A Federal agency is responsible for identifying, evaluating, and managing cultural resources that may be affected when a private, municipal, or state party applies for financial assistance or for a permit, license, or other approval allowing the party to undertake a project, activity, or program. Applicants, contractors, and others may assist a Federal agency with its historic preservation responsibilities; however, the head of a Federal agency is charged with insuring that historic preservation actions, primarily the Section 106 process, are initiated. If an agency delegates some responsibilities to applicants or others, it must notify the State Historic Preservation Officer (SHPO) that it plans to do so, and must still insure that Section 106 review compliance occurs. The only Federal agency authorized by law to fully delegate its Section 106 responsibilities to a local government for certain programs is the Department of Housing and Urban Development (HUD), and in these cases, the local government becomes the “Federal agency” regarding projects funded by such HUD programs, although HUD still has ultimate authority regarding Section 106 compliance. During a project or undertaking, the SHPO will advise and assist a Federal agency in order to help the agency meet its preservation responsibilities. Similarly it will assist or advise those who have been delegated an agency’s historic preservation responsibilities regarding procedures, compliance, and implementation of various cultural resources management or historic preservation laws.

The general cultural resources management duties and historic preservation responsibilities charged to Federal agencies are in part identified under Section 111 of the National Historic Preservation Act (NHPA) of 1966, as amended. Section 106 of the NHPA provides a process through which an agency may resolve conflicts arising between its undertakings and its cultural resources management duties.

Section 111

Section 111 allows federal agencies to establish and implement alternatives for historic properties, including adaptive use, that are not needed for current or projected agency purposes. Federal agencies may lease historic properties or exchange properties for comparable historic properties, if an agency head determines that the lease or exchange will adequately insure the preservation of the historic property. Also, federal agencies may, after consultation with the Advisory Council on Historic Preservation, enter into contracts for the management of historic properties. Any such contract must protect the interests of the United States and insure adequate preservation of the historic property.

Section 106

Stewardship and preservation duties identified under Section 111 and other sections of the Act may at times conflict with an agency’s actions or undertakings. In such cases: “The section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the Agency Official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stage of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties” (36 CFR Part 800.1(a)). The Section 106 review process should be understood by all planners and developers involved with the Menomonee River Valley Redevelopment Project in order to insure that each recognizes how the process may affect schedules and planning options related to a specific project. If the City of Milwaukee or the Menomonee River Valley Partners, Inc. is designated the “Federal agency” for a HUD project or are authorized to initiate consultation with the SHPO as part of other Federal agency assistance or permitting programs, they should initiate the Section 106 review process as early as possible in a project’s planning stage, at that time informing the SHPO about the location and scope of the project.

In general, Section 106 represents a process that attempts to preserve unrecorded cultural resources or those properties that are listed in or are determined eligible for inclusion in the National Register of Historic Places. If a project area has not been inventoried for cultural resources, or if known cultural sites are associated with it, the responsibility of ensuring that Section 106 review is implemented becomes the duty of the Federal agency or delegated party, which should be consulting with the SHPO. The regulations are stepped (Figure 8) and may be used in a variety of situations where an undertaking has the potential to affect listed or eligible National Register properties, and unrecorded cultural sites. Becoming aware of or knowledgeable about the process and how to initiate it is an important planning tool for anyone wishing to move a proposed project from the design board through field completion with minimum conflict and time delays.

While planning a project, the project planner, developer, or land manager (project staff) should understand that the Section 106 review process can, when applicable, be coordinated with compliance work related to the National Environmental Policy Act (NEPA). NEPA review procedures may be substituted for a standard Section 106 review; however, it requires that stringent standards be met and in some instances the substituted NEPA procedures may be more complicated than a regular Section 106 review. For these reasons, project staff must consult with the SHPO early in the planning of a project in order to determine if NEPA review is appropriate in lieu of a standard Section 106 review. Regardless of the type of review initiated, the SHPO must be involved in the process. The following sections discuss the standard Section 106 process to a depth that will provide project staff a rudimentary understanding of it, and stress the need for staff members to consult with the SHPO during early planning stages of a project.

Once notified, the SHPO will inform project staff what actions must be carried out in order to comply with the Section 106 process (Figure 8) in regards to the subject project or undertaking. In addition, the SHPO may suggest to a planner or developer, who is overseeing a large or complex

project, that specific historic preservation documents be drafted that may lessen the number of times the SHPO must be consulted about the project under Section 106.

The Section 106 Process

The Advisory Council on Historic Preservation, which is an independent Federal agency, established the regulations entitled “Protection of Historic Properties” (36 CFR Part 800) to govern the Section 106 process. This process is comprised of five basic steps: identification and evaluation, effect determination, consultation, agreement and Council comment, and proceed. Depending on the nature of an undertaking or project, one or more of the regulatory steps may be required before a project is approved to proceed (Figure 8). With a general understanding of the process and by seeking assistance from the SHPO, project staff responsible for lands comprising the Menomonee River Valley Redevelopment Project will successfully meet their historic preservation responsibilities by moving their projects through the following regulatory steps:

I. Together with the SHPO, determine whether a proposed action is an undertaking and whether it is the kind that requires review.

A. NHPA defines “undertaking” as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including:

1. those carried out by or on behalf of the agency;
2. those carried out with federal financial assistance;
3. those requiring a Federal Permit, license, or approval; and
4. those subject to state or local regulation administered pursuant to a delegation or approved by a Federal agency . (16 U.S.C. 470W(7); 36 CFR 800.16(y)).

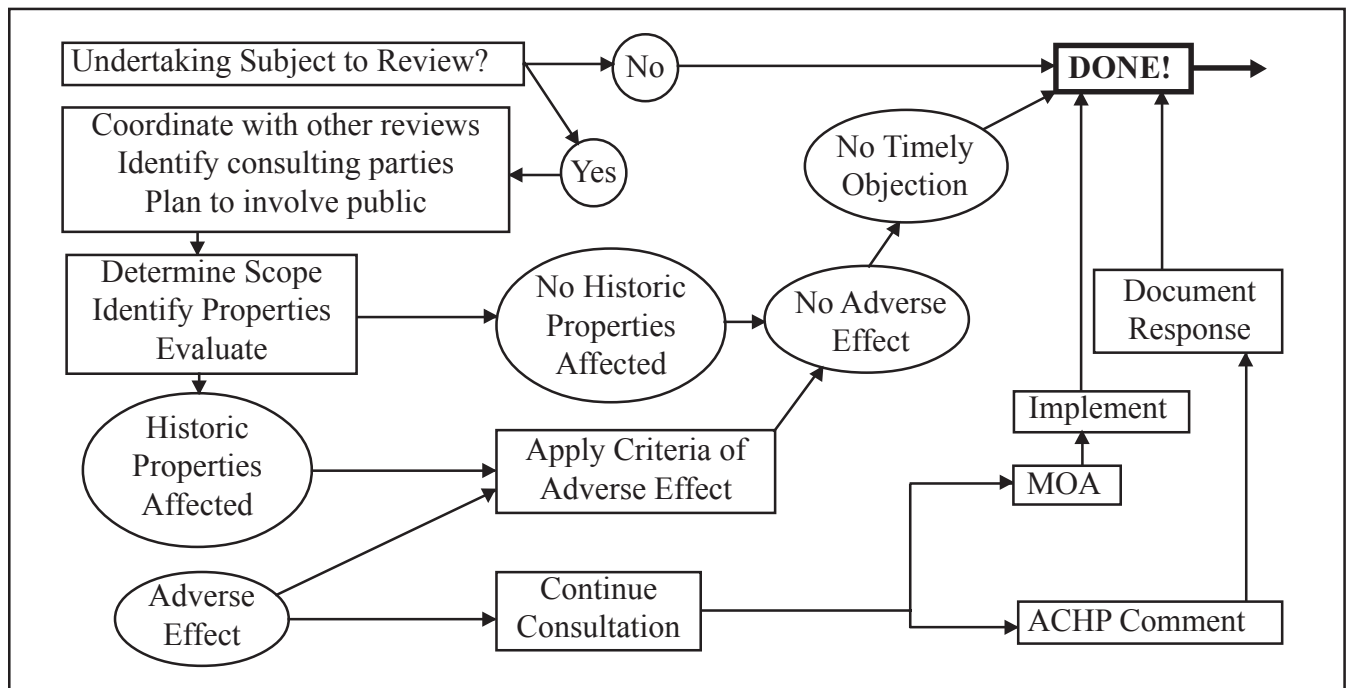


Figure 8. Flow Chart of the Section 106 Review Process

B. Regulations provided for the screening of undertakings:

1. Establish undertaking. The Agency official shall determine whether the proposed Federal action is an undertaking as defined in 36 CFR 800.169(y).
2. If an undertaking, determine whether it is a type of activity that has the potential to cause effects on historic properties. (36 CFR 800.3(a)).

C. If it is not an undertaking that requires review, the agency has met its Section 106 obligation and the agency may proceed with the project. If it is determined to be an undertaking that requires review, the process continues.

II. Identify and Evaluate Historic Properties.

A. Historic Properties include both archaeological sites and above ground sites, such as buildings.

B. Determine the area of potential effects. Include both indirect and direct effects and the depth.

C. Assess information needs: has the property been evaluated or inventoried?

D. Review existing record files for historic properties: archival and professional literature search.

E. Relevant Native American tribes and other possible consulting parties should be notified about the undertaking and archaeological plans when appropriate. Notification given to Native American tribes must be initiated by the Federal agency, which is solely responsible for government-to-government relationships with Native American communities.

E. Locate unrecorded cultural resources: field research.

1. Reconnaissance pedestrian survey.
2. Limited archaeological excavation.
3. Photographic and written description documentation.

F. If cultural resources are not identified and recorded, the project may proceed with documentation and consultation with SHPO. If cultural resources are identified and recorded, assess the effects of the undertaking on those cultural resources.

III. Assessing Effect of Undertaking

A. Regulations provide specific criteria for determining whether an action will have an effect: Criteria of adverse effect: An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (16 U.S.C. 470W(7); 36 CFR 800.5(a)).

B. The Federal agency notifies SHPO and other consulting parties about effects. The work is documented and distributed to SHPO and other consulting parties. SHPO has 30 days to concur with or object to the determination.

C. If Historic Properties are not subject to effect, the project may proceed. If Historic Properties are or may be affected, conduct further analysis of the alternatives and consultation to resolve the effect.

1. Parties draft a Memorandum of Agreement (MOA) stating what will be done to resolve the adverse effect.
2. Council reviews MOA and issues Agreement or Comment; in the absence of an MOA, Council issues comments.
3. Federal Agency head reviews comments and documents decision.
4. Consulting parties reviews agency's documentation.
5. Agency makes record available for public inspection.
6. Land manager implements the MOA.
7. Federal agency proceeds with project or undertaking taking Council's comments into consideration.

Research Methodology for the Section 106 Process

In order to evaluate cultural properties to determine their significance and eligibility for inclusion in the National Register of Historic Places, sites must be identified, recorded, and interpreted. This is done through archaeological, historical, and architectural Phase I studies, which generally include the following steps:

1. Identify information needs through a records search and archival research at SHPO and state and local historical societies.
2. Perform archaeological, historical and architectural surveys or inventories in order locate unreported cultural resources.
3. Photographic and written record documentation.
4. Process and analyze collected data.
5. Interpret and evaluate data.
6. Prepare report with recommendations for each recorded cultural resource.
7. Determine which cultural resources are or are not historic properties and recommend eligible resources for inclusion in the National Register.
8. Federal agency receives and reviews report from consultant.
9. After internal review, Federal agency or delegated party submits report to SHPO for review and comment.

If during a Phase I study, researchers cannot determine the significance of a cultural property, a more intensive archaeological evaluation (Phase II) study is required. For archaeological sites, this will require test excavations, possibly including mechanical stripping or trenching of fill, in order to recover additional data about the site and its integrity. Test excavations reveal more data about subsurface deposits than do Phase I shovel probes. If the archaeological site dates to the historical period, additional archival research may be needed in conjunction with the archaeological fieldwork. Regarding standing architectural structures, Phase II research should generate detailed historical and field

data with which to further assess the significance of a structure. In Wisconsin, a research project is usually comprised of a combined Phases I and II study resulting in the production of a single report detailing archival research, literature review, field work, data analysis and interpretation, and property evaluation. Under these conditions, review of the project follows the research/review steps identified for the Phase I study.

If cultural resources evaluated during Phases I and II studies are determined to be eligible for inclusion in the National Register and the agency's actions represent an adverse effect on one or more of the properties, then a method to mitigate the adverse effects is sought. For archaeological sites, the basic methods of mitigation are to avoid the site through the selection of an alternative design plan, to place a work/activity restriction in the vicinity of the site, or to perform Phase III data recovery within the affected portion of the site. Data recovery procedures are similar to Phase II testing methods, but are more intensive. Mitigation procedures for architectural structures are more varied. Mitigation of an architectural property may result in limiting the magnitude of the undertaking; repairing, rehabilitating, or restoring the property; documenting with drawings, photographs, and text those structures/features that must be destroyed or altered; relocating the property; salvaging architectural materials; or performing scheduled preservation and maintenance operations.

A federal agency may wish to draft a Memorandum of Agreement (MOA) with input from consulting parties and SHPO for the purpose of outlining how an undertaking will be implemented in order to avoid or mitigate adverse effects to archaeological, traditional cultural, and architectural properties. Upon completion and acceptance of the MOA, a project may proceed in accordance with the stipulations set forth in the MOA.

Time Schedule

The nature of a project, together with the number of parties who express an interest in the study area and the quality and quantity of resources

identified during archival and field research activities, will dictate the amount of time a project may take to successfully pass through the Section 106 review process. A large undertaking may take months and perhaps years to complete the Section 106 review process. At the very least, a project manager should expect that an undertaking will take a minimum of three months to clear the Section 106 process, and this is only for small projects during which no cultural resources are identified. In reality, and for larger projects, the time schedule will be much greater.

As stated previously, Federal agency or project staff should consult with the SHPO as soon as a project is conceived in order to determine if it will be categorized as an undertaking, warrants a categorical exclusion, or is covered by an existing MOA or Programmatic Agreement (PA). In addition, the agency or project staff that notifies the SHPO early in the process can gain a preliminary understanding about the amount of time required to see the project through the Section 106 process. Similarly, agency or project staff will gain insights about existing cultural properties or the likelihood of encountering them in a project area, and may begin thinking about alternatives that may have to be designed to accommodate cultural resources and the concerns of interested parties. This process can be greatly streamlined if interested parties, particularly Native American tribes, are included in project consultation as early as possible. It is therefore important to keep open communication with Native American tribes and other interested parties affiliated with cultural resources known to be or potentially present on Project lands. Early attention given to the Section 106 review process and its potential influence over project design and time lines will prevent unnecessary project delays stemming from a failure to consider the need for public participation, archival and field studies, and formal review of research results.

Curation

Records and other materials generated by Project cultural resources investigations should be curated at facilities and under terms that meet government-wide regulations issued in 1990, known

as “Curation of Federally Owned and Administered Archaeological Collections” (36 CFR 79). Items to be curated consist of project related design plans, correspondence, archival research results, mapping, original field records describing work completed and sites recorded, artifactual materials collected from Project areas, and analysis forms. A single Wisconsin repository is preferable as it will permit researchers to view records and artifacts generated by Project improvement studies at one location, making materials readily accessible for future study and educational purposes. Collections may be used to create educational exhibits within the Project area or at near by educational facilities such as Milwaukee area museums, historical societies, and libraries.

The Native American Graves Protection and Repatriation Act (NAGPRA)

NAGPRA gives ownership of Native American cultural items – human remains, associated funerary objects, unassociated funerary objects, sacred objects, and items of cultural patrimony – to lineal descendants of the deceased, to tribes on whose lands the cultural items are discovered, or to culturally affiliated tribes. The law further requires that on federal or tribal lands, any intentional excavation of Native American burials and related cultural items or any inadvertent discoveries of such cultural items be carried out according to specific provisions and in consultation with the appropriate tribe or tribes. In regards to a Federal agency, consultation and related planning must be directed by the agency’s Regional Historic Preservation Officer (RHPO) or official in a comparable position. If project staff encounter human remains or suspected burials within the Project area, staff personnel should immediately inform the SHPO and agency RHPO.

NAGPRA requires close consultation with Native American tribes, and therefore it is important to maintain regular communication with tribes who may claim an affiliation with Project lands.

Archaeological Resources Protection Act of 1979

(16U.S.C. §§470aa through 470mm, referred to as ARPA)

ARPA protects archaeological resources on Federal and Native American lands, for example Potawatomi lands in the Project area. The law prohibits the removal, excavation or alteration of any archaeological resource from Federal or Native American lands except by a permit issued by the Department of the Interior or a Tribal Government. No person may excavate, remove, damage, or otherwise alter or deface an archaeological resource located on Federal or Tribal lands unless such activity is performed under an issued ARPA permit.

Any person may apply to a Federal agency, or a Tribal government for a permit to excavate or remove archaeological resources from respective Federal or Tribal lands and to carry out activities associated with such excavation or removal. A permit may be issued pursuant to an application if a RHPO or Tribal Historic Preservation Officer (THPO) determines that the applicant is qualified to carry out the permitted activity, the activity is undertaken for the purpose of furthering archaeological knowledge in the public interest, the archaeological resources which are excavated or removed from public or Tribal lands will be properly curated and remain the property of the United States or Native American community, and the activity pursuant to such permit is not inconsistent with any management plan applicable to the public or Tribal lands concerned. If a permit issued under this section may result in harm to, or destruction of any religious or cultural site, the Federal agency shall notify a Native American group(s) that may attach religious or cultural importance to the property.

ARPA permits are submitted to an agency’s regional office or a Tribal government and their issuance is coordinated by the RHPO or THPO. Project staff or project contractors may request a copy of the permit for anyone conducting cultural resources management excavations on Federal or Tribal lands

located within the Project study area. It is preferable that archaeologists, the RHPO or THPO, and project staff communicate in advance of a project so that all parties involved are aware of the project schedule and the scope of the excavations.

Existing Programmatic Agreements

A Programmatic Agreement (PA) is used to adjust the standard Section 106 review process, or may be used to replace the process all together for a particular program. PAs may be used when project actions and their effects on historic properties are similar or repetitive, cannot be fully determined prior to approval of an undertaking, when non-federal parties are delegated major decision making responsibilities, and where circumstances warrant a departure from the normal section 106 process. Negotiation of a PA should take place between the SHPO, the Federal agency, project staff, and other interested parties. Before negotiating a PA, the Federal agency or project staff should review SHPO files to ensure that an existing PA(s) does not already apply to some undertakings within the Project area.

Summary of the Cultural Resources Evaluation Process

During the initial planning of a Project area improvement that may involve Federal funding, permitting, licensing or other form of Federal approval, the Federal agency or Project staff must determine whether cultural resources will or may be an issue with regard to project activities. The majority of projects may not involve cultural resources; however, some will. Having alternative plans, which will also require Section 106 review, is in the Federal agency's or Project staff's best interest: if historic properties are associated with one alternative under consideration, another proposed alternative, which is not associated with historic properties, may be selected. While a plan and its alternative actions are being developed, the Federal agency or the applicant, if authority has been delegated to it, will determine if the Section 106 review process applies to the project, and if so, what actions are needed to satisfy

the regulations related either to NEPA evaluation procedures and standards or, more likely, to those identified by the standard Section 106 review process. If historic preservation actions are required, the Federal agency or Project staff will initiate consultation with SHPO and interested parties. Planning ahead is the key element that will insure that the Section 106 process does not unduly delay the completion of a project.

Chapter 4: Cultural Resources Management Plan for the Menomonee River Valley Redevelopment Project

Introduction

The purpose of the Cultural Resources Management Plan (CRMP) proposed for the Menomonee River Valley Redevelopment Project (Project) and presented in the following sections is to assist Menomonee Valley Partners, Inc. (MVP) oversee the development of Project lands in compliance with Federal and state historic preservation regulations. The CRMP identifies the responsibilities MVP or other Project planners have for complying both with the Section 106 process as outlined in Section 106 of the National Historic Preservation Act of 1966, as amended (Pub. L. 89-665; 80 Stat. 915:16 U.S.C. 470), regarding the identification, evaluation, and management of cultural resources related to a project receiving Federal funds or requiring a Federal permit or other form of approval; and with Chapters 44.40 and 157.70 of the Wisconsin Statutes. The primary goal of the CRMP is to provide MVP with guidelines for identifying cultural sites located within the Project boundary, determining if a particular site is eligible for inclusion in the National Register of Historic Places (National Register), and managing National Register eligible sites appropriately. In order to enhance the planning value of the CRMP, Great Lakes Archaeological Research Center proposed that a comprehensive land use history based upon existing archaeological and geomorphological data be prepared about the Project area. The data reviewed during this research are incorporated into the CRMP, providing Project planners and developers with preliminary data about the potential distribution of cultural resources across Project lands and how improvements may or may not affect resources.

In addition to characterizing the general potential of encountering cultural resources in different portions of the Project, the CRMP identifies 1) procedures to follow in order to determine the presence/absence of archaeological sites within the Project boundary, 2) criteria to be used when evaluating the significance of sites in terms of eligibility for inclusion in the National Register, and 3) management issues to be taken into account when considering how to preserve or conserve and interpret

significant sites for public benefit. Reviewing the CRMP data and procedures together with details about the Project's master time schedule, MVP or other parties responsible for Project management, may in consultation with the Wisconsin State Historic Preservation Office (SHPO) agree upon guidelines and procedures for the discovery and management of cultural resources that can be incorporated into a Programmatic Agreement (PA) that modifies the standard Section 106 review process in order to accommodate specific activities related to the development of Project lands.

Theoretical Orientation

A basic premise underlying archaeological research is that human behavior leaves a record of activity that may, to varying degrees be recognized in documentary and archaeological records. Depending upon circumstances and conditions, the quantity and quality of evidence remaining is linked to an event's scale, purpose, and duration. In general, the more significant the behavior, the more data sources that potentially reference the event. Natural processes and cultural activities, for example farming, floods, and fires, may remove or re-orient data records or patterns. Generally, the more sources consulted or the more data collected, whether historical or archaeologically, the nearer one comes to discovering what actually occurred. For the prehistoric past, the archaeological record remains the primary means for identifying and evaluating cultural properties, while historical records may document conditions that have enhanced or masked such properties. This is very true of the Project area, where urban development has probably disturbed or destroyed a variety of previously reported archaeological sites recorded in or bordering the valley.

Evaluating the Significance of Cultural Resources

A primary goal of the Section 106 process is to determine the significance of cultural resources recorded during a project and to identify those properties that are eligible for inclusion in the

National Register. While all cultural resources provide some information about the past, not all information is equally important. As a result, not all resources yield data significant to the understanding about the past, and those resources that don't possess such data are not considered eligible for inclusion in the National Register and don't warrant future management or preservation. In order for a site to be determined significant and hence eligible for listing in the National Register, it must possess integrity of location, design, setting, materials, workmanship, and feeling; and meet one or more of the following criteria:

a. is associated with events that have made a significant contribution to the broad patterns of our history; or

b. is associated with the lives of persons significant in our past; or

c. embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic value, or that represents a significant and distinguishable entity whose components may lack individual distinction; or

d. has yielded, or may be likely to yield, information important in history or prehistory (U.S. Department of the Interior 1991:37).

In most instances, the significance of archaeological sites rests with Criterion d, while that of architectural properties is evaluated in terms of Criteria a through c. A property may be significant individually, or as a member of a group of related sites eligible for inclusion in the National Register as a district.

Within the currently proposed Project boundary, several architectural properties or districts are listed in the National Register and many more buildings have been surveyed but not evaluated in terms of National Register significance. More than 250 pre-1940 private and public structures associated with valley properties were surveyed by University of Wisconsin-Milwaukee researchers, who completed Historic Architectural and Engineering Record (HAER) cards for each structure (Merritt and Snook

1980). Of the numerous pre- and post-1940 structures associated with the valley, few have been evaluated and determined eligible for inclusion in the National Register. Currently, one historic district and two individual properties located within the Project boundary are listed in the National Register (www.historicdistricts.com/WI/Milwaukee/state2.html):

1. The Walkers Point Historic District, roughly bounded by Interstate 94, the Menomonee Canal, and Scott, 2nd, and West Virginia streets;

2. Holy Trinity Roman Catholic Church (Our Lady of Guadalupe) at 605 South 4th Street; and

3. the Gimbels Parking Pavilion at 555 North Plankinton Avenue.

Five additional districts or individual properties currently border the Project area and are identified as follows:

1. the South First and Second streets Historic District, roughly bounded by the Menomonee River, the Chicago & N. Western Railroad, and Seeboth, S. 1st, Oregon, and S. 2nd streets;

2. the J.L. Burham Block at 907-911 West National Avenue;

3. the Pythian Castle Lodge at 1925 West National Avenue;

4. the Lindsay-Bostrom Building at 133 West Oregon Street; and

5. the Soldier's Home Reef (also a National Historic Landmark) located northeast of Wood Avenue and Mitchell Boulevard and on the grounds of the C.J. Zablocki Veterans Affairs Medical Center.

As time passes and future studies are completed, more valley structures may be listed in the National Register.

Regarding reported archaeological properties associated with the Project area, most, if not all have probably been destroyed, disturbed, or masked by urban improvements. If intact, non-burial archaeological deposits survive for sites 47 Mi 52, Mi 55, Mi 89, Mi 109, Mi 136, Mi 185, Mi 193, Mi 199, and Mi 205, such remains will be viewed as significant and will warrant preservation or further investigation in order to recover their significant data values. These previously recorded sites, as well as those located within a one mile radius of the Project boundary (Table 1, Figure 2) suggest the types of significant archaeological sites that may exist unrecorded within the Project area. If additional prehistoric or historical sites are recorded on the property, any or all may be eligible for inclusion in the National Register. Site types that may require further evaluation include the following:

1. lithic scatters yielding temporally diagnostic materials;
2. sites producing ceramics;
3. sites yielding multiple period artifacts, for example Archaic and Woodland materials;
4. sites associated with 1850s materials; and
5. sites producing post-1850s materials and associated with early commercial or industrialization of the valley, or with structural features.

Determining which if any sites are significant will depend greatly upon the integrity of the deposits and the nature of the artifacts that are recovered. In order to determine the eligibility of most sites, archaeological Phase II investigations comprised of field testing strategies and, depending on the age of the site, more in depth archival research will be required. Interpretation of data generated by Phase II research will determine a site's significance. Phase I data often provide broad answers about a site's temporal and cultural affiliation, and function, while Phase II study increases the quantity and quality of data that may be used to answer more detailed questions about temporal and cultural affiliations, subsistence strategies, trade and exchange, social interaction and structure, economic practices, intra-site artifact distributions, and site integrity. The

quantity and quality of data or the rarity of the site type will support a determination that a site is eligible/ineligible for inclusion in the National Register.

Field Procedures for Identifying and Evaluating Cultural Resources

During future investigations of proposed Project lands, study objectives should be to 1) perform a Phases I and II cultural resources study including archaeological and architectural investigations that meet federal and state standards; 2) determine the presence/absence of archaeological remains and potentially historic structures across the property; 3) evaluate recorded cultural resources, including performing Phase II test excavations at appropriate archaeological site(s), in order to determine which properties are eligible for inclusion in the National Register; and 4) provide other necessary services fulfilling legislative mandates enacted for the preservation and conservation of cultural resources. To meet the standards objective, methodologies and techniques identified in the publications *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (www.cr.nps.gov/local-law/arch_stnds_0.htm) (www2.cr.nps.gov/laws/NHPA1966.htm) and *Guidelines for Public Archeology in Wisconsin, as Revised* (Kolb and Stevenson 1997) should be followed. In addition, the investigations and resulting reports should meet compliance requirements identified in Section 106 of the National Historic Preservation Act of 1966, as amended (Pub.L. 89-665; 80 Stat. 915; 16 U.S.C. 470).

Research Methodology

Future cultural resource management studies about Project lands will rely upon a variety of investigative techniques, which should be organized into structured and flexible research methods that define a research methodology. Methods may be linked to three general research stages: (1) pre-fieldwork archives/literature research, (2) field conditions evaluation and cultural resources documentation activities, and (3) laboratory analysis

and data interpretation/organization. Specific methods, techniques, and sources composing the methodology are detailed in the following sections.

Based upon the documentary research performed as part of the current study, the primary cultural resources investigation tasks remaining to be carried out for the Project are to perform additional archaeological and architectural investigations of Project lands, evaluate sites and structures through the analysis and interpretation of archaeological and architectural/engineering data, conduct additional documentary research, produce one or more reports documenting the work completed and results obtained, and establish guidelines for the proper, long term management of significant archaeological or architectural properties.

Archives and Literature Search

A general land use history has been completed for the Project (see Chapter 2, this volume), but additional archives and literature research regarding specific details about past Project land use and landscape development may be required. Future archives and literature research should include a review of new materials made known to researchers or sources not previously reviewed due to scope of work constraints, specific records providing actual information about a particular historical property or event, and previously unavailable archaeological site/cultural resources management reports completed for studies performed within a several mile radius of the Project area. Each time a Project parcel is surveyed for cultural resources, SHPO files should be consulted and new site/study reports for the area reviewed. Review of SHPO records will keep researchers current about sites and geomorphic features recorded about the general area, this providing researchers updated insights about site data and the types of deposits or natural features that have the potential to yield cultural materials.

Archives/Literature Research

As part of future Project area field studies, researchers should determine if additional archival/

literature research about specific properties is necessary in order to refine the existing culture and land use history overviews developed for the Project area. Performing additional review of published and unpublished materials archived at repositories in Madison and Milwaukee, Wisconsin will require examining all or some of the following documentary data sources:

1. *The Wisconsin Archeologist*, issues available at the Central Building of the Milwaukee Public Library in Milwaukee, and at the Wisconsin Historical Society in Madison;

2. the Wisconsin Site Codification File and related project reports, Office of the State Archaeologist, Wisconsin Historical Society in Madison;

3. miscellaneous collections, for example the Charles E. Brown Atlas and Manuscript Collection, on file at the Wisconsin Historical Society in Madison;

4. fire insurance maps available at the Frank P. Zeidler Humanities Room of the Central Library, Milwaukee Public Library, Milwaukee;

5. news articles, especially for the period circa 1860 through circa 1940, appearing in microfilmed copies of the *Milwaukee Sentinel*, *Milwaukee Journal*, or other local newspapers available at the Central Building of the Milwaukee Public Library in the City of Milwaukee;

6. published and unpublished reports and books about Milwaukee history shelved in the Frank P. Zeidler Humanities Room of the Central Library, Milwaukee Public Library, Milwaukee;

7. records archived at the Research Library of the Milwaukee County Historical Society in the City of Milwaukee;

8. General Land Office (GLO) notes and maps for Township 7 North, Range 21 East, and Township

7 North, Range 22 East available on-line at <http://digital.library.wisc.edu/1711.dl/surveynotes>; and

9. boring logs and reports produced for various geotechnical studies performed about the Menomonee River valley and bordering areas by local engineering companies and possibly on file with the companies, or the Milwaukee Metropolitan Sewerage District, the Wisconsin Department of Transportation, or the Wisconsin Department of Natural Resources.

Some of the most important data that may require review are boring logs related to geotechnical studies about the valley, Milwaukee Road company records currently being organized at the Central Building of the Milwaukee Public Library, microfilmed copies of Milwaukee newspapers, especially the *Milwaukee Journal*, available on microfilm at the Library's Central Building, and municipal or other local public records and corporation/business document collections maintained by the Library or the Milwaukee County Historical Society. Some of the records may be quite time consuming to review, for example micro-filmed newspapers, and may require that they be sampled for relevant information. All additional documentary records examined will yield additional data about the valley, its archaeological sites, and historical activities that have modified its landscape and destroyed, disturbed, or masked cultural resources.

Field Methods

In order to determine the presence/absence of cultural resources within proposed Project lands, and if present, the significance of each in terms of National Register eligibility, a variety of field methods and techniques should be incorporated into Phases I and II cultural resources studies as recommended by the *Guidelines for Public Archaeology in Wisconsin*, as Revised (Kolb and Stevenson 1997). These methods and techniques are discussed in the following sections. A field methodology suggested for the Phase I study is comprised of visual reconnaissance or pedestrian

survey, controlled surface collection of exposed areas, shovel probing, geotechnical boring, power auguring, and data management. Given that much of the Project area has been in-filled with historical deposits or cut down to decrease bluff slopes, review of geotechnical boring data followed-up with additional field borings taken for archaeological and not engineering purposes may be the primary method of investigation. A Phase II study will require limited shovel probing; test excavations; possibly geotechnical borings, power auguring, and the mechanical stripping of topsoil; and data management.

Visual Reconnaissance or Pedestrian Survey

Prior to performing intensive surface and sub-surface investigations, researchers should complete a visual, pedestrian inspection of any parcel subject to survey. This procedure reveals erosional and disturbed areas, potential artifact concentrations, stands of vegetation, land forms, and cultural features, including potentially historic architectural properties. Based on visual observations, researchers determine the appropriate levels of investigation regarding the need for surface or subsurface coverage, whether or not an architectural historian is required, and what data management strategies to employ. All lands within the proposed Project boundary should be subjected to a visual reconnaissance in order to document their condition, note their relationship to surrounding land forms and cultural features, and identify the presence/absence of architectural structures. Visual inspection coupled with existing geotechnical boring data will insure consistent consideration and coverage of Project lands using a common field methodology to initially evaluate them.

Controlled Surface Collection

In areas where the ground surface does not represent historical fill deposits and surface exposure is not obscured—more than 20% of the surface is bare—by vegetation, fill, natural sediments, or other materials, field workers may perform a traditional pedestrian survey coupled with controlled surface

collection. A pedestrian survey will require walking transects spaced at 5, 10, or 15 m intervals depending upon ground conditions and knowledge about previously reported sites in an area. Regularly spaced intervals ensure consistent or even coverage of a tract, and this strategy proves effective in exposed fields. Across Project lands, few areas will lend themselves to Phase I controlled surface collection due to the presence of historical fill, which covers pre-1890s ground surfaces. Controlled surface collection, if performed, will be limited to bluff slopes and tops where natural deposits may have been left in place or only partially cut away.

Systematic Shovel Probing

Shovel probing should be used to evaluate areas where urban fill is not more than 40 centimeters (cm) thick and ground surface exposure is masked—less than 20% of the surface is bare—by vegetation, fill, natural sediments, or other conditions. The technique is labor-intensive and frequently results in only a small fraction of an area being sampled for cultural remains. Shovel probes are often excavated along a series of transects with probe units spaced at 5, 10, or 15 m intervals depending upon ground conditions and knowledge about previously reported sites in an area. Uniform spacing ensures consistent or even spatial coverage of a parcel. In the event that a probe yields cultural materials, or positive results, additional probes are excavated around it at distances not exceeding 5 m. A typical probe unit measures approximately 35-to-45 cm in diameter and not more than 60-to-70 cm deep. Removed fill is screened through ¼ inch hardware cloth, which, together with unit stratigraphy, reveals the presence/absence of cultural deposits. After recording subsurface data, field workers immediately back fill the unit. During Phase I study of Project lands, systematic shovel probing will be confined almost exclusively to bluff bases, slopes, and tops where urban fill has not been deposited to great depths, or surface deposits have been left in place or not greatly altered. Shovel probes excavated into archaeological deposits will reveal the depth to which artifacts extend below the ground surface and provide complementary data about the areal extent of a site's boundary.

Geotechnical Testing

Where the potential exists to encounter a deeply buried A horizon, or a Pleistocene or Holocene surface, and traditional shovel probing can not be used to reveal such deposits, geotechnical testing may be required to properly evaluate the deposits. Geotechnical investigations require the use of mechanical coring equipment, for example a geo-probe or Vibra-corer that can penetrate 10 feet or more below a modern ground surface. While numerous geotechnical investigations have been completed for portions of the Project area for engineering purposes (for example, HNTB 2000; Sigma Environmental Services, Inc. 2002; STS Consultants, Ltd. 1994; Wagner Komurda Geotechnical Group, Inc. 2003), to date, only one (Kolb 2004) has been complete as part of an archaeological study (Appendix C). Cores taken for non-archaeological purposes are generally analyzed at a grosser level than those taken for archaeological needs, which require finer grained study looking for buried surfaces or cultural materials.

While engineering related cores may be used to identify the depth to which urban fill covers an area and to characterize the deposits underlying it, such cores should be supplemented with ones taken as part of a cultural resources management study. Cores taken for archaeological purposes may be correlated with the existing engineering boring logs in order to draw additional data from them for archaeological needs. Throughout the Project area, but especially along the base of bluff slopes, additional geomorphological studies performed for archaeological purposes are needed (Kolb 2004:10). The results of archaeological geotechnical investigations rarely confirm the presence of archaeological sites, rather, they suggest that a buried deposit has a low, moderate, or high potential to produce cultural materials, unless a core actually penetrates a site and yields an artifact(s). Based on the potential of a deposit to yield archaeological materials, a methodology for investigating moderate-to-high potential strata should be formulated.

Power Auguring

A power auger may be used to evaluate deposits that are too deeply buried to be exposed or adequately examined with shovel probes. Soil from a buried deposit may be brought to the ground surface using an auger, for example, a seven horsepower, Briggs and Stratton Little Beaver auger with an eleven inch diameter bit, where fieldworkers may screen the matrix through 1/4 inch hardware mesh looking for evidence of cultural materials. Researchers use an auger to penetrate the thickness of the buried horizon, and upon completing the excavation and screening of augured materials, the unit is back filled with its spoil. Augured holes may be located in a systematic way to insure even coverage of a deposit or buried surface, or used on a judgmental basis for a specific purpose. Where urban fill is not too deep or geotechnical data suggests cultural materials may exist, field investigations using a power auger may be pursued.

Mechanical Removal of Urban Fill, Disturbed Deposits, and Sterile Soils

If data generated by shovel probing, power auguring, or geotechnical investigations yield evidence of a buried site or potential archaeological deposit(s) below urban fill or disturbed deposits, the fill or deposits, and possibly underlying strata may need to be mechanically removed. Exposure of a target stratum by mechanical means may require the excavation of a trench through a portion of the deposit in order to create a profile view of it, or the complete stripping of disturbed or sterile deposits that cover the surface of the stratum. A backhoe or other piece of heavy earth moving equipment may be used to trench or in some other way expose a surface or deposit. If a buried surface or site deposit is exposed in plan view, it may then be investigated using Phase I field techniques including a visual inspection of the area followed by systematic shovel probing (see previous sections, this volume). These two techniques will reveal the presence/absence of associated cultural materials. If intact site deposits/features are discovered after removing soils from a known or

potential site area, test units may be excavated to investigate or evaluate the feature(s)/deposit(s). Within the boundary of the Project, mechanical removal of urban fill will probably be required at most locations across the valley floor and possibly along portions of the bluff bases where data, especially derived from geotechnical investigations (Kolb 2004:10), suggests the potential for encountering archaeological materials is moderate-to-high.

Controlled Test Unit Excavation

Test excavation units, which are usually executed during Phase II study, provide stratigraphic details necessary to characterize on-site soil horizons, and to yield information critical to the assessment of horizontal and vertical patterning of material culture and features across a site. Based upon the distribution of surface finds or positive shovel probes, test units measuring 1 m by 1 m, 1 m by 2 m, and 2 m by 2 m may be laid out and excavated using skimming shovels and trowels to generate data about a site. Units are excavated in arbitrary 10 cm levels or by natural stratigraphy if observed, and all matrix is dry screened through 1/4 inch hardware mesh. Upon completing the excavation and documentation of a unit, the unit is back filled. Documentation of a unit will include written notes, sketch maps and drawings, and photographs. Within the Project area, controlled test units will most likely be excavated into deposits exposed following the mechanical removal of urban fill and other deposits representing disturbed or sterile contexts.

Unexpected Discovery

Archaeological or burial discoveries may be made during construction work even after cultural resources management investigations have been completed that suggested no cultural materials are present. In such a case, MVP or other authorized parties will remain responsible for the evaluation and management of a cultural resource discovery. In the event that a non-burial site is discovered the Office of the State Archaeologist (OSA) in Madison should

be contacted. If human remains are discovered, they should be immediately reported to the Wisconsin Burial Sites Preservation Office (BSPO), which is a part of the Division of Historic Preservation at the Wisconsin Historical Society in Madison, Wisconsin. During the time that MVP or other authorized party is contacting the OSA or BSPO and consulting with either Office regarding the appropriate methods of investigating, evaluating, and protecting the discovery, the MVP or other authorized Project manager should take measures that will insure no further damage occurs to the resource. Federal regulations implementing Section 106 (36 CFR 800.11) of the National Historic Preservation Act stipulate the procedures MVP or other authorized Project managers should follow in the event of an unexpected discovery.

As stipulated in Wisconsin's burial sites preservation law, Wis. Stats., s.157.70 passed during 1987, any discovery of human bone, whether on private or state lands, must be reported immediately to the BSPO (telephone numbers: 800-324-7834 or 608-264-6502). In addition, if the remains represent a Native American burial discovered during compliance work (i.e. covered by the National Historic Preservation Act of 1966, as amend), provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) may apply and override Wisconsin's burial law, requiring the person in charge of the excavation, construction, or other earth disturbing activity to contact in addition to the BSPO, the funding or licensing Federal agency regarding the agency's policy on the excavation of Native American remains. Thereafter, the excavation, construction, or other earth disturbing activity that exposed the remains cannot proceed until authorization to do so is received from the Director of the Wisconsin Historical Society, who will provide authorization only after being advised by the BSPO staff or the Federal agency. In all likelihood, the Federal agency will designate a third party to evaluate the discovery and provide recommendations regarding how the remains are to be treated and how project work is to proceed. Prior to BSPO staff or the Federal agency designated party performing on-site evaluation of the discovery, the following field

procedures should be implemented in order to insure that the discovery is properly protected from further disturbance:

1. the person(s) in charge of the excavation, construction, or other earth moving activity that exposed the remains should secure the site of the discovery and cease ground disturbing work in the immediate area, thereby insuring that company or individual activities will not intentionally disinter additional human remains without State consultation, which is a violation of Wisconsin State Law, Wis. Stats., s.157.70, and may lead to prosecution;

2. the person(s) in charge of the excavation, construction, or other earth moving activity should precisely locate the discovery and its origin if the location of each is different; however, in doing so, remains should not be collected, disturbed, or further investigated beyond visual inspection; AND

3. the person(s) in charge of the excavation, construction, or other earth moving activity should contact the local police or sheriff's department in order to alert law enforcement to the need to guard or monitor the site against vandalism.

After the on-site evaluation by BSPO staff or a party appointed by the funding or licensing Federal agency, the following series of actions will occur:

- 1a. the discovery is not determined to be human or is not from a burial context and BSPO or the Federal agency's representative recommends that the project be allowed to proceed in the vicinity of the discovery, OR

- 1b. the discovery is determined to be human in a burial context, in which case the BSPO or Federal agency in consultation with the party(ies) that made the discovery, as well as other appropriate interests, determine how to treat the remains, whether to leave them in place or to remove them; in the case of a non-Native American burial, excavation of the remains will require authorization from the Director of the Wisconsin Historical Society; AND

2. if removal of the remains is determined to be the appropriate method of treatment, upon completion

of the investigation, a qualified archaeologist should provide a written report to be submitted to BSPO or the Federal agency describing the nature of the discovery, how the discovery was investigated, and what the results of the investigation are.

More detailed discussions about the treatment and excavation of human remains are presented in *Guidelines for Public Archaeology in Wisconsin, as Revised* (Kolb and Stevenson 1997:80-102). In the case of all other discoveries not involving human remains, the OSA should be contacted for guidance about how to proceed with evaluating the discovery and proceeding with the project.

Field Data Management

Field workers generate and maintain a variety of records as part of the Phases I and II archaeological documentation process. This documentation is comprised of daily field notes describing field conditions, research activities, and cultural resources. General and detailed maps of parcels and sites are drafted or adapted to show associated natural and man made features, as well as to record field coverage techniques. Additional documentation is comprised of shovel probe forms, profile and feature sketches, photographs, and various logs. Artifactual materials recovered from field activities should be recorded with their provenience data and a unique identifying number, both of which are marked on the bag into which the artifacts are placed for transport and storage. Upon completion of the fieldwork, all field documentation and artifacts should be removed to a lab where they will be reviewed for further processing, analysis, and interpretation.

Laboratory Procedures and Data Interpretation/Organization

A variety of activities take place in the archaeological laboratory and office facilities, the most important being the interpretation of sites and completion of a study report. In the lab, artifacts are inventoried, sorted, washed, labeled, analyzed, and interpreted. Analysis of prehistoric ceramic and lithic

materials should follow conventional typologies (for example, Clauter 2003:84-115; Goldstein and Osborn 1988; Halsey n.d.; Salzer n.d.), while historical items should be identified using standard references (for example, Godden 1964; Lehner 1988; Toulouse 1969 and 1971) and commercial catalogues (for example, Israel 1968). Analyses based upon widely cited typologies and references will insure that materials are described in terms that are comparable with existing data, and will be understood by other researchers.

In addition to artifact analyses, post-field work tasks include film processing, verifying photographic logs, reviewing notes and maps, and preparing one or more reports describing the work completed and the results achieved.

Curation

Prior to initiating archaeological investigations of the remaining lands of the Project, a curatorial agreement should be established between MVP, or other authorized Project manager, and a curatorial facility. The agreement should include the curation of archaeological materials recovered during investigations of Project lands and the archiving of Project related cultural resources management records, notes, photographs, and maps. A preferred location for the curatorial facility is within the state of Wisconsin, where curated and archived materials may be housed with similar state materials or collections, and will be more readily accessible to local or regional researchers.

Data Recovery, Preservation, and Long-term Management of Resources

Project related cultural resources that are determined to be significant, warrant long-term management consideration and as a result, should be avoided and preserved during Project development. Proposed open space may be used to protect significant cultural resources by Project design planners who should be committed to avoiding important known sites and areas where there is a high probability of disturbing deeply buried archaeological

sites. If such sites or areas cannot be avoided, data recovery plans should be executed in order to recover data that may be destroyed by specific Project improvements. Data recovery plans should be developed in consultation with the SHPO, and field work should employ a methodology similar to that of a Phase II study, with the exception that excavation activities will be more intensive, requiring larger areas to be investigated.

If avoidance of a site or area is both possible and desirable, an important step in long term cultural resources management is determining what natural and cultural actions may disturb the resource. Preservation will depend upon managing disturbance caused by natural erosion, vandalism, illegal collecting, overuse or neglect of an area, and construction activities. The effects a natural or cultural action will have upon a specific cultural resource will depend upon the resource's location within the Project area and its depth below the ground surface. Deeply buried sites or deposits may be easier to preserve and manage than sites located on or immediately below the ground surface, because the nearer a resource is to the surface, the greater the potential for it to be acted upon by a greater range of natural or cultural processes. The types of disturbance that must be taken into consideration when planning the long term management of cultural resources, including archaeological sites, potential archaeological deposits, and architectural structures; and the strategies that may lessen disturbance upon them are presented in the following sections.

Project Development

If sites deemed significant are present within the Project boundary, development of the Project may result in their destruction if proper cultural resources management studies are not performed. The most direct way to prevent Project improvements from destroying or disturbing sites is to authorize appropriate studies (see previous sections, this volume) and review the location of recorded sites in regards to the type of development and resulting land use proposed for their area. If deeply buried sites or surfaces exist, Project development may not have an

affect upon them; however, if a resource is exposed at or just below the current ground surface, proposed land use actions will have a greater potential to disturb it, and the potential disturbance must be evaluated. Knowing where significant or potential cultural resources are located within the Project area and identifying the type of land use or improvements that may affect each are first steps toward realistically preserving and managing archaeological sites and buried land surfaces potentially associated with archaeological materials.

Erosion

Soil loss by erosion is a natural process that is on-going and can be accelerated by cultural activities. Within the Project area the range of elevations is approximately 585-to-approximately 685 ft above mean sea level. The greatest change in elevations is measured north-to-south and south-to-north from the valley floor to the bordering bluff tops. Elevation changes are not so dramatic moving east-to-west across the study area, and one may expect to see the greatest amount of erosion along exposed bluff slopes where materials may be carried or eroded to the base of a bluff. In addition, along non-vegetated sections of bank bordering the Menomonee River, Project improvements may accelerate or promote erosion. If cultural resources are located along physiographic features or improvement areas where erosion may occur, efforts should be made to prevent or control soil loss. Such efforts may take the form of encouraging a vegetative cover, installing silt fences, using sandbags, spreading hay, or limiting improvements or use of an area. On the valley floor, erosion is not viewed as a significant or potentially significant problem, excepting along river banks, because of the presence of thick deposits of urban fill.

If erosion becomes an issue within Project lands, one of the best and least costly erosion control method is the establishment and maintenance of a non-woody plant cover over and around a site area. Natural grasses or other low growing plant cover with extensive root systems should be used to stabilize soils and decrease or prevent erosion. Grass cover is

preferable, as its root system, unlike those of trees and large shrubs will not significantly displace buried materials as they grow.

While use of silt fences may not be a long term solution to erosion, they should be utilized during development of any improvements that removes ground vegetation. Fencing should be left in place until new vegetation reestablishes itself. In addition, baled or loose hay may also be used as a short term, inexpensive way to slow or prevent erosion until vegetation regenerates itself in an area.

Where water action is stronger than sheet action and creates gullies, rills, and other types of channels, sandbags may be a desirable means of preventing erosion from encroaching upon a site. Sandbags are inexpensive to use, but only represent a short term solution to land threatened by strong water action. Construction of earthen berms or lined channels may be needed in order to protect a site or deposit from vigorous and persistent water erosion.

In summary, erosion is not thought to be a significant threat to any potential sites located on the valley floor and away from the river; however, erosion should be viewed as a potential threat to sites associated with bluff top edges or slopes. During Project improvements, erosion should be taken into consideration when discussing preservation and management decisions about archaeological sites and potential, buried archaeological deposits.

Vandalism

Just as in the case of erosion, precautions should be taken to ensure that significant cultural resources located within the Project boundary do not become the target of vandalism. Vandalism may take passive or active forms, but both have destructive effects upon cultural resources. Looting, or the active, premeditated removal of materials, especially through excavation, from a site is a leading cause of damage to archaeological sites. Other forms of vandalism include the passive removal of materials found by a visitor who pockets an artifact as a site souvenir. While less destructive than unauthorized excavation, overtime the removal of surface materials will impoverish the artifactual signature of a site and

impose interpretational constraints upon a researcher, especially if the site defines a small, shallow scatter of materials. Other forms of passive vandalism include the driving of vehicles back and forth across a deposit, building campfires that include the excavation of fire pits, and any social event resulting in disturbance to the ground surface or underlying deposits. Potentially historic buildings may be vandalized in a variety of ways leading to partial or complete destruction of a property. Vandalism may take the form of graffiti, broken windows, damage to or destruction of walls, and intentionally lit fires.

Strategies for combating vandalism include resource monitoring, signs, and education. Monitoring of sites on a regular basis by Project personnel and law enforcement officers will alert officials to acts of vandalism and the appropriate methods for combating it. Prior to performing a cultural resources field study, archaeologists should notifying Project personnel about planned investigations so Project managers do not become confused between authorized and unauthorized investigations.

Increasing the visibility of a site through brush removal, signs, and education are other ways of preventing vandalism. Brush removal will deny vandals cover that protects them from public or law enforcement detection. Signs may then be posted in the area informing the public about the resource, explaining why a site is significant and important to preserve. Informing the public about cultural resources and their significance to local history provides people a stake in the preservation of a site(s); an active historic preservation interest on the part of the public will decrease incidents of vandalism while increasing the public's awareness about a site(s) and threats to it.

Overuse and Neglect

Going hand-in-hand with erosion and vandalism is overuse and neglect of an important cultural resource. Neglect may result in erosion or may encourage vandalism, while overuse of a site area may pose similar destructive results. If a site is located within open or green space, measures should

be taken to ensure that the area does not experience overuse by Project personnel or the public. Overuse can denude an area of vegetation thereby exposing shallowly buried archaeological deposits to erosional forces. Both overuse and neglect can be corrected through site monitoring as discussed in the preceding section about vandalism, followed-up by appropriate actions that remedy destructive conditions.

Future Cultural Resources Management Studies within the Proposed Project Boundary

Few areas within the proposed Menomonee River Valley Redevelopment Project have been subjected to archaeological or geomorphological studies beyond the review of existing documentary records and existing geotechnical boring logs taken for non-archaeological purposes. Historical records suggest the valley was a large marsh and bordering bluffs have been cut down and modified as a result of urban development. Gross analysis of boring log data collected during engineering studies support the historical record; however, soil sequences have rarely been analyzed at a level that will reveal buried surfaces, meso-scale alluvial or lacustrine landforms that may have encouraged repeated or extended periods of human occupation prior to valley development by Euro-Americans. In the absence of numerous archaeologically analyzed soil cores representing all parts of the valley, assessing the potential of valley deposits to yield archaeological deposits or features must be based upon various historical records that describe the pre-urban condition of the valley, several soil cores analyzed for archaeological purposes (Kolb 2004), and numerous soil boring logs produced for non-archaeological purposes. Based upon historical and geotechnical data, the Project area may be divided into three zones in order to facilitate discussion about future cultural resources management needs. The three areas roughly correlate with the northern bluff, the valley floor, and the southern bluff.

Future Investigation of the Northern Bluff Area

The northern bluff area is an irregular shaped tract of land bound on the north by Clybourn Street, on the east by 2nd Street, on the south by former Chicago Milwaukee & St. Paul Railroad tracks, and on the west by the imaginary extension of 40th Street to the rail tracks (Figure 9). While portions of this area have been subjected to non-archaeological geotechnical study and have been reviewed for the potential existence of archaeological remains through archival/literature research, no actual field investigations have been performed.

Background research suggests that the bluff has been cut and graded, although little is known about these activities as urban improvements transformed the area during the mid-to-late nineteenth century. What is known is that as early as 1836, and by the end of the 1830s, the majority of grading and filling activity at the eastern end of the bluff had been completed and saw the bluff top between 5th and 10th streets lowered by at least 10 ft (Buck 1876:64). During this time, the marsh and lowlands bordering the eastern portion of the Menomonee River and bluff base had been filled with dirt dredge from the river or cut from the bluff top and slopes (Buck 1875:65; Donahoe 1926:8). In addition, several ravines were in-filled. The first existed at 10th Street and extended to the marsh. The mouth of a second ravine, drained a swamp located between State, Vliet, 16th, and 20th streets, and existed at the intersection of Clybourn and 13th streets (Buck 1876:66). A third ravine extended from the southeastern corner of Wisconsin Avenue and 19th Street to the marsh at the foot of 16th Street (Buck 1876:66). If archaeological sites existed along or in the ravines, they may yet exist under fill deposits, which have protected them.

Unfortunately, several previously recorded sites that once existed along the bluff top have been destroyed or greatly disturbed by urban development in the area. The Lime Ridge Village (Brown 1916:54-55), Site 47 BMi 89/BMi 144, is reported as having occupied as late as 1841 by Native Americans; however, the site area is now covered by roadways and, residential dwellings, and commercial

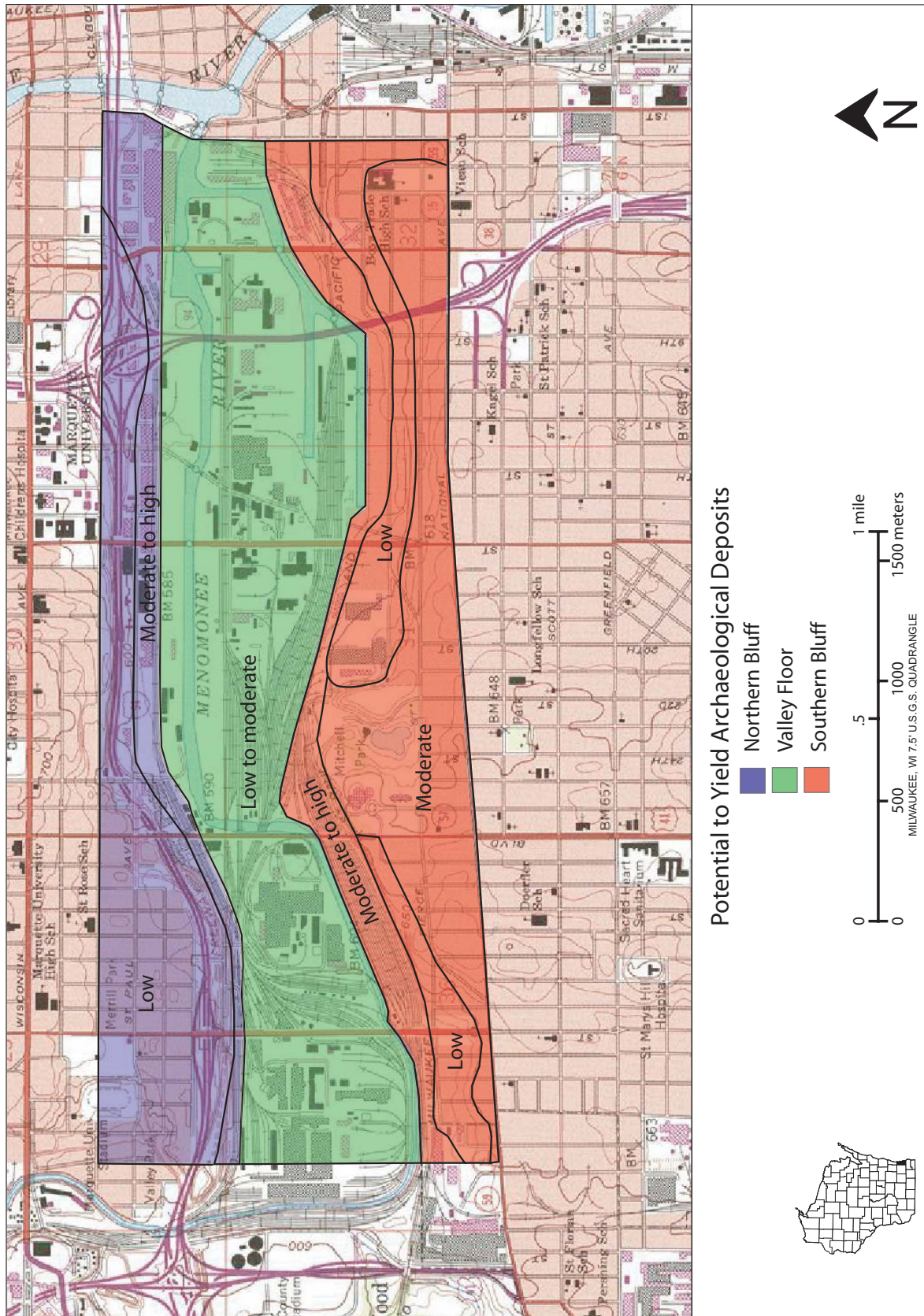


Figure 9. Menomonee River Valley Redevelopment Project lands stratified according to topographic features and the potential of each landform to yield archaeological materials.

establishments. If portions of this or other sites are found to survive they will be strong candidates for inclusion in the National Register.

Architectural features associated with the tract may require evaluation. A number of pre-1940 buildings bordering the northern bluff have been researched (Merritt and Snook 1980); however, few or none, including structures constructed between 1940 and 1954, have been formally evaluated in terms of National Register eligibility. No doubt some may be determined eligible for inclusion in the National Register, although the only currently listed National Register structure associated with the northern bluff is the Gimbel's Parking Pavilion located at 555 North Plankinton Avenue.

Based upon existing data about the northern bluff area, additional geotechnical and historical research is warranted. Associated architectural structures should be evaluated to determine if any are historically significant. Similarly, research needs to be performed that better define areas that have been cut and filled. Cut areas, depending upon how much fill has been removed, and historical accounts suggest that in areas it is significant, will probably have a very low potential to yield archaeological deposits. Previously recorded archaeological sites are reported for the bluff top, but some, if not all of these have probably been destroyed, but this needs to be field verified. Before performing any subsurface investigations in or near the location of previously reported burials sites (Table 1), the Wisconsin Burial Sites Preservation Office should be notified and consulted about appropriate methods for investigating the area.

Similar to bluff tops, bluff slopes have been cut and graded; however, along bluff bases, where historical fill has been deposited on the pre-settlement ground surface, the fill may have buried and protected cultural deposits that existed on elevated segments of ground that separated the base of the bluff slope from the marsh. The series of former Chicago Milwaukee & St. Paul Railroad tracks are thought to roughly define the bluff base where the potential to encounter cultural resources is moderate-to-high; railroad builders would have selected the driest, flattest ground to lay track and thereafter lines would probably have been laid parallel to existing track.

In summary, along the northern bluff, the potential for encountering archaeological sites or buried, intact surfaces is low across the bluff top and slope, but moderate-to-high along the bluff base (Figure 9). Additional geotechnical study will confirm these characterizations of the area and reveal if portions of previously reported sites have survived urban improvements.

Future Investigation of the Valley Floor

The valley floor defines an irregularly shaped tract of land located in the central portion of the Project area. This area is bound on the north by the southern edge of a series of former Chicago Milwaukee & St. Paul Railroad tracks; on the east by 2nd Street; on the south variously by the Burnham Canal the southern edge of the Chicago Milwaukee & St. Paul Railroad tracks, and the right bank of the Menomonee River; and on the west by the imaginary extension of 40th Street between the northern railroad tracks and the right river bank (Figure 9). Only a small portion of this area has been subjected to non-archaeological geotechnical study (Kolb 2004) and traditional archaeological study (Benchley et al. 1983), while the vast majority has not been reviewed for the potential existence of archaeological deposits except through archival/literature research and the review of soil boring logs described for engineering purposes.

Background research indicates that the majority of the valley floor comprised marsh bordering both sides of the Menomonee River, and as the city expanded, this marsh began to be filled, starting during the mid-1830s and continuing into the late nineteenth century. In places, developers placed 18-to-20 ft of fill, and at least one sailing vessel was used as intentional fill buried under Block 4 bound by Second, Third, Pittsburg, and Seeboth streets (Buck 1876:54). Across much of the valley, gross geotechnical data are available to examine the amount of fill that has been used to create dry, firm land. In addition, at the western end of the valley, soil cores have been analyzed for archaeological purposes (Kolb 2004) and these in part support the characterization of the valley as a marsh. In general,

as one moves east-to-west up the valley, fill deposits become shallower. While fill at the mouth of the Menomonee River measures 18-to-20 ft thick (Buck 1876:63), as one reaches 27th Street, the fill measures 5-to-10 ft thick (HNTB Corporation 2000: Appendix 5). Continuing westward, fill deposits maintain a 5-to-10 ft thickness, but at times become as thin as 0.5 ft thick (Benchley et al. 1983:7).

Historically the marsh is identified with abundant rice stands and early fur trading activity, but to date no previously reported archaeological sites are known for the area, although sites may exist. During drought years, the marsh dried, the ground became firmer, and Native American groups moved onto the dry land. As a result, not only are archaeological sites expected to occur along the edges of the marsh, but also within it, especially where water was not deep and later construction activity, for example rail or stock yards, did not penetrate urban fill deposits. In most instances, soil cores analyzed for engineering purposes will not identify the thin strata that may define drought deposits or meso-scale alluvial or lacustrine landforms that may have encouraged repeated or extended periods of human occupation within the marsh. While urban fill may have provided some protection to sites from urban improvements, canal construction, river channelization, and industrial plant construction may have disturbed or destroyed valley floor sites. Similarly, the placement of systems of pilings into portions of the marsh in order to create firm ground (Donahoe 1926:15) may have disturbed cultural deposits.

Architectural features associated with the tract will require evaluation. A number of pre-1940 buildings have been researched (Merritt and Snook 1980); however, few or none, including structures built between 1940 and 1954, have been formally evaluated in terms of National Register eligibility. No doubt some may be determined eligible for inclusion in the National Register, although to date no structures associated with the valley floor are listed in the National Register (www.historicdistricts.com/WI/Milwaukee/state2.html).

Based upon existing data about the valley floor area and its history, additional geotechnical and

historical research is warranted. Associated architectural structures should be evaluated to determine if any are historically significant. Similarly more research is needed in order to better define the nature of the deposits covered by the mantle of urban fill and the historical activities that may have affected them. Across the valley floor, the potential for encountering archaeological materials or small sites varies depending marsh topography and past hydrological conditions. As a result, the potential for encountering cultural materials, given urban development and the probably ephemeral nature of the sites, is considered low or low-to-moderate. Soil cores taken for archaeological purposes will identify the presence of meso-scale alluvial or lacustrine landforms that may have encouraged repeated or extended periods of human occupation under both normal and drought conditions. Such soil core data may then be compared and correlated with more grossly analyzed boring log data related to engineering studies in order to gain a more extensive view of underlying deposits and the potential presence of cultural sites or features.

In summary, across the valley floor, the potential for encountering archaeological sites or buried, intact surfaces is low or low-to-moderate (Figure 9), and will depend upon the topography of the now buried marsh and whether high, dry spots occurred or extensive areas were dry during drought years. If sites exist, they are probably ephemeral in nature, and may be quite difficult to identify beneath the mantle of urban fill. Additional geotechnical study oriented toward archaeological research will confirm this interpretation and characterization of the area.

Future Investigation of the Southern Bluff Area

The southern bluff area is an irregular shaped tract of land bound on the north variously by the Burnham Canal, the southern edge of the Chicago Milwaukee & St. Paul Railroad tracks and the right bank of the Menomonee River; on the east by 2nd Street; on the south by National Avenue; and on the west by the imaginary extension of 40th Street from the right bank of the Menomonee River to National

Avenue (Figure 9). While portions of this area have been subjected to non-archaeological geotechnical study and have been reviewed for the potential existence of archaeological sites through archival/literature research, only one, limited field investigation has been performed (James 1981:9).

Background research suggests that segments of the bluff have been cut and graded; however, much less is known about the southern bluff than about the northern one. What is known relates primarily to the Walker's Point area. Early industrial interests established themselves along the bluff top and base, but it remains uncertain how these early interests modified the landscape.

While several previously recorded sites once existed along the bluff top, most if not all have been destroyed or greatly disturbed by urban improvements to the area. The exception may be in the area of the Domes and Mitchell Park, where landscape modification appears to be less and intact portions of site 47 Mi 109, Mitchell Park Village, and possibly J. Vieau's trading house, site 47 Mi 185, may exist. During the early 1980s, limited walk over/shovel probe investigation of site 47 Mi 109 was performed by University of Milwaukee archaeologists who recovered an artifact assemblage comprised of four items (James 1981:2 and 9). If intact portions of these or other sites are found to survive, they will be strong candidates for inclusion in the National Register (www.historicdistricts.com/WI/Milwaukee/state2.html).

Architectural features associated with the tract will require evaluation. A number of pre-1940 structures have been researched (Merritt and Snook 1980); however, few or none, including structures dating to the period 1940 through 1954, have been formally evaluated in terms of National Register eligibility. No doubt some may be determined eligible for inclusion in the National Register. To date, National Register listings for the southern bluff properties include the Walker's Point Historic District, which is roughly bounded by Interstate 94, the Menomonee Canal, and Scott, 2nd, and West Virginia streets; and the Holy Trinity Roman Catholic Church (Our Lady of Guadalupe) located at 605 South 4th Street.

Based upon existing data about the southern bluff area, additional geotechnical and historical research is warranted. Associated architectural structures should be evaluated to determine if any are historically significant. Similarly, research is required to better define areas that have been cut and filled. Cut areas, depending upon how much fill has been removed, and historical accounts suggest that in areas such as Walker's Point, it is significant, will probably have a very low potential to yield archaeological deposits. Previously recorded archaeological sites are reported for the bluff top (Figure 2), but some, if not all of these have probably been destroyed, but this needs to be field verified. Before performing any subsurface investigations in or near the location of previously reported burials sites (Table 1), the Wisconsin Burial Sites Preservation Office should be notified and consulted about appropriate methods for investigating the area. Similar to bluff tops, bluff slopes have been cut and graded, thereby reducing the potential for encountering archaeological sites; however, along bluff bases, where historical fill has been deposited on the pre-settlement ground surface, the fill may have buried and protected cultural deposits that existed on any elevated segments of ground that separated the bluff slope base from the edge of the marsh. The Burnham Canal, northern edge of the series of former Chicago Milwaukee & St. Paul Railroad tracks, and the right bank of the Menomonee River are thought to roughly define the distance out from the bluff slope base where the potential to encounter cultural resources is greatest before entering former marsh lands (Figure 9).

In summary, along the southern bluff, the potential for encountering archaeological sites or buried, intact surfaces is moderate across the bluff top, low-to-moderate on the slope, and moderate-to-high along the bluff base (Figure 9). Additional geotechnical study will confirm these characterizations and reveal if portions of previously reported sites have survived urban improvements.

Summary

Lands of the Menomonee River Valley Redevelopment Project (Project) consist of bluff tops, slopes, and bases; river banks, and valley floor, all of which are associated with previously reported cultural resources. These resources consist of architectural and archaeological properties, although many, if not all of the archaeological sites have been destroyed. Across the Project area, the potential for different landforms to yield archaeological materials is thought to vary from low-to-high, with the highest potential occurring at the base of the bluffs. Complicating future cultural resources management studies of the area is the presence of an extensive mantle of urban fill over the valley floor, and extensive, but poorly documented, modification of the bluff tops and slopes.

For the future, historic preservation issues that should be taken into consideration during the planning, development, and management of Project lands are discussed in previously presented sections of the Cultural Resources Management Plan (CRMP). These considerations may be summarized as three primary objectives, which will result in the identification, evaluation, and preservation of resources. First, cultural resources, including potentially, deeply buried deposits, must be identified and recorded. Field studies will result in the identification of sites, structures, or deposits, which then must be adequately documented with text, maps, photographs, or a combination of records to insure sufficient information that establishes a site's location, horizontal and vertical boundaries, and character. These data will be used to achieve the second objective which is to evaluate a cultural property's eligibility for inclusion in the National Register of Historic Places. The documented data and resulting evaluation recommendation will be reviewed by the Wisconsin State Historic Preservation Officer (SHPO) for comment and concurrence or reconsideration. If a site is determined to be historically significant or eligible for inclusion in the National Register, the third objective is to ensure the property's future preservation, including its interpretation to public audiences. Preservation

will entail developing a strategy for the management of the property in order to insure it is not destroyed or disturbed by erosion, vandalism, land use practices, over use, or neglect. A variety of preservation methods may be used to protect a site and present it for public enjoyment and education. When used as a guideline, the CRMP will assist Project designers and managers meet the three previously stated historic preservation objectives and comply with Section 106 of the National Historic Preservation Act of 1966, as amended (Pub. L. 89-665; 80 Stat. 915:16 U.S.C. 470), and Chapters 44.40 and 157.70 of the Wisconsin State Statutes.

Chapter 5: Summary and Conclusions

Introduction

Menomonee Valley Partners, Inc. (MVP) requested and authorized Great Lakes Archaeological Research Center (GLARC) to perform cultural resources management studies supporting the preparation of a Cultural Resources Management Plan (CRMP) specific to lands proposed for development as part of the Menomonee River Valley Redevelopment Project (Project). A 2003-2004 Costal Management Grant awarded to MVP by the Wisconsin Costal Management Program, Department of Administration, funded preparation of the CRMP, of several tasks to be completed as part of the "Menononee Valley Resource Project Grant." The proposed Project area is comprised of approximately 1476 acres located in the central portion of the City of Milwaukee in Milwaukee County, Wisconsin (Figure 1). Project lands are owned variously by the City of Milwaukee, public corporations, tribal interests, or private parties. MVP determined a need for a CRMP, as well as a supporting land use history study, in order to assist MVP officials and others responsible for planning and improving the Project tracts understand and eventually fulfill their historic preservation responsibilities. These responsibilities are stipulated both under Section 106 of the National Historic Preservation Act of 1966, as amended (Pub. L. 89-665; 80 Stat. 915; 16 U.S.C. 470) regarding the identification, documentation, evaluation, and management of cultural resources associated with a development project receiving Federal funds or requiring a Federal permit (<http://www2.cr.nps.gov/laws/NHPA1966.htm>), and under Chapters 44.40 and 157.70 of the Wisconsin State Statues. Completion of the current study and CRMP is an initial step toward understanding issues regarding Federal and state historic preservation subjects and provides future historic preservation direction for the continued development of Project lands.

Prior to completing the CRMP, GLARC researched a general land use history for the Project area. The land use history study contributes valuable data to the Project CRMP, and researchers completed both tasks in accordance to historical and archaeological procedures set forth in *Archaeology and Historic Preservation: Secretary of the Interior's*

Standards and Guidelines (published in the Federal Register) and *Guidelines for Public Archeology in Wisconsin, as Revised* (Kolb and Stevenson 1997), which is jointly endorsed by the Historic Preservation Division of the Wisconsin Historical Society and the Wisconsin Archeological Survey, a statewide professional organization.

Land Use History

In order to understand how the Project area may have been used in the past and what this means regarding current cultural resources management needs, GLARC researched and developed a land use history for Project lands. This research aided in developing a culture history context for the area, identifying the types of sites that may be present, acknowledging conditions that encouraged people to exploit the area, and recognizing natural and cultural events that have potentially masked or destroyed sites associated with the Project area. The land use history draws solely upon archival/literature research, including review of archaeological and geotechnical data sources, in order to explore how the Project area landscape has changed during the past 13,000 years and how humans have adapted to or encouraged this change. Data generated by the land use study contributes to the CRMP by identifying areas with a low, moderate, or high potential to yield archaeological deposits. Archival research and field investigations suggest several areas that may have a high potential to yield archaeological deposits and as a result, require further investigation.

Cultural Resources Management Plan

As stated, the CRMP drafted for the Project is based upon data generated by the land use history and previous archaeological survey studies. The purpose of the CRMP is to provide Project land owners, developers, and designers guidelines regarding the identification, evaluation, and management of previously recorded and unrecorded cultural resources located within the general Project boundary. Toward this goal, the CRMP discusses procedures to be used for identifying and evaluating sites during future cultural resources management

studies, criteria for determining a site's significance in terms of its eligibility for inclusion in the National Register of Historic Places, and long term management decisions to consider when planning for the preservation or conservation and interpretation of significant archaeological resources.

Conclusion

Cultural resources are an important consideration for all Menomonee Valley Partners, Inc. staff, and future Project managers, who are involved with the development or maintenance of the Project lands. Project designers, developers, and managers or their equivalent, who are responsible for planning and maintaining the Project, should be aware of his/her obligation for protecting and managing real and potential cultural resources associated with Project lands. The current report with accompanying Cultural Resources Management Plan provides this information, integrating cultural resources management issues with other administration matters to insure that MVP officials and future project staff comply with related historic preservation regulations and related duties.

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