

**PRE-EVALUATION STUDY FOR
ARCHAEOLOGICAL POTENTIAL FOR THE
TRUNK HIGHWAY 63 RED WING BRIDGE PROJECT,
GOODHUE COUNTY, MINNESOTA, AND
PIERCE COUNTY, WISCONSIN**

**Mn/DOT Contract No. 98207
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**Authorized and Sponsored by the
Minnesota Department of Transportation
and the
Federal Highway Administration**

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MANAGEMENT SUMMARY

In 2011 and 2012, Two Pines Resource Group, LLC (Two Pines) completed a pre-evaluation study for archaeological potential for the Trunk Highway (TH) 63 Red Wing Bridge Project in Goodhue County, Minnesota, and Pierce County, Wisconsin. This work was performed under contract with the Minnesota Department of Transportation (Mn/DOT) Cultural Resources Unit. The proposed project includes the replacement and/or rehabilitation of the TH 63 Bridge over the Mississippi River at Red Wing. Drs. Michelle Terrell and Andrea Vermeer served as co-Principal Investigators. Separate reports were prepared for the architectural history (Granger and Kelly 2011) and geomorphological (Hudak 2011) studies performed for this project.

The purpose of the study was to identify those portions of the project's area of potential effect (APE) that have the potential to contain intact archaeological resources, in order to provide a guide for future archaeological investigations once the final scope of the bridge project has been determined. The APE was selected by Mn/DOT to encompass direct impacts from the construction of any of the bridge alternatives, as well as ancillary impacts, including pond locations and areas of construction staging. It includes contiguous portions of Sections 29 and 30 of Township 113N, Range 14W in Minnesota, and portions of Sections 10, 11, 14, and 15 of Township 24N Range 18W in Wisconsin. In Minnesota, this area falls within a study unit designated as the Southeast Riverine East archaeological sub-region. For purposes of this study, the APE was divided into five sub-areas based on its land-use history: North of the River, Levee, Downtown Commercial, East Red Wing Residential, and Barn Bluff.

The study included an intensive literature review of primary and secondary sources, as well as field testing through coring to identify intact deposits with the potential to contain archaeological resources, which in some cases confirmed the presence of archaeological features (21GDbi; 21GDbj; and 21GD bk). Based on the results of the study, portions of each sub-area were determined to have low potential for containing intact archaeological resources, but much of the tested APE was found to have moderate to high potential for containing archaeological resources dating to the precontact, contact, and/or historical periods. Areas with moderate to high potential include the south-central portion of the North of the River sub-area, the southern portion of the Levee sub-area, the majority of the lots within the Downtown Commercial sub-area, the majority of the open areas within the East Red Wing Residential sub-area, and the northern and western portions of the Barn Bluff sub-area. It is recommended that additional archaeological work be conducted in any areas of moderate, high, or unknown archaeological where subsurface impacts from the TH 63 Red Wing Bridge Project will occur.

The Barn Bluff sub-area contains earthworks/mounds associated with 21GD0015, which are protected under the Private Cemeteries Act. Due to the presence of this mound group, tribal consultation and project coordination with the OSA to address potential direct and indirect effects are needed. While Barn Bluff is already individually listed on the National Register, due to the documentation during the study of a Dakota tradition associated with Barn Bluff, it is recommended that tribal consultation include discussion of whether Barn Bluff should also be evaluated as a TCP.

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INTRODUCTION

In 2011, Two Pines Resource Group, LLC (Two Pines) completed a pre-evaluation study for archaeological potential for the Trunk Highway (TH) 63 Red Wing Bridge Project in Goodhue County, Minnesota, and Pierce County, Wisconsin. This work was performed under contract with the Minnesota Department of Transportation (Mn/DOT) Cultural Resources Unit (CRU).

PROJECT DESCRIPTION

The proposed project includes the replacement and/or rehabilitation of the TH 63 Bridge over the Mississippi River at Red Wing. Four bridge alternatives are being considered, each of which will connect with the existing TH 63 approach to the north of the river.

AREA OF POTENTIAL EFFECTS (APE)

The Area of Potential Effects (APE) for archaeology was selected by the Mn/DOT CRU to encompass direct impacts from the construction of any of the bridge alternatives, as well as ancillary impacts, including pond locations and areas of construction staging (Figure 1). The APE includes contiguous portions of the NW $\frac{1}{4}$, and the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 29 and the NW $\frac{1}{4}$ of the SE $\frac{1}{4}$, the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, the SW $\frac{1}{4}$ of the NE $\frac{1}{4}$, and the E $\frac{1}{2}$ of the NE $\frac{1}{4}$ of Section 30 of Township 113N, Range 14W, in Minnesota, and portions of the SE $\frac{1}{4}$ of Section 10, the S $\frac{1}{2}$ of the SW $\frac{1}{4}$ of Section 11, the entirety of Section 14, and the NE $\frac{1}{4}$ of Section 15 of Township 24N, Range 18W, in Wisconsin. The UTM (NAD 83, Zone 15) coordinates of the main project area are as follows: north-northwest end – 536351E 4936093N; southwest corner – 536855E 4934583N; south point – 537172E 4934605N; and southeast corner – 537788E 4934963N. Coordinates were generated electronically using ACME Mapper (<http://mapper.acme.com>).

The APE, based on its land-use history, readily lends itself to division into five sub-areas (Figure 2). The North of the River sub-area, as its name implies, is the largely undeveloped portion of the APE located to the north of the state line, which is within the Mississippi River. The Levee sub-area is the portion of the APE that was historically oriented toward river and railroad transportation. It includes the northern halves of those blocks between Levee and Main streets within the APE, which historically housed industrial concerns, and extends north through the railroad corridor and levee area to the state line. The East Red Wing Residential sub-area is that portion of the APE east of Bluff Street and south of TH 61, which was historically occupied primarily by residential housing. The Downtown Commercial sub-area is the part of Red Wing's historical commercial district located within the APE. Extending west from Bluff Street and the edge of Barn Bluff, it includes the southern halves of those blocks between Levee and Main streets within the APE, which were primarily commercial in nature during the historical period, and extends south and west to the boundary of the APE. The Barn Bluff sub-area is defined as that portion of the APE that encompasses the slope of the bluff.

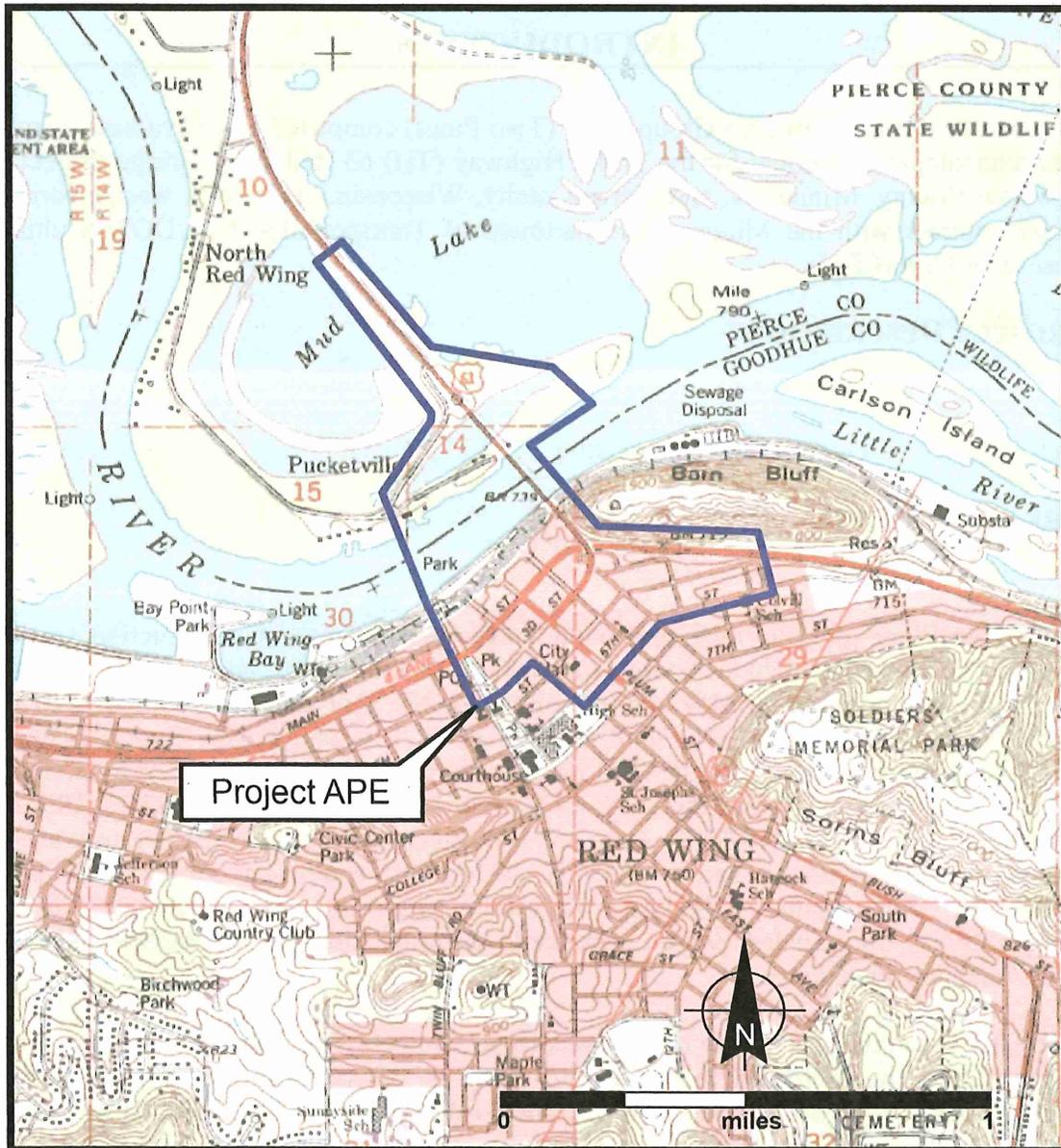


FIGURE 1. PROJECT LOCATION
(RED WING, 1994, QUADRANGLE, USGS 7.5MINUTE SERIES)

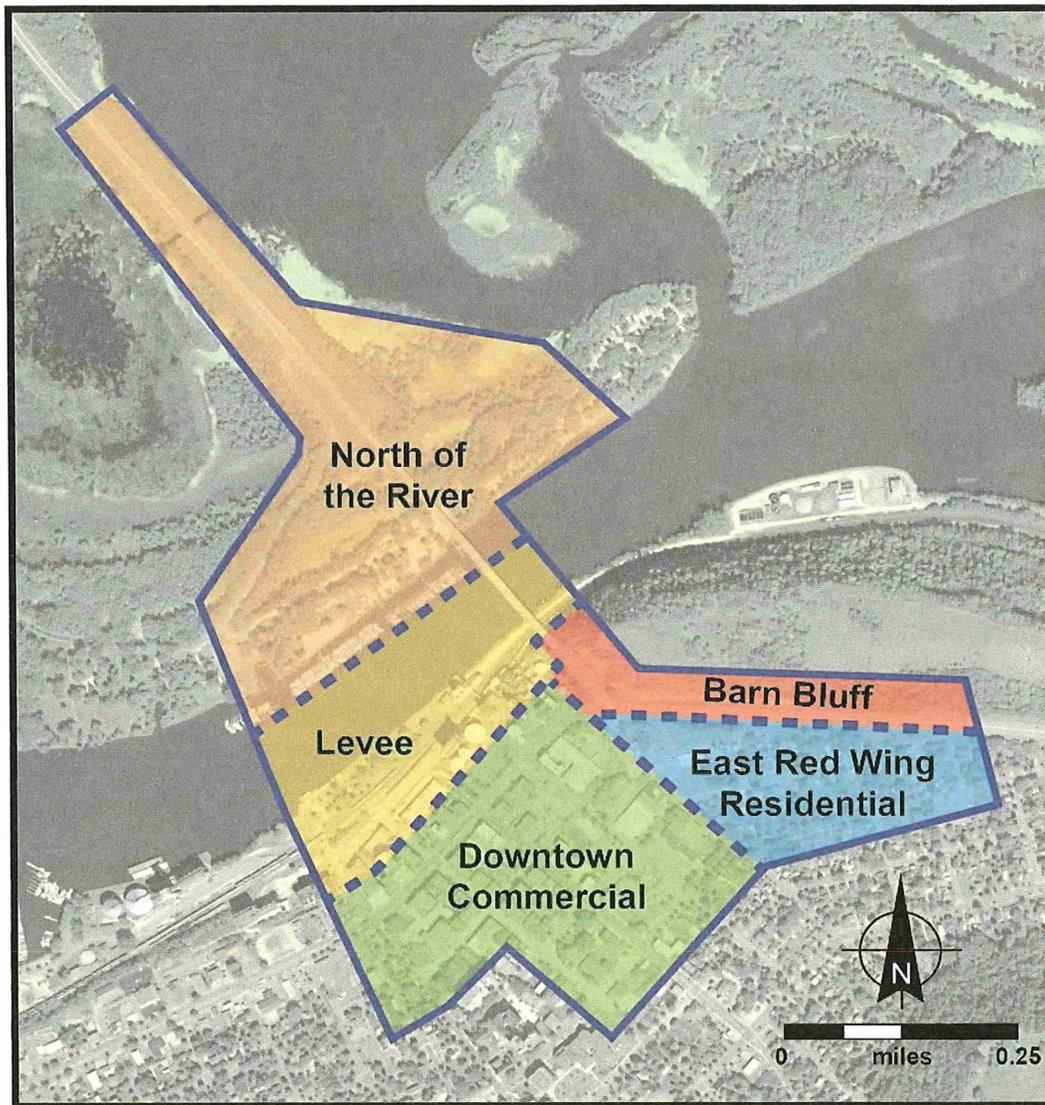


FIGURE 2. PROJECT APE SUB-AREAS

REPORT FORMAT

This report presents the research design, environmental background, archaeological background, and historic contexts for the TH 63 Red Wing Bridge project APE. Subsequently, the results of the fieldwork and cultural resource management recommendations are provided in five separate chapters, one devoted to each sub-area. These are followed by a chapter summarizing the study and its findings. Appendix A provides the Minnesota Annual Archaeological Reconnaissance Survey Licenses under which the fieldwork was conducted, while Appendix B consists of the boring logs generated by Two Pines during fieldwork. Appendix C contains the parallel boring logs created by the project geomorphologist. Appendix D provides detailed historical land use as reconstructed through Sanborn fire insurance maps by individual lot and in tabular format.

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RESEARCH DESIGN

All work was conducted in accordance with *Mn/DOT's Cultural Resources Unit Project Requirements* (Mn/DOT 2011), the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005), the *Guidelines for Public Archeology in Wisconsin* (Kolb 1997), and *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (National Park Service 1983).

OBJECTIVES

The purpose of the study was to identify those portions of the project APE that are likely to contain intact archaeological resources. The National Register of Historic Places (National Register) criteria, summarized below, are used to assess the potential significance of documented cultural resources (National Park Service 2002). While all four criteria are considered, archaeological sites are typically eligible for listing in the National Register under Criterion A or D.

- Criterion A – association with events that have made a significant contribution in our past
- Criterion B – association with the lives of persons significant in our past
- Criterion C – embodiment of the distinctive characteristics of a type, period, or artistic values; or representation of the work of a master; possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction
- Criterion D – potential to yield information important to prehistory or history

ARCHIVAL RESEARCH

The primary focus of this project was an intensive literature search for the TH 63 Red Wing Bridge Project APE. This search, conducted by staff from Two Pines in February (MnSHPO) and April (WiSHPO) of 2011, included a review of relevant archaeological site files and survey reports held by the Minnesota State Historic Preservation Office (MnSHPO) and the Wisconsin State Historic Preservation Office (WiSHPO) to identify archaeological sites within a one-mile radius of the APE and archaeological surveys previously conducted within the APE. Files for mound groups proximate to the project APE (21GD15 and 21GDa) were also examined at the Minnesota Office of the State Archaeologist (OSA).

The literature search chiefly comprised the examination of relevant and available primary and secondary sources of historical information held at the Minnesota Historical Society (MHS), and the Wisconsin Historical Society. These sources included the records of early EuroAmerican explorers, historical maps and atlases, historical aerial and standard photographs, General Land Office (GLO) records, census schedules, tax assessment records, and local histories, which are detailed below.

Early Explorers' Records

The narratives of early EuroAmerican explorers traveling along the Mississippi River were examined for references to the Red Wing area and any associated information pointing to the potential for the presence of archaeological sites. The time span of these accounts extends from Father Hennepin's visit of 1680 through the 1851 account of Frank Mayer (Table 1).

TABLE 1. EARLY EXPLORERS' RECORDS

Explorer	Source	Visit	Results
Louis Hennepin	<i>A Description of Louisiana.</i> Shea, J. G., ed.	1680	No description of Red Wing area
Pierre Le Sueur	<i>Le Sueur's Voyage up the Mississippi.</i> Thwaites, R. G., ed.	1700	No description of Red Wing area
Jonathan Carver	<i>The Journals of Jonathan Carver and Related Documents, 1766-1770.</i> Parker, J., ed.; <i>Travels Through the Interior Parts of North America, in the Years 1766, 1767, and 1768.</i>	1766	No description of Red Wing area
Zebulon Pike	<i>Pike's Explorations in Minnesota, 1805-1806; The Expeditions of Zebulon Montgomery Pike.</i> Coues, ed.	1805	Encounters the Red Wing Dakota
Zebulon Pike	<i>Pike's Explorations in Minnesota, 1805-1806; The Expeditions of Zebulon Montgomery Pike.</i> Coues, ed.	1806	Encamps near the Red Wing Dakota village for one day and climbs Barn Bluff
Stephen Long	<i>The Northern Expeditions of Stephen H. Long.</i> Kane et al., eds.	1817	Description of Red Wing Dakota village and Barn Bluff
Thomas Forsyth	<i>Fort Snelling: Col. Leavenworth's Expedition to Establish It in 1819.</i>	1819	Visits the Red Wing Dakota and mentions Barn Bluff
Stephen Kearny	<i>Journal of Stephen Watts Kearny.</i> Porter, V. M., ed.	1820	Encamps near the Red Wing Dakota village
Henry Schoolcraft	<i>Narrative Journal of Travels from Detroit Northwest through the Great Chain of American Lakes to the Sources of the Mississippi River in the Year 1820.</i>	1820	Description of the Red Wing Dakota village and an ascent of Barn Bluff
Stephen Long	<i>The Northern Expeditions of Stephen H. Long.</i> Kane et al., eds.	1823	Encamps near the Red Wing Dakota village

TABLE 1. EARLY EXPLORERS' RECORDS

Explorer	Source	Visit	Results
James Colhoun	The Journal of James E. Colhoun. In <i>The Northern Expeditions of Stephen H. Long</i> . Kane et al., eds.	1823	Description of the location of the Red Wing Dakota Village
William Keating	<i>Narrative of an Expedition to the Source of St. Peter's River, Lake Winnepeek, Lake of the Woods, & c. &c.</i>	1823	Description of the location of the Red Wing Dakota Village and Barn Bluff
Giacomo Beltrami	<i>Pilgrimage in Europe and America Leading to Discovery of the Sources of the Mississippi and Bloody River.</i>	1823	Mention of the Red Wing Dakota Village and Barn Bluff
George Featherstonhaugh	<i>A Canoe Voyage Up the Minnaya Sotor.</i>	1835	Encounters Dakota Village at head of Lake Pepin, but no description of area
Charles Latrobe	<i>The Rambler in North America. Volume II</i>	1835	No detailed description of the Red Wing area
Alfred Brunson	<i>A Western Pioneer: or Incidents of the Life and Times of Rev. Alfred Brunson</i>	1837	Description of the mission and Barn Bluff.
William Folsom	<i>Fifty Years in the Northwest</i>	1845	Brief description of Red Wing and Barn Bluff. Mentions the log cabins of a missionary, a government farmer, and a trader
Charles Lanman	<i>A Summer in the Wilderness: Embracing a Canoe Voyage up the Mississippi River and Around Lake Superior.</i>	1846	Brief description of the Red Wing Dakota village and Barn Bluff; Mentions the presence of a trader's cabin
William Williams	<i>Major William Williams' Journal of a Trip to Iowa in 1849.</i>	1849	Brief description of the Dakota Village at Red Wing (22 lodges); Mentions the presence of a missionary's house
E. Sanford Seymour	<i>Sketches of Minnesota, the New England of the West</i>	1849	Brief description of the Dakota Village at Red Wing; Mentions the presence of a missionary's house
Frank Mayer	<i>With Pen and Pencil on the Frontier in 1851.</i>	1851	No description of Red Wing area

Maps and Atlases

Historical maps and atlases of the project area reviewed included original GLO survey maps, Trygg's (1964) *Composite Map of United States Land Surveyors' Original Plats and Field Notes*, *An Illustrated Historical Atlas of the State of Minnesota* (Andreas 1874), plat maps and atlases by Smith, Towne & Co. (1856), Nash and Morgan (1878), Foote (1894), Webb Publishing Co. (1914), Rhame (1925, 1930), and Rockford Map Publishers (1955, 1960), early panoramic drawings (Ruger 1868; Shober and Carqueville 1880), Sanborn Map Publishing Company (Sanborn) fire insurance maps (1884-1943), 1890s Mississippi River Commission (MRC) survey maps of the Mississippi River, and the Wisconsin Archeological Atlas (Brown 1944).¹

The land survey and plat maps were examined for any historically present natural or cultural features that would suggest a greater potential for precontact, contact, or historical archaeological sites to be present in those portions of the APE that were historically undeveloped or rural. The fire insurance maps panoramic drawings, and MRC survey maps, which intermittently span the period between 1868 and 1943, were used to identify historical urban occupations as a means of ascertaining the locations and types of potential historical-period archaeological sites within the APE. All maps were used in conjunction to trace the physical evolution of the APE over time in order to determine where more recent development would have likely destroyed the archaeological signatures of earlier occupations.

Photographs

Historical standard and aerial photographs of Red Wing were consulted for information on the land-use history of the APE. Standard photographs were obtained through online searches of the MHS Visual Resources Database and the Minnesota Digital Library's Minnesota Reflections database. Aerial photographs reviewed date to 1938 and 1949.

Property-Specific Sources

Subsequent to the field assessment, other primary and secondary sources were consulted for additional information on the historical occupants (businesses or persons) of specific properties determined to have or be likely to have intact historical deposits. Primary sources included U.S. federal census schedules, and Goodhue County tax assessment rolls. Secondary sources consisted of local histories, such as *Goodhue County, Minnesota, Past and Present* (Hancock 1893), *History of Goodhue County, Minnesota* (Curtiss-Wedge 1909), *A History of the City of Red Wing, Minnesota* (Rasmussen 1933), and *Red Wing, Minnesota: Saga of a River Town* (Angell 1977), as well as sources

¹ The Wisconsin Archeological Atlas is a visual representation of the general locations of known archaeological sites as collected by Charles E. Brown between 1889 and 1944. Base maps for the atlas consist of a plat book of Wisconsin published by W. W. Hixson and Company in 1924 (Wisconsin Historical Society 2012).

specific to identified occupants; for example, Hoverson's (2007) *Land of Amber Waters* was consulted for information on the Heising/Remmler Brewery.

FIELD ASSESSMENT

A field assessment was conducted to test for the potential for intact archaeological resources to be present within the APE. The goal of the assessment was to demonstrate the presence or absence of soils and/or deposits that may contain cultural material in the project area, not to identify or evaluate archaeological sites.

Landowner permission for work on private land was obtained prior to fieldwork. A letter explaining the purpose and methods of the field assessment was sent from Mn/DOT to the owners of parcels selected for testing within the TH 63 Red Wing Bridge Project APE. Landowners were contacted prior to commencing testing and were kept informed of the progress of the fieldwork on their properties.

ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

The assessment of an area's potential to contain archaeological resources consists of an analysis of terrain, water sources, and other environmental and landscape conditions in and adjacent to that area as they were historically. Areas that were occupied by water, permanently or frequently inundated (e.g., wetlands, floodplains), poorly drained, or exhibited slopes of greater than 20 percent would have been inhospitable to human occupation and are therefore considered to have low potential for containing archaeological resources.

Generally, areas in Minnesota with greater potential for containing precontact archaeological resources are in proximity, typically less than 500 feet, to a water source or wetland, though the applicability of this condition varies depending on the nature of the water source (perennial versus intermittent), the size of the body of water, the extent of the floodplain, and the availability of other water sources in the vicinity, i.e., proximity to a small pond may be less indicative of archaeological potential if a large lake is nearby. Topographic prominence is also frequently indicative of high precontact archaeological potential, though relative topographic prominence as a gauge of archaeological potential often is tied to other conditions, such as proximity to water. Proximity to previously recorded precontact archaeological sites often suggests high potential for precontact resources, inasmuch as previously recorded sites may not have been fully defined or as the areas around previously recorded sites are typically subject to similar environmental/landscape conditions. The absence, however, of precontact archaeological sites in an area does not necessarily point to low archaeological potential, given that that area may not have been subject to previous survey.

Areas proximate to former and/or existing historical-period buildings, structures, or other features are generally considered to have higher potential for containing historical-archaeological resources. These areas are not limited to the locations of buildings, as often the most important information comes from deposits within associated features, such as privies, cisterns, or middens, which were located away from primary buildings.

Because the contact period bridges the precontact period and the historical period, the assessment of an area's potential to contain contact-period archaeological resources draws upon a combination of the conditions indicative of precontact and historical-period archaeological resources.

North of the River Sub-Area

To the north of the Mississippi River, the APE is primarily within a mixture of woods and wetlands. During a site visit with the Mn/DOT CRU Project Manager, it was agreed that any soils with potential within this sub-area are likely to be deeply buried and therefore not identifiable through standard shovel testing methods. In this sub-area, therefore, the field assessment consisted of deep testing through geologic coring in order to create a geomorphological model of the development of this area, including the depth of buried soils with the potential to contain cultural material. The coring was conducted by Thein Well for Foth under the direction of Foth's Principal Investigator for geomorphology. It consisted of using a hollow-stem auger drill rig to collect continuous core samples in split-spoon samplers two feet long and three inches in diameter. These cores were advanced to bedrock or the maximum depths of safety (Hudak 2011:3, 6).

Levee Sub-Area

In the Levee sub-area, the APE encompasses Levee Park, portions of the facilities of Archer Daniels Midland, the former Chicago Milwaukee and St. Paul Railway Company (CM&StP) depot, the Canadian Pacific rail corridor, and the northern halves of those blocks between Levee and Main streets. During a site visit with the CRU Project Manager, it was agreed that any archaeological resources within this sub-area are likely to be deeply buried and therefore not identifiable through standard shovel testing. In this sub-area, therefore, the assessment consisted of deep testing consisting of both geologic coring and archaeological coring. The geologic coring was conducted as detailed for the North of the River sub-area (Hudak 2011:3, 6). The archaeological coring was conducted as detailed for the Downtown Commercial sub-area (below) by Thein Well under the direction of Two Pines' Principal Investigators for archaeology. Archaeological coring was focused on the identification of potential cultural deposits, although aspects of them were used to augment the geomorphological model.

East Red Wing Residential Sub-Area

In the East Red Wing Residential sub-area, the APE is occupied primarily by residential development that includes numerous open and apparently undeveloped residential yards. Also present are the public works/PBF (People Behind the Flower Baskets) building, with associated parking lot and greenspace, as well as a light industrial building. In this area, the field assessment included visual reconnaissance to identify any areas of obvious disturbance, a single shovel test in an area for which landowner permission was not required, and geologic coring as detailed for the previous sub-areas (Hudak 2011:3,6).

Downtown Commercial Sub-Area

Within downtown Red Wing, the APE is occupied by commercial buildings and associated infrastructure, such as parking lots and sidewalks, which prevent standard

pedestrian survey or shovel testing to characterize archaeological deposits. In this area, therefore, archaeological coring was conducted by Thein Well under the direction of Two Pines' Principal Investigators for archaeology. Soil borings measured 2 inches in diameter, and each was extended through the surface asphalt and all underlying deposits, typically until either natural soils beneath cultural deposits or bedrock was reached. In one case, however, the boring extended partway into a substantial foundation; as the foundation confirmed the presence of historical-archaeological deposits, the boring was not extended all the way through the foundation into underlying deposits. In another case, a boring was abandoned due to refusal caused by concrete at 15 centimeters below the surface (cmbs)*. Finally, one boring was halted at 2.2 meters below the surface (mbs) (7.2 ft.) because no indication of any cultural deposits had been encountered.

As soil borings were completed, they were laid out, and their profiles were examined by the Principal Investigators for archaeology and geomorphology to determine the history of deposition in the boring location and to identify any intact cultural deposits. Information was recorded by the archaeologists and geomorphologist on standardized forms, with the archaeologists recording boring locations, the depths of soil layers, generalized soil colors and textures, indications of cultural features, such as brick layers, and cultural materials. The geomorphologist recorded detailed soil descriptions, including Munsell® color designations, soil textures, whether fill was present, and notes on soil content. It should be noted that coring does not provide precise stratigraphic control, thus the depths recorded for soils within a given core may vary depending on the allowances made by the recorder for overlap during the transition between samples. For this reason, both the archaeological boring logs and the geomorphological boring logs are provided for reference in appendices to this report (Appendices B and C).

Geologic coring was also conducted in this sub-area as part of the geomorphological study conducted by Foth, in the same manner as described for the North of the River sub-area (above) (Hudak 2011:3, 6).

Barn Bluff Sub-Area

The Barn Bluff sub-area is occupied by a portion of Barn Bluff that remains fairly natural, with the exception of the TH 63/61 right-of-way, which runs through it. In this sub-area, the field assessment consisted of a visual reconnaissance to identify clearly disturbed areas and to determine whether any above-ground resources associated with the lime kiln and quarry known to be historically located on the bluff are present and intact.

GEOGRAPHIC INFORMATION SYSTEM DATA

A geographic information system (GIS) data layer was created during the course of the field assessment. The locations of individual shovel tests, borings, and features were recorded in the field using a Trimble GeoXT GPS Unit. All data were differentially corrected using a National Geodetic Survey (NGS) continuously operating reference station (CORS) data. Trimble Pathfinder Office 3.10 was used to correct the data and export them as ESRI shapefiles. ESRI ArcGIS was used to analyze and map the data.

LABORATORY ANALYSIS

During archaeological coring, soil samples were collected from selected horizons with the potential to contain precontact cultural material, or which demonstrated the presence of historical-period deposits. These samples were transported to the Two Pines laboratory for processing. All samples were water-screened through $\frac{1}{8}$ - and $\frac{1}{4}$ -inch mesh. Occasionally, very small fragments of materials such as glass and wood were contained within these samples. While these recovered materials are indicative of the presence of cultural deposits, due to their small size and fragmentary nature, they have minimal information value and hence were not submitted for curation.

ARCHAEOLOGICAL AND ENVIRONMENTAL BACKGROUND

In February and April of 2011, staff from Two Pines conducted background research at the MnSHPO and WiSHPO, respectively. The focus of this research was to identify archaeological sites within a one-mile radius of the project area and archaeological surveys previously conducted within the APE.

RECORDED ARCHAEOLOGICAL SITES

Background research conducted at the SHPOs revealed that one previously identified archaeological site partially overlaps with the Red Wing Bridge Project APE. The boundary of 21GD0015 (Barn Bluff Mounds) is drawn to encompass all of Barn Bluff, and hence overlaps with the APE. The three earthworks recorded within this group were located atop the bluff. The largest of these mounds is visible atop the bluff and is located along the east edge of the project APE.

Twelve recorded archaeological sites and three site leads were found within a one-mile (1.6 km) radius of the project APE (Table 2; Figure 3). Of these sites, nine are mound groups or individual mounds. With the exception of 21GDa (Hancock Mounds I), all of the earthwork sites and site leads are located atop bluffs or distant from the APE.

TABLE 2. PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES WITHIN ONE MILE OF THE APE

Site No.	T	R	S	¼ Section	Description
21GD0012	113	14	30	NE-SW-SE, C-W-NW-SE-SE	Earthworks
21GD0013	113	14	30	C-SE-SW-SW	Earthworks
21GD0014	113	14	30	W-NW-SW-SW	Earthworks
	113	14	25	SE-SE, S-NW-SE, NE-SW-SE, W-SW-NE-SE	
21GD0015	113	14	29	C-NW-NW, NW-SW-NE-NW, SW-NW-NE-NW	Earthworks
21GD0089	113	15	25	N-NW-NE-SE, NE-NE-NW-SE, SE-SE-SW-NE	Red Wing Pottery Dump
21GD0171	113	14	30	C-NE-SE-SW	Earthwork
21GD0212	113	14	30	NE-SE	Original Hamline University Building (foundations and artifact scatter)
21GD0273	113	14	31	SE-SW-NW	Earthwork and cairn
21GDa	113	14	30	C-SW, S-N-SE	Earthworks
21GDj	113	15	25	C-S-S-SE-SE	Earthworks
	113	15	36	NE-NE-NE, NE-NW-NE-NE	
21GDq	113	14	29	N-N-NW, NW-NE	Find spot (1702-1714 gun barrel)
47PI0012/ BPI-0097	24	18	2	W-SW	Earthworks and habitation site
	24	18	3	N-SE, N-SE-SE	
47PI0070	24	18	2	NE-SW-SE, NW-SE-SE	Artifact scatter
47PI0095	24	18	3	S-SE-SE	Artifact scatter
BPI-0054	24	18	3	SE-NW-SE	Trenton Cemetery

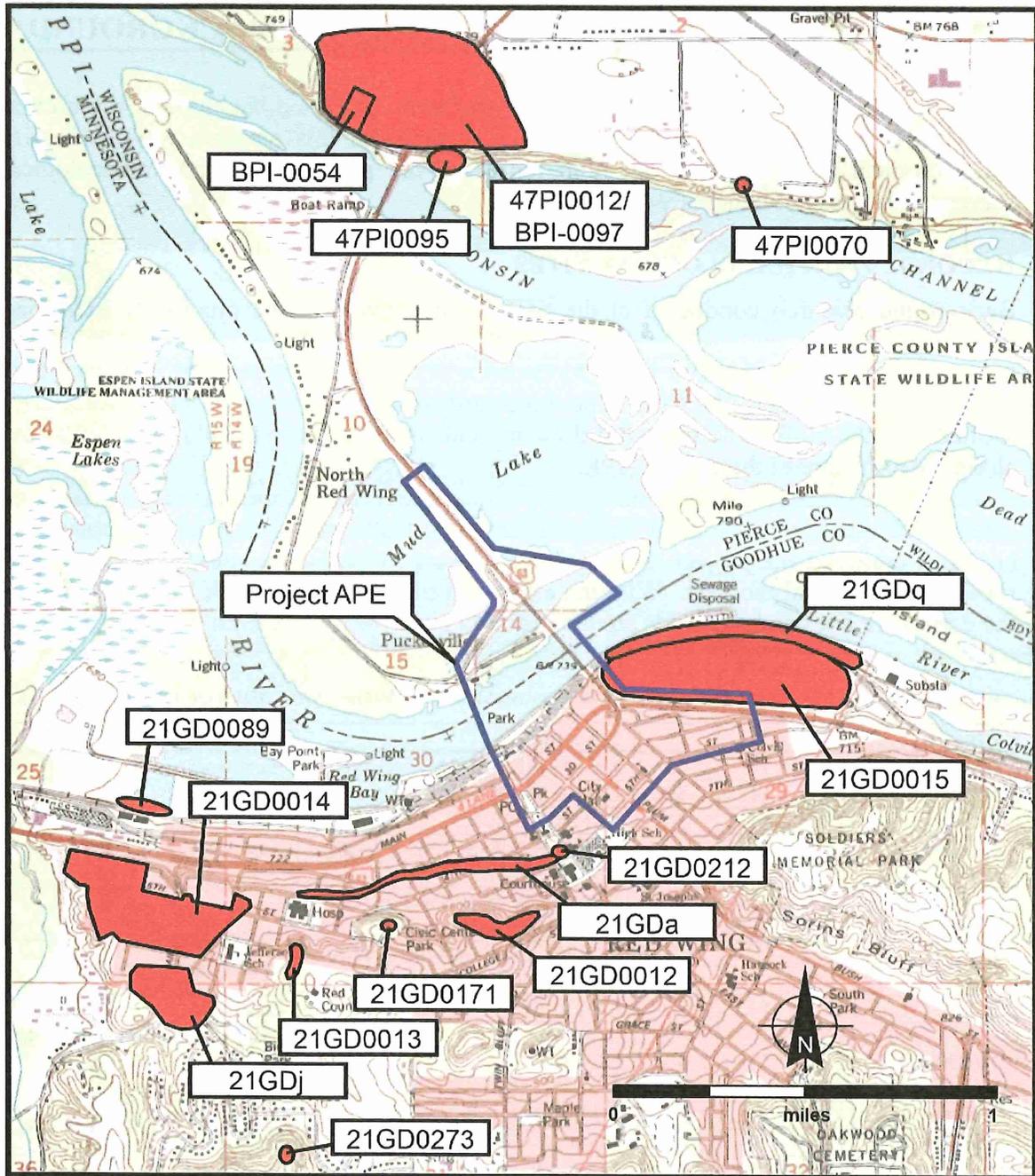


FIGURE 3. ARCHAEOLOGICAL SITES PROXIMATE TO THE PROJECT APE

Site 21GDa, which was reported to Alfred J. Hill in 1867 by Joseph W. Hancock, is located proximate to the project area and on the same terrace occupied by downtown Red Wing. Of this mound group, Hancock, who settled in Red Wing in 1849, wrote, "a row of mounds extended along the southwestern border of the Indian corn fields, the ground now occupied by streets and buildings in this city. With my pencil I have endeavored to make dots on the plat you sent to show the locality of these mounds. Scarcely any of them are now visible" (Winchell 1911:169). The easternmost of the mounds in this group was mapped near the intersection of West Avenue and 5th Street W., approximately a block and a half to the southwest of the project APE.

The remaining five sites and one site lead within one mile of the APE include two precontact sites, two historical-period sites, one historical-period site lead, and one multi-component (precontact and historical) site. The precontact sites are artifact scatters located on the north side of the Wisconsin Channel of the Mississippi River, one (47PI0070) over a series of small knolls, and the other (47PI0095) along a low spur toward the base of a high Pleistocene terrace. The historical-period sites are the site of the Red Wing Pottery dump (21GD0089) and the Trenton Cemetery (BPI-0054), an active cemetery established in 1883. The site lead, 21GDq, is the location of an early eighteenth-century gun barrel found by William Sweney of Red Wing in 1870. These four sites/site leads are at a sufficient distance that associated resources would not be present within the APE.

The multi-component site, 21GD0212, is the site of the original Hamline University building. Although primarily comprising the foundation of the building and an associated artifact scatter, the site also includes two Woodland-period ceramic sherds encountered during excavations. As currently defined, the northern boundary of the site is one block south of the APE. The site form, however, notes that remote sensing north of the building foundation, and hence north of the north site boundary, identified several potential features, which were not explored, indicating that the site may extend into the southern portion of the APE.

PREVIOUS CULTURAL RESOURCE SURVEYS

Portions of the project APE were encompassed by three previous archaeological surveys. In 1984 and 1985, the Institute for Minnesota Archaeology (IMA) conducted an intensive survey and inventory of archaeological sites within the City of Red Wing (Dobbs 1985). During the course of this project, information on previously identified archaeological resources was reviewed, reported sites were field-checked, and an additional 760 acres were surveyed that had not been previously examined. Twenty sites were documented during the course of this survey (Dobbs 1985:2). A map of the IMA's survey locations was not included in the report, but no sites were identified within the project APE during their study.

In 2002, Commonwealth Cultural Resources Group (CCRG) conducted a Phase I survey of TH 63 from the Wisconsin/Minnesota border to Wisconsin State Highway 35. The project area included that portion of the current APE approximately 175 feet either side

of the TH 63 centerline from the state border north. A walkover of this area concluded that the portion crossing Mud Lake was road fill with low potential for deeply buried archaeological deposits, and that cores could not be taken between the Mud Lake causeway and the main channel of the Mississippi due to the presence of “concrete rubble and other types of fill” (Egan-Bruhy et al. 2003:4-3). No archaeological sites were encountered within the current APE during the survey.

A Phase IA archaeology/Phase I architectural history survey was completed by The 106 Group in 2010 for a riverfront trail in Red Wing (Van Erem et al. 2010). The route of this trail passes through the project APE between the existing rail corridor and the river. Within the Red Wing Bridge Project APE, archaeological survey was limited to surface reconnaissance, and no archaeological features were documented.

In addition to the above-mentioned archaeological surveys, in 1989, Landscape Research prepared an historic context for Minnesota’s geographic features of historic and cultural significance (Zellie 1989). This study created a statewide inventory of such geographic features and created guidelines for their evaluation and registration. Five of these geographic features were nominated to the National Register, including Barn Bluff/La Grange, which was listed on the National Register in 1990 as a natural feature of significance in the areas of exploration and tourism.

MOUNDS AND BURIALS

As described in the section on previously identified archaeological sites, nine burial mounds or groups of mounds are located within a one-mile radius of the project area. The files for mound groups proximate to the project APE (21GD15 and 21GDa) were reviewed at the Minnesota OSA. No additional locational information on burials beyond that recorded in the SHPO files was uncovered. However, the review of early explorers’ records found an 1845 account by William Folsom that records a cemetery with scaffold burials located near the Dakota village at Red Wing (Folsom 1888:595-596).

ENVIRONMENTAL CONTEXT

The TH 63 Red Wing Bridge Project is located in the Southeast Riverine East archaeological sub-region. The following environmental history of this sub-region is based largely on information contained in Borchert and Gustafson’s (1980) *Atlas of Minnesota Resources and Settlement* and an overview entitled “Minnesota’s Environment and Native American Culture History” by Gibbon et al. (2002).

Southeast Riverine East

The Southeast Riverine region covers most of southeastern Minnesota and continues into the adjacent corners of Wisconsin and Iowa. This region was not glaciated during the Late Wisconsin Ice Age and is characterized by a stream-dissected terrain. The Southeast Riverine East sub-region parallels the Mississippi River south from its junction with the St. Croix River and includes portions of Dakota, Goodhue, Wabasha, Winona, and Houston counties.

The soils in the eastern part of the region are fine-textured forest and prairie soils formed on loess deposits over Paleozoic bedrock. The climate within this region has an average annual precipitation range of 28 and 30 inches. January highs average 23 degrees Fahrenheit (F), while July highs average 85 degrees F. The frost-free season averages 160 days.

During the Late Holocene, forests of elm, ash, and cottonwood lined the river lowlands, while "Big Woods" forests of maple, elm, and basswood occupied the uplands near the Mississippi River. Within the current project area, mixed grassland and hardwood forest was present at the time of initial EuroAmerican contact.

Late Holocene subsistence resources in this region consisted of deer, elk, and occasional bison in the uplands. Mussels, fish, waterfowl, and edible aquatic plants were available in the bottomlands, particularly along the Mississippi River, while prairie turnips and acorns were present on the uplands and savannas of the region.

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PRECONTACT-PERIOD HISTORIC CONTEXTS

The human occupation of Minnesota prior to EuroAmerican contact is divided into four major cultural traditions: Paleoindian; Archaic; Woodland; and Late Prehistoric. These traditions are primarily defined by behavioral adaptations, such as technical innovations, that are visible in the archaeological record. Examples of these adaptations are changes in forms and types of material culture (e.g., pottery decoration) and variations in subsistence patterns (e.g., hunting, gathering, and cultivation) in response to a transforming landscape.

It should be noted that the cultural traditions described hereafter provide only a general overview of Minnesota's 12,000 years of human occupation. The cultural history of Minnesota prior to approximately 2,000 years ago is especially undeveloped because few archaeological sites from these earlier periods have been identified. Cultural descriptions, therefore, of the earliest traditions are based in part on archaeological evidence recovered in Minnesota, but are also enriched by evidence from surrounding states.

PALEOINDIAN TRADITION (CA. 11,200 - CA. 7500 B. C.)

The earliest people to enter Minnesota followed the retreat of the Wisconsin Glaciation some 12,000 years ago. Much of the area that they once inhabited has since been buried beneath thick deposits of Middle Holocene sediments. Archaeological evidence for the Paleoindian period, however, indicates that these people were highly mobile hunters and gatherers who pursued herds of large game, including mastodon, bison, and woodland caribou, as well as a variety of smaller animals that occupied the tundra and open pine and oak forests that populated that landscape behind the retreating glaciers. As they moved, probably in small bands, they obtained and carried, sometimes for hundreds of miles, choice raw materials for making their stone tools (Dobbs 1990a:56).

The nomadic life of Paleoindians did not result in artifact assemblages and deposits like those associated with long-term occupations; rather, throughout the United States, archaeological sites dating to this period generally are temporary campsites, faunal processing sites, short-term, stone-tool-manufacturing sites, and animal kill sites. The Paleoindian tradition is characterized by finely crafted, large, lanceolate ("leaf shaped") projectile points used to arm spears and possibly as knives. These lanceolate points are divided into two types: fluted (Clovis and Folsom points) and non-fluted (Plano) points. Chipped-stone axes and adzes, large "turtleback" scraping tools, and trihedral blades used for a variety of tasks are also characteristic of the Paleoindian period.

In Minnesota, the Paleoindian period is commonly divided into Early and Late stages. Sites dating to the Early Paleoindian period, between 11,200 to 10,500 B.C., are scarce and largely limited to fluted spear points typical of the period without any associated features or artifacts (Gibbon and Anfinson 2008). Early Paleoindian artifacts have been reported (but not field-verified) or recorded (and verified through fieldwork) in several

counties, primarily in southern Minnesota, including Blue Earth, Brown, Cottonwood, Fillmore, Freeborn, Hennepin, Murray, Nobles, Olmsted, Rock, St. Louis, Sherburne, Stearns, Waseca, and Washington counties (Higginbottom 1996; Anfinson 1997; Vermeer 2005). Although these locations suggest that the occupation of Minnesota during this period was concentrated in the central and southern regions of the state, additional Early Paleoindian sites may have yet to be discovered in the northern half of Minnesota. Sites dating to the Late Paleoindian stage, between 10,500 and 7500 B.C., are numerous in Minnesota, and have been found throughout the State, but these also have consisted largely of surface-collected spear points; therefore, little information is known regarding this time period in Minnesota (Dobbs 1990a; Gibbon and Anfinson 2008).

While no archaeological evidence of a Paleoindian occupation has been recovered in the Red Wing area, other reported finds in the Southeast Riverine archaeological region, as well as the location of the project area near the northern boundary of the driftless zone, suggests that the area was utilized during this period (Dobbs 1985:15; Buhta et al. 2011:32).

ARCHAIC TRADITION (CA. 7500 - CA. 500 B.C.)

Approximately 9,000 years ago, Minnesota experienced a “rapidly changing postglacial environment,” (Gibbon et al. 2002:10) associated with warmer temperatures and a decrease in precipitation. New landscapes emerged from beneath the ice, and the state transitioned from a forested region to an expanse of prairie interspersed with large lakes and swiftly-flowing rivers fed by glacial runoff. These changes brought about the extinction of the Pleistocene megafauna, which were replaced with new complexes of animals and plants.

Inhabitants of this region were forced to adapt to this transformed landscape, altering their means of subsistence and lifestyles. The Archaic tradition is marked by an increased diversity of tool types, raw materials, and local resources. In response to the increased abundance and variety of game, fish, shellfish, and plant resources, the large lanceolate projectile points of the Paleoindian tradition were replaced by smaller notched and stemmed chipped-stone points, and chipped-stone axes were replaced by groundstone adzes, axes, and other groundstone tools. Other implements introduced into the tool kit during this period include atlatl darts, bone tools, and copper tools. Copper implements, found primarily in northern regions of the state, appeared about 3800 B.C. and were manufactured and used until approximately 1200 B.C. (Gibbon and Anfinson 2008). Because of an increased ability to depend on regional resources within an increasingly stable environment, Archaic people became less nomadic and established longer-term seasonal camps with temporary structures and associated storage pits.

Because of the focus on the resources of particular regions, Archaic-tradition artifact assemblages demonstrate more regional cultural variations than do Paleoindian sites. Four distinct Archaic contexts have been identified in Minnesota including the Shield Archaic, Lake-Forest Archaic, Prairie Archaic, and Eastern Archaic. Archaic peoples

who occupied the south-central/southeastern Minnesota deciduous forests are associated with the Eastern Archaic complex, which includes subsistence strategies heavily reliant on riverine animals and plants, as well as deer. Although much remains to be learned about this complex, eastern Archaic sites typically contain “a wide variety of projectile points that may be notched, stemmed, or have bifurcated bases [and] an extensive groundstone industry that includes fully and three-quarters-grooved axes, mauls, ‘nutting stones,’ adzes, gouges, and other implements” (Dobbs 1990a:97).

As with the Paleoindian tradition, archaeological data for the Archaic era in the vicinity of Red Wing are limited; however, surface finds of Archaic materials have been reported in the greater Red Wing area, and sites from this period are present along the Cannon River and Spring Creek (Dobbs 1985:16).

WOODLAND TRADITION (1000 B.C. – A.D. 1750)

As the climate of the state continued to stabilize, the region’s inhabitants began to use the resources available to them in an increasing variety of ways. Hunting and gathering, which had been the primary means of subsistence, were supplemented by the introduction of domesticated plants such as squash, gourds, and beans – particularly in central and southern Minnesota, where expansive prairies to the west and an oak savanna spanning the state from the northwest to the southeast were present. Agriculture resulted in a more reliable food source, leading to the adoption of an increasingly sedentary lifestyle as evidenced in the long-term or reoccurring seasonal occupation of village sites. Tied to this increased environmental stability and regional settlement patterns were the advent of ceramic technology and the construction of earthen mounds. These changes occurred in Minnesota between approximately 3,000 and 900 years ago. It should be noted that these innovations were not adopted in all areas of the state at the same time or necessarily together. Even so, the period in which these innovations occurred has been designated as a single archaeological period, the Woodland Tradition.

Woodland sites are more frequently encountered in Minnesota because they are more widely distributed and not usually as deeply buried as Paleoindian and Archaic sites. The presence of ceramics and distinct tool types also allows Woodland sites to be more readily assigned to a particular tradition than non-diagnostic lithic scatters. Consequently, a relative abundance of Woodland-period artifacts has enabled archaeologists to develop a chronological framework consisting of an Early and Middle (Initial) (ca. 1000 B.C.–A.D. 500) and Late (Terminal) (ca. A.D. 500-1750) Woodland periods, and to assign Woodland sites to distinct traditions. Those traditions that relate to the Red Wing area include the Southeast Minnesota Early Woodland Complex (500 – 200 B.C.), the Havana-Related Complex of the Middle Woodland (200 B.C. – A.D. 200/300), and the Southeast Minnesota Late Woodland Complex (A.D. 500-1150) (Arzigian 2008).

Southeast Minnesota Early Woodland Complex (500 – 200 B.C.)

The diagnostic artifact type for the Southeast Minnesota Early Woodland Complex is La Moille Thick ceramics. The five sites in Minnesota that have produced this ware type are

located within riverine settings in the southeastern and south-central portions of the state. Three of the sites are situated along the Mississippi River, and one of these sites is located in Goodhue County. Due to the dearth of identified sites associated with this complex and the lack of stratified deposits within those sites that can be assigned to the complex, very little can be said at this time about associated material culture and subsistence patterns (Arzigian 2008:30-34). It has been suggested that these sites “might reflect the gradual nature of the transition between Archaic and Woodland in this region” (Arzigian 2008:30).

Havana-Related Complex of the Middle Woodland (200 B.C. – A.D. 200/300)

The Havana-Related Complex dates to the Middle Woodland (ca. 200 B.C. – A.D. 200/300) in central and eastern Minnesota (Arzigian 2008). This period is marked by the presence of northern Havana Hopewell ceramic and burial mound traditions that originated from the Illinois River valley just south of Peoria (Dobbs 1990a:130). The exchange of cultural concepts between Minnesota’s Havana-related cultures and the Havana Hopewell likely resulted from the development of an extensive trade network that focused on the transfer of raw materials from one region to another (Dobbs 1990a:130). As explained by Arzigian (2008:25), “The Havana-related complex fits within the more broadly defined Lake Forest Middle Woodland tradition,” and it includes the Howard Lake, Malmo, and Sorg phases, which are defined by ceramic wares of the same names. Howard Lake ceramics and sites are concentrated in southern east-central Minnesota in the region of the Anoka Sand Plain and along Rice Creek, while Malmo wares are concentrated in central and eastern Minnesota from Mille Lacs Lake westward (Arzigian 2008:36). Sorg ceramics are found in northern southeast Minnesota, particularly from sites clustered near the junction of the Mississippi and St. Croix rivers, although Sorg ceramics have been recovered near Red Wing (Arzigian 2008:41). Sites that produce Sorg pottery are situated on beach ridges or terraces above the floodplain of the Mississippi River (Arzigian 2008:36).

Southeast Minnesota Late Woodland Complex (A.D. 500-1150)

The Southeast Minnesota Late Woodland Complex is defined as that period after Havana-related complexes have faded and before the rise of Oneota. This complex is associated with populations that continued to hunt, gather, and fish, but which also began growing crops towards the end of the period. Effigy and other mounds are typical of this period, as are cord-impressed ceramics and true triangular bow-and-arrow projectile points. Sites are found along terraces and bluffs associated with the Mississippi River and its tributaries, and west to the Blue Earth River valley (Arzigian 2008:93). Several sites associated with this complex are located in the region to the west of Red Wing where the Cannon River joins the Mississippi River.

Burial mounds and earthworks typical of the Woodland period have been documented both to the immediate west (21GDa – Hancock Mounds I) and east (21GD15 – Barn Bluff Mounds) of the project area, as well as in the greater region. Furthermore, Woodland-period artifacts were recovered by Dr. William Sweney and Jacob Brower in the Red Wing area during the early exploratory period, and a small Woodland site

(21GD116) was documented near the Cannon River in west Red Wing (Winchell 1911:452; Dobbs 1985:17, 18).

LATE PREHISTORIC PERIOD (CA. A.D. 900 – EUROAMERICAN CONTACT)

In southern Minnesota, a new set of traditions began to develop around 1,000 years ago during an era marked by an intensification in agricultural practices, and the presence of larger and increasingly complex societies. Sites from this period are distinguished from those of the Woodland period by their greater artifact density, distinct ceramic styles, corn and vegetable storage pits, and large semi-permanent village complexes located on river valley terraces. The Late Prehistoric period in Minnesota is exemplified by three traditions: Plains Village, Mississippian, and Oneota. These traditions did not immediately displace Woodland populations, and some of the complexes that made up these traditions co-existed not only with Woodland groups, but with each other (Anfinson 1997:89).

During this period, the area around Red Wing became a center of inter-regional interaction for a diverse group of populations (Fleming 2009:71-72). At the center of this area are the mouths of the Cannon and Trimbelle rivers, which enter the Mississippi from the west and east, respectively. The deltas of these rivers and the high bluffs that overlook them in northeast Goodhue County and extreme western Pierce County comprise what archaeologists refer to as the Red Wing Locality— a portion of the Mississippi River valley that was intensively occupied between A.D. 900 and 1300 during the Late Prehistoric period.

The environment of this region offered a wide variety of subsistence resources, arable land for farming, and sources of lithic raw material (Dobbs 1985:7-8). These resources, together with the transportation, trade, and communication networks offered by the Mississippi and its tributary rivers made this an ideal setting. The sites of nine major villages and over 2,000 mounds are located within this approximately 155-square-mile area (Institute for Minnesota Archaeology 1999; Fleming 2009:6, 11, 15).

Sites within the Red Wing Locality contain evidence for Oneota (Blue Earth Oneota and Orr Phase Oneota), Mississippian (Silvernale), and to a lesser extent Plains Village (Cambria) connections. The relationship of the Oneota to the Plains Village and Mississippian peoples is unclear. Some have suggested that the Oneota may have originated from the south and replaced the Mississippians, while others have argued that they are their descendants. Still others have proposed that Oneota culture is a local response to the introduction of Mississippian lifeways. Certainly, evidence for 200 years of intense interaction between the Oneota and southern Middle Mississippian groups is present in and around Red Wing. Over time the influence of Middle Mississippian cultures waned, and Oneota culture became an increasingly regionalized expression that then spread west and south (Dobbs 1990a:183). At its height, the Red Wing locale demonstrated Mississippian-inspired pottery, and the presence of exotic materials including “marine shell, non-local lithic materials from as far away as Obsidian Cliffs in

western Wyoming, Plains complex pottery, copper, galena, bison, bone” (Fleming 2009:71) and flat-topped pyramidal mounds.

The Red Wing Bridge Project APE is located within the eastern portion of the Red Wing Locality. None of the major villages that have been archaeologically-documented are located within the immediate vicinity of downtown Red Wing, although the Adams site (47PL12), an apparent single-component Oneota site, is located opposite Red Wing on the Wisconsin side of the Mississippi River (Fleming 2009:47-48, 66). The 1903 Brower and Sweney map, however, indicates an “ancient village” near the site of present-day Red Wing (Figure 4). The map also records the presence of “pits” near this village site, as well as on the island in the river to the west of Mud Lake. Brower recorded the profile of these pits in 1902 (Brower 1903:65) (Figure 5). Of them he wrote (Brower 1903:65-66):

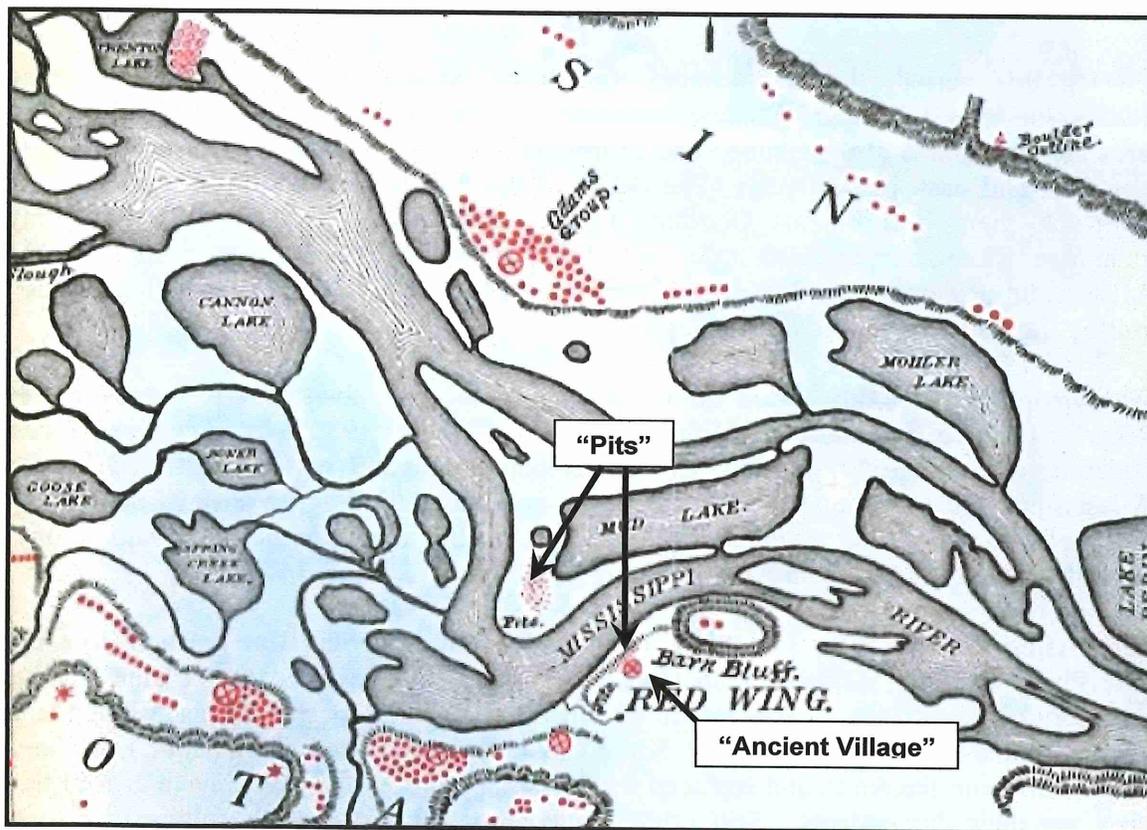


FIGURE 4. DETAIL OF BROWER AND SWENEY MAP SHOWING MOUNDS AND VILLAGES NEAR RED WING

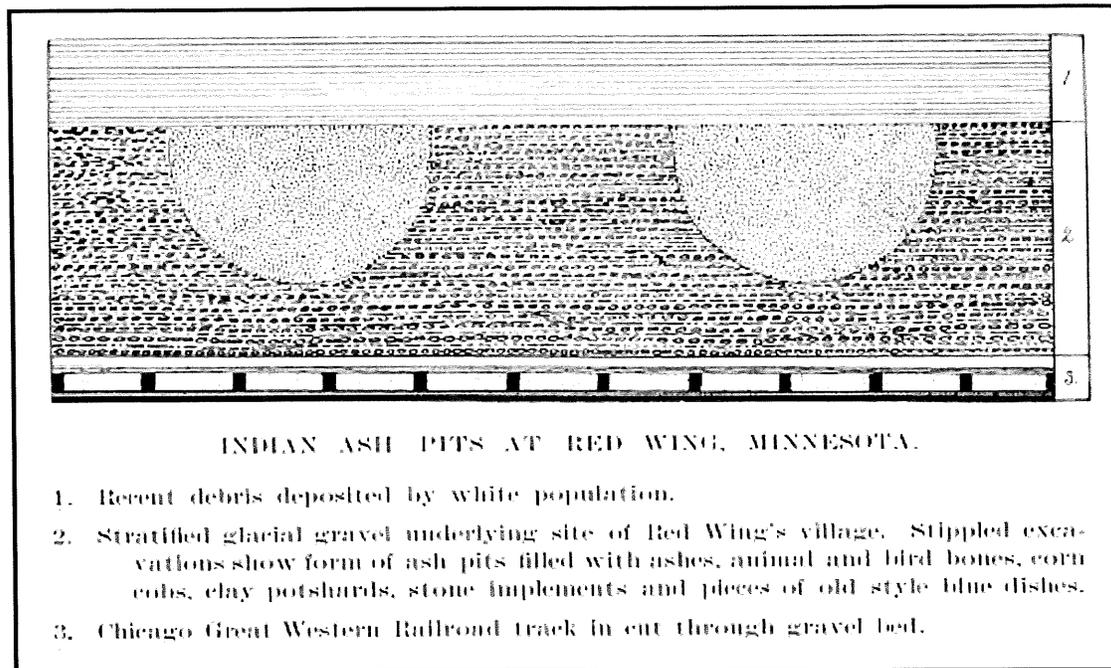


FIGURE 5. PROFILE OF PIT FEATURES AT RED WING AS RECORDED BY BROWER

At the site of Chief Red Wing's village on the terrace where the city of Red Wing is now situated there is a recent railroad grade cut through a bed of stratified gravel. Dr. Sweney pointed out a series of ash pits which were exposed to view by the excavation mentioned. Lieutenant Z. M. Pike visited this Indian village one hundred years ago, assuming friendly relations with Red Wing and his followers. While examining the exposed ash pits I gathered innumerable objects of village debris from the contents of various deposits which had been cast into the pits. I found specimens of serpentine and obliquely marked pieces of clay pots intermixed with ashes, corn cobs, bird, animal and fish bones, decayed birch bark, a mill stone, pieces of old fashioned blue dishes and a slight indication of decayed tinware. The debris recovered from those pits, intermixed in irregular masses, indicated plainly the merging of the customs of ancient stone age into the period of historic occurrences and habits, confirming the identification of clay vessels made and used by Dakota Indians.

Pit features are indicative of Mississippian-period occupations within the Red Wing Locality, and it was likely the presence of these pits that led to the identification of an "ancient village" at Red Wing. The sherds that Brower described as having serpentine and oblique markings could refer to Silvernale wares. It is likely that these features were initially excavated and used during that era; however, the presence of "old fashioned blue dishes" and "decayd tinware" indicates that these features were being used as refuse pits through the contact period.

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CONTACT-PERIOD HISTORIC CONTEXTS

The contact-period historic contexts created by the MnSHPO encompass the era between 1650 and 1837, when initial contact and interactions occurred between Native Americans and EuroAmericans. The end date of 1837 corresponds to the date of major treaties with the eastern Dakota and southern Ojibwe, which opened up portions of present-day Minnesota to EuroAmerican settlement. In the case of Red Wing, however, it is appropriate to extend the end date for the period of EuroAmerican and American Indian contact given that the area was not open to EuroAmerican settlement until the 1851 treaties with the Dakota went into effect.

Within the contact-period contexts developed by the MnSHPO, two major study units are identified: Native American and EuroAmerican. The Native American unit is subdivided into historic contexts for each of the tribal groups occupying the state at the time of European contact. Likewise, the EuroAmerican unit is divided into contexts associated with the various European ethnic groups that settled within the state from the seventeenth through nineteenth centuries. The three developed contact-period historical contexts relevant to the Red Wing Bridge project APE are the "Chiwere Siouan Language Group," "Eastern Dakota," and "Initial United States Presence."

CHIWERE SIOUAN LANGUAGE GROUP

The Chiwere Siouan language group includes the Ioway, Otoe, and Missouri groups. These three groups are closely related and share ties of language, belief, culture, and kinship, and according to Otoe tradition were once part of a single group (Dobbs 1990b:22). During the seventeenth century, the Ioway were living in southeastern Minnesota along the Mississippi, Root, and Upper Iowa rivers (Dobbs 1990b:22). The exact location of Otoe and Missouri groups at this time is unclear, although the Otoe are associated with the Blue Earth River valley. It is said that the territory of the Ioway once extended north to the Minnesota River valley, but as the Mdewakanton Dakota moved south from the Mille Lacs area, they pushed the Ioway southward (Neill 1881:191; Pond 1872:114). When writing his ethnography of the Dakota, Samuel Pond (1986 [1908]:174) noted that the Dakota described "having expelled the Iowas from the country bordering on the Mississippi and Minnesota rivers [and] often spoke of having driven the Iowas from southern Minnesota. They did not speak of this as some ancient tradition, but as a well known event of comparatively recent occurrence, though it must have taken place more than two hundred years ago." Pond (1986 [1908]:175) also wrote, "The small mounds, which may be seen on the left bank of the Minnesota at Eden Prairie and Bloomington, and perhaps at other places, are, the Dakotas say, the ruins of dwelling houses built by the Iowas." Due to increased pressures, the Ioway and Otoe removed from Minnesota to Iowa during the 1680s or 1690s (Wedel 1986; Dobbs 1990b:25).

While the Ioway and Otoe did not remain long in Minnesota after initial EuroAmerican contact, their presence should not be overlooked. The ancestors of the Chiwere Siouan-speaking peoples lived in Minnesota for 700 years or more (Dobbs 1990b:25). Some

Late Precontact archaeological sites in southeastern Minnesota have been connected to the Ioway, while some in the Blue Earth River valley have been tentatively connected to the Otoe. Ethnographic studies have linked Oneota people with Siouan-speaking tribes such as the Ioway, Oto, Missouri, Winnebago, Osage, and Kansa (Anfinson 1997:90). In particular, Orr Phase ceramics of the Oneota period have been linked to the Ioway (Dobbs 1990a:187). According to Dobbs (1990b:25), "It is conceivably possible that the extensive Oneota materials around Red Wing may also represent ancestral Chiwere Siouan peoples."

EASTERN DAKOTA

At the time that EuroAmericans began to enter the region, the greater portion of what would become northern and central Minnesota was occupied by the Santee or Eastern Dakota. While the Santee Dakota were concentrated near Lake Mille Lacs during the 1700s, Dakota villages were also documented at Sandy, Red, Cass, Leech, and Winnibigoshish lakes; but as early as 1689, European explorers' accounts indicate that the Dakota were also living in and using the region as far south as the mouth of the Minnesota River (Lettermann 1969:13-14). Over the 200 years following initial EuroAmerican contact, numerous shifts occurred in the geographic arrangement of Native American groups within Minnesota due largely to the gradual movement of the Ojibwe into the region and the simultaneous gradual shift of Dakota lifeways from the woodlands of northern Minnesota to the prairies and plains of the southern and western portions of the state.

The Ojibwe presence was part of a continuing westward migration that had come up the Saint Lawrence River and around the Great Lakes. This movement was motivated in part by the fur trade with the French. After the beaver population had diminished in the La Pointe region of northern Wisconsin (a location the Ojibwe wrested from the Dakota and the Fox while moving westward along the southern shore of Lake Superior), the Ojibwe "radiated in bands inland, westward and southward towards the beautiful lakes and streams which form the tributaries of the Wisconsin, Chippeway, and St. Croix rivers, and along the south coast of the Great Lake to its utmost extremity, and from thence even inland unto the headwaters of the Mississippi" (Warren 1984[1885]:126). Here their migration stopped in the region where they found the prophesied "food that grows on water" (wild rice). By the early 1800s, "the Mississippi Headwaters and most of the lake-forest region of Minnesota was occupied and controlled by [Ojibwe] people" (Dobbs 1990b:47), and "the Eastern Dakota were established at a series of villages along the Minnesota and Mississippi rivers" (Dobbs 1990b:34). The Santee Dakota are divided into four sub-divisions: Mdewakanton, Wahpeton, Wahpekute, and Sisseton. During the initial contact period, the Mdewakanton Dakota occupied the lower Minnesota and Mississippi river valleys, including the general vicinity of the APE.

THE DAKOTA VILLAGE AT RED WING

Among the Mdewakanton Dakota villages was a community that resided near the head of Lake Pepin. The hereditary leader of the band was called Koo-poo-hoo-sha [Khupahu, wing; sha, red] or Hhoo-pa-hoo-doo-ta (the Wing of Scarlet), from the swan's wing, dyed

scarlet, which he carried, or L'Aile Rouge (Red Wing) in French (Curtiss-Wedge 1909:529; Upham 2001:212). At least four leaders bore this name, each being distinguished by another given name (e.g., Tatanka-mani [Walking Buffalo], Wacouta [Shooter]) (Long 1978[1823]:79fn2). While the exact location of the band's village changed over time, it is primarily associated with the plain occupied by modern-day Red Wing. This area of Red Wing is known to the Dakota as Rhemnicha or Khemnichan (hill-water-wood place or the hill that appears as it were in the water), a name that is associated with Barn Bluff. The village's proximity to the bluff, which is known in French as La Grange (Barn), is frequently noted in early accounts (Hodge 1907 v1:678; Hodge 1907 v2:365; Nicollet 1976:255).

While French fur traders explored the Mississippi River and established posts at Prairie Island and in the Lake Pepin area (Dobbs 1990b:64), the earliest accounts of the Dakota village at Red Wing date to the period of EuroAmerican exploration of the river valley. Explorer Zebulon Pike provides one of the earliest accounts of the Dakota village at Red Wing, which he encountered on September 18, 1805, while traveling up the Mississippi River. He places the location of the village at the junction with the Canoe (Cannon) River. Here, he says, "was a small band of Sioux, under the command of Red Wing, the second war chief in the nation" (Pike 1902:376). On September 23, the leader of this band, Tatankamani (Le Boeuf-qui-Marche, Walking Buffalo) was present at the signing of Pike's 1805 Treaty with the Sioux (Pike 1902:380fn, 381). Returning downriver the following spring, Pike stopped on April 13th at "the band of the Aile Rouge" and remained there for a day before departing on the 15th (Pike 1902:412). While at the village on the 14th, he "ascended a high hill called the Barn, from which we had a view of Lake Pepin. The valley through which the Mississippi by numerous channels wound itself to the St Croix; the Cannon River and the lofty hills on each side" (Pike 1902:413).

Twelve years later, when explorer Stephen H. Long traveled the Mississippi River in July of 1817, he encountered two villages in the Red Wing area. The village of "Red Wing, the elder," was located approximately a half-mile upstream from present-day Barn Bluff, while the "large encampment" of "Red Wing, the younger," was located farther downriver at Sand Point near present-day Frontenac (Long 1978[1823]:63-64; 64fn30, 81). In his journal entry of July 18, Long provides the following description of the village at Red Wing and nearby Barn Bluff (Long 1978[1823]:78-79):

We lay by a while at a Sioux Village 4 ½ miles above Lake Pepin in order to catch some fish, as we had nothing left of our Provisions but flour. Our whiskey also was all expended, & we had two hundred miles farther to go before we could obtain a fresh supply. Caught three very fine cat fish & killed a few pigeons.

The village was kept in very nice order, exhibiting more signs of a well regulated police than any one I have met with on the voyage, with the exception of the Little Raven's before mentioned. The name of the chief of this village is Red Wing the elder. He and all his band were on a hunting tour at the time we were there.

During our delay at this place, Mr. H[empstead] & myself ascended a hill about ½ mile far[ther] down the river called the Grange, or barn, of which it has some faint resemblance. Its length is ¾ mile & its height about 400 feet. Its acclivity on the river side is precipitous, that on the opposit very abrupt. It is completely insulated from the other hilands in the neighbourhood, which is also the case with many others within a moderate distance tho' not in quite so remarkable a manner; for this is not only surrounded by valleys, but is also nearly insulated by water, an arm or bay [Colvill Bay] of the river entering at the lower end of the hill & extending within 3 or 4 hundred yards of the river above.

Immediately upon the highest part of the Grange is one of the numerous artificial mounds that are to be met with in almost every part of the western world. Its elevation above its base, however, is only about 5 feet...

On August 19, 1819, Colonel Leavenworth's expedition to establish Fort Snelling stopped at Red Wing's village, but no description of the village or its setting was given (Forsyth 1880:153). In a separate letter, though, Thomas Forsyth, who was on the expedition, notes, "I next halted at a place called the Ground Barn, at the village of Red Wing..." (Forsyth 1880:165). The next year, Stephen Kearny was part of a party that arrived at the Red Wing village on the evening of July 22. He describes the village as having been "established about 10 years since" (Porter 1908:23).

Not even two weeks later, Henry Schoolcraft's expedition stopped at Red Wing's village on August 3. Schoolcraft states that the village is "handsomely situated on the west banks of the river, six miles above Lake Pepin" and "consists of four large, and several small lodges, built of logs" (Schoolcraft 1821:323). He also observed "several fine corn fields near the village" and "several buffalo skins which were undergoing the Indian process of tanning," which consisted of the hides being "stretched out upon the ground and covered with a decoction of oak and other bark" (Schoolcraft 1821:323). Like Long, Schoolcraft also climbed Barn Bluff, which he places "half a mile east of Red wing's village" and describes as "an isolated mountain, standing upon the brink of the river, called the Grange, from the summit of which you enjoy the most charming prospect" (Schoolcraft 1821:324). He further states, "The altitude of this mountain cannot fall short of eight hundred feet above the bed of the river. It presents an abrupt mural precipice towards the Mississippi, but slopes off gradually towards the south, and is covered with grass, and a few scattering oaks" (Schoolcraft 1821:324-325).

In 1823, Stephen H. Long again came up the Mississippi River. On the evening of June 20, the expedition camped "about 100 yards above Red-Wing's village" (Long 1978 [1823]: 149; Colhoun 1978 [1823]:273). Before departing on July 1, members of Long's party were invited to the chief's lodge, which is described as "a large bark cabin" (Colhoun 1978 [1823]:274). William H. Keating, who was also part of the Long expedition, published his own account, in which he describes Barn Bluff as "a singular hill" located "immediately below the village" (Keating 1824:286). Party member James

E. Colhoun's detailed description of the topography upon the departure of Long's group indicates that the village was located one mile to the east of present-day Hay Creek (Colhoun 1978 [1823]:278). The population of the village was estimated in 1823 to be 200 (Beltrami 1828:206). During the 1840s, lodges in the village numbered approximately 22 (Williams 1920:262), and they were arranged, according to missionary Joseph W. Hancock, "along the river bank near what is now Main street, between Bush and Potter streets" (Curtiss-Wedge 1909:530). A cemetery with scaffold burials was observed nearby (Folsom 1888:595-596). In 1849, the Dakota community was "cultivating considerable ground" (Williams 1920:262). The wattle-fenced cornfields extended "some sixty rods east and west" of the spring-fed creek, later known as the Jordan, which flowed through a ravine down to the river, where its mouth provided a harbor for canoes (Curtiss-Wedge 1909:530). The Mdewakanton Dakota village at Red Wing continued to be occupied until the Treaty with the Sioux of 1851 required the removal of its occupants in 1853 to the Lower Sioux Agency reservation in the Minnesota River valley.

EARLY EUROAMERICAN PRESENCE AT RED WING, 1836-1853

Missions at Red Wing

In 1836, the Committee of Missionaries of Lausanne, Switzerland, sent two French-speaking, Protestant missionaries, Daniel Gavin (Gavan) and Samuel Denton (Dentan), to work among the Dakota (Folwell 1921:203). In the spring of 1837, the Reverend Alfred Brunson, while ascending the Mississippi River on the steamboat *Pittsburg*, found that Gavin had established a mission at the mouth of the Trempeleau River, while Denton was located at the Dakota village at Red Wing (Brunson 1879:70, 74). Of Red Wing, Brunson wrote:

"The mission house was at the foot of a hill running some three or four miles down the river, a singular formation of nature, being one continuous ridge, nearly perpendicular on both sides. At the west or upper end is a cliff of perpendicular rocks, which, from its shape and size, is called "the barn rock."

Before settling at Red Wing, Denton married Paris Skinner, who had been working at the mission school at Mackinaw, and, in 1839, Daniel Gavin married Lucy Cornelia Stevens, of the Lake Harriet mission (Riggs 1894:134). From 1839 until 1845, both families resided at the Red Wing mission in "two substantial log houses" that are reported to have stood "near what is now Bush street, about one-third of the distance from Third to Main street" (Curtiss-Wedge 1909:529) or "near the junction of Bush and Third streets" (Curtiss-Wedge 1909:530) (Figure 6). Among the mission activities was a school for Indian children led by Mr. Gavin (Folsom 1888:595). In 1845, the poor health of Mrs. Gavin resulted in the departure of the Gavins from Red Wing (Riggs 1894:134; Folwell 1921:203). The Dentons remained through 1846, but also were soon forced to leave due to the failing health of Samuel Denton (Riggs 1894:134).

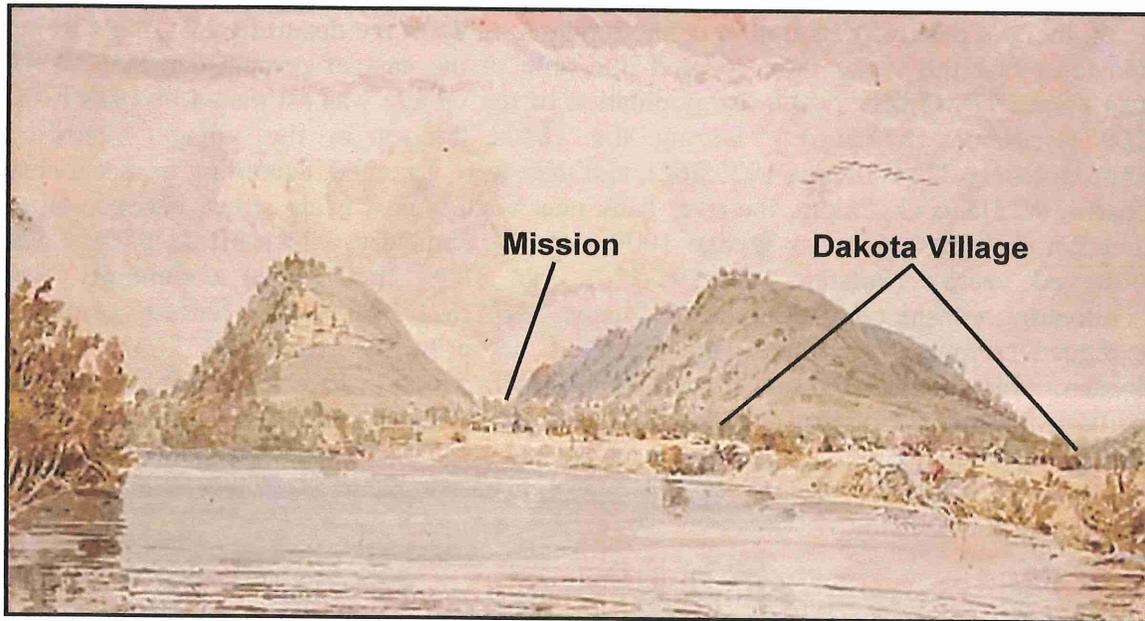


FIGURE 6. RED WING'S VILLAGE BY SETH EASTMAN, C. 1846-1848 (MHS NEG. NO. 12957)

In 1848, a new mission was begun at Red Wing under the auspices of the American Board of Commissioners of Foreign Missions (Folwell 1921:204). The Reverends Joseph W. Hancock and John F. Aiton were assigned to the mission (Riggs 1894:154; Folwell 1921:204). Aiton arrived before Hancock, who came with his wife and child in 1849 (Hancock 1893:49). It is not known how long John Aiton remained at Red Wing, as he is not recorded in the 1850 census of what was then Wabasha County in the Minnesota Territory. The Hancock household in that year consisted of Joseph (34) and his wife Martha (30), their two-year-old daughter, and their one-year-old son. Mrs. Hancock died the following March (Hancock 1893:52).² In 1853, when the Dakota people who resided at Red Wing were forced to remove to the Lower Sioux Agency in compliance with the 1851 Treaty with the Sioux, Joseph Hancock remained at Red Wing, where he organized and led the First Presbyterian church (Riggs 1894:155).

Government Farmer and Traders

According to the 1849 census of the Territory of Minnesota, a EuroAmerican population of 20 males and 13 females was residing at Red Wing by that year (Seymour 1850:280), near the approximately 22 Dakota lodges also present during this period (Williams 1920:262). Prior to the 1851 treaty, only those working amongst the tribes in an official capacity were permitted to be in the territory. Besides the aforesaid missionaries, the EuroAmerican population at Red Wing included John Bush, a government farmer assigned to the Dakota village, as well as traders. It is unclear when Bush's appointment began (Folsom 1888:595); however, he was at Red Wing by 1845 and continued in

² While Mrs. Hancock was initially buried near the mission house, her remains were later removed to Oakwood Cemetery (Hancock 1893:53, 54).

residence there through 1852, when his household consisted of his 27-year-old wife Charlotte, a 12-year-old by the name of Robert Baker, and a 27-year-old laborer named Louis Chavion (Hancock 1893:34).

The traders present at Red Wing included Joseph “Jack” Frazer, whose home was listed among the log buildings present at Red Wing in 1849 (Folsom 1888:595). Frazer was raised at the Mdewakanton Dakota village at Red Wing, being the son of a Scottish fur trader and a sister of Wacouta, leader of the Red Wing band (Gilman 2004:69). In July of 1846, Charles Lanman stayed at a trader’s cabin near Red Wing’s village, and although he does not give the name of the trader, it was likely Frazer (Lanman 1847:51). By 1850, Jack Frazer no longer resided at Red Wing, according to the census of that year; rather, John Snow was the licensed trader to the community (Hancock 1893:35). The Snow household in 1850 consisted of John (48), his wife, Dainthy (48), and his son, John G. (15), as well as Sarah A. Bennett (23) and her presumed two children, Hanah (2) and Mary (8 mos.). Snow built a “trading house of logs near the river, using the upper part for a residence, while in the lower part he kept his Indian goods for sale” (Curtiss-Wedge 1909:531). In 1851, Calvin Potter entered into partnership with Snow and took over the operation at Red Wing when Snow died of cholera on a trip to St. Paul (Curtiss-Wedge 1909:531; Hancock 1893:35, 41). With the removal of the Dakota upon the ratification of the 1851 Treaty, a trading post was no longer needed at Red Wing (Hancock 1893:35).

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HISTORICAL-PERIOD HISTORIC CONTEXTS

A variety of historical-period historic contexts have been created for the period of EuroAmerican settlement that commenced after the signing of the 1837 treaties in Minnesota. These contexts are temporal, regional, and thematic. The two statewide historic contexts developed by the MnSHPO for the historical period relevant to the Red Wing Bridge Project APE are “Early Agriculture and River Settlement, 1840-1870” and “Railroads and Agricultural Development, 1870-1940” (MnSHPO 1993).

EARLY AGRICULTURE AND RIVER SETTLEMENT, 1840-1870

Early EuroAmerican settlement in Minnesota and Wisconsin was concentrated along the rivers, which were not only a source of transportation, but also provided a source of power for mills. Townsites were formed along the rivers by speculators, townsite companies, and various groups, the latter often with a common ethnic or social heritage. Many of these towns became centers for the processing of agricultural products from the surrounding countryside, as well as offered a market for those products and a shipping point to other markets via the river.

The land that encompasses Red Wing was not available for EuroAmerican settlement until the 1851 treaties with the Dakota went into effect, yet as discussed in the preceding chapter, a small, permanent EuroAmerican presence was introduced at Red Wing in the several years prior to the treaty signings, as missionaries, government farmers, and traders established homes there. Then, in 1852, the EuroAmerican community at Red Wing experienced a sudden influx of land speculators anticipating the treaties' ratification. Claims were made by individuals such as the recently arrived John Day and Benjamin Young, as well as by those already present, such as John Bush and Calvin Potter. They were soon joined by William Sweney, his brother-in-law, William Freeborn, James McGinnis (McGuinness), and E. C. Stevens (Curtiss-Wedge 1909:532-533). The river facilitated the residence of those with intentions of speculation and permanency alike, allowing for the easy receipt of consumables and building materials from other locations as people established land ownership and sufficient living quarters. Andrus Durand, for example, had lumber brought down river from Stillwater to build Red Wing's first hotel, the Red House, at Main and Bush by the spring of 1853, giving new arrivals a place beyond tiny log cabins to reside while their homes were constructed (Curtiss-Wedge 1909:532-533) (Figure 7).

Among these new arrivals were a group of Scandinavians, the first EuroAmerican farmers without government ties in the county, who made their home in the adjacent township of Vasa beginning in August of 1853. Commercial farming was soon after begun within Red Wing proper and the surrounding rural areas (Curtiss-Wedge 1909: 534, 536), and the wheat grown in 1854 “was found to be of a most superior quality, and the marketing and shipping of this cereal gave Red Wing its first start as a business point” (Curtiss-Wedge 1909:537). According to Hancock (1893:187), by the late 1860s, Red Wing “was claimed to be the greatest primary wheat market in the world,” a claim

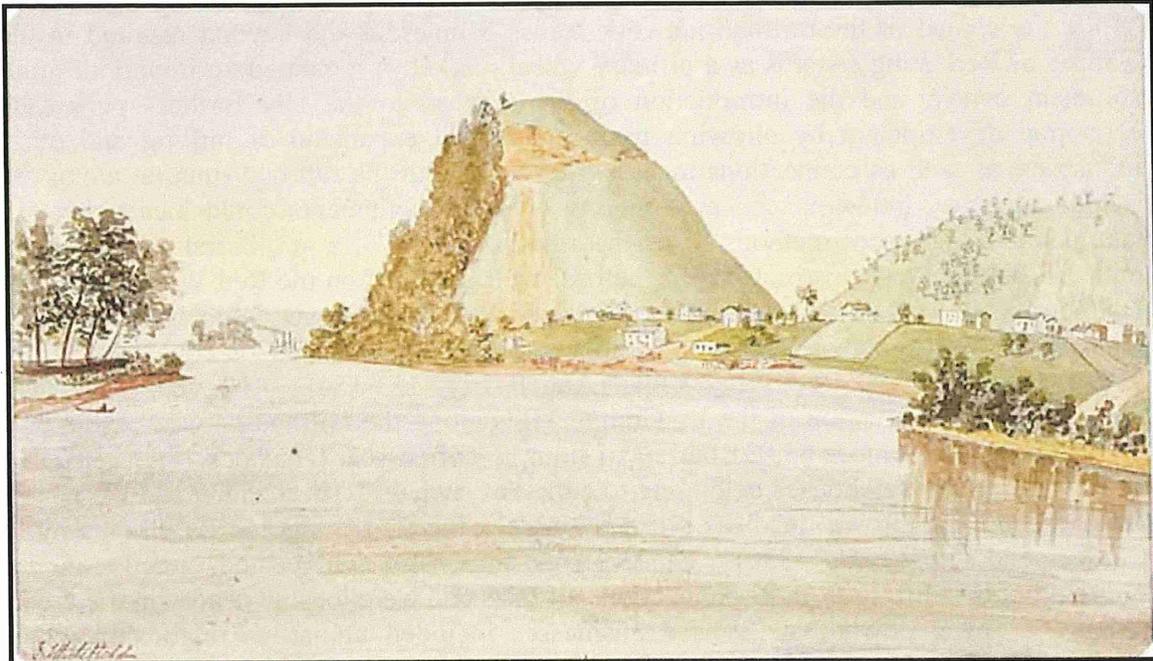


FIGURE 8. RED WING BY EDWIN WHITEFIELD, C. 1856-1859, (MHS NEG. NO. 53338)

Wing would rebound with the rest of the country (Curtiss-Wedge 1909:539-542). In the late summer of 1870, another wave of immigration brought over 1,000 new residents to the city, bringing its population to over 5,200 (Walker 1872:178; Angell 1977:149). This population by and large comprised Norwegian and Swedish immigrants, though strong German, British, and Canadian elements were also present (Angell 1977:150). With a sizeable population in place, and buildings containing everything from banks to billiard halls, churches to a courthouse, grocery stores to jewelry stores, and telegraph offices to newspaper offices (Curtiss-Wedge 1909:544-546), the urbanization of Red Wing was nearly complete by the end of the 1860s. In that era, however, what it needed to be considered truly citified was a railroad.

RAILROADS AND AGRICULTURAL DEVELOPMENT, 1870-1940

The City of Red Wing's earliest attempt at obtaining a railroad occurred during the 1863-64 fiscal year, when the city council "adopted a plan for surveying a railroad from Winona to St. Paul, the city offering to pay seven per cent interest to anyone who would advance money for the project" (Curtiss-Wedge 1909:552). Takers were apparently few, as the sum of \$700 raised was returned the following fiscal year (Curtiss-Wedge 1909:553). Within a few years, however, the St. Paul and Chicago Railroad Company had been incorporated to build a Mississippi River route from St. Paul to Winona, with construction beginning in St. Paul in 1869. This railroad connected Red Wing with Hastings in September of 1870, and was subsequently extended beyond Winona to La Crescent in 1872, just after the St. Paul and Chicago was purchased by the Milwaukee and St. Paul Railway Company. The Milwaukee and St. Paul became the CM&StP in 1874 (Prosser 1966:140, 158; Angell 1977:144).

While the spread of the railroad network across Minnesota and beyond resulted in the waning of Red Wing's status as a primary wheat market, it remained an important grain shipment center, and the introduction of the railroad to the city further spurred its economic development by allowing for a substantial expansion of milling and other industries, as well as connections to new markets. With the railroad running along the steamboat levee, industrial concerns relying on heavy shipments could locate there to take advantage of both methods of transportation. In 1873, a 400-barrel-per-day flour mill, Bluff Mill, was constructed near the base of Barn Bluff on the Red Wing side. The Diamond Mill, with a capacity of 600 barrels per day, was built nearby in 1877, as was a 150,000-bushel warehouse connecting the two mills, which would be consolidated the following year as the Red Wing Mills (Angell 1977:153-154). The year 1877 also witnessed the construction of the La Grange Mills along the railroad between Plum and Bush streets, which made 63,031 barrels of flour in its first year (Hancock 1893:218). By 1880, large grain warehouses belonging to concerns such as T. B. Sheldon and Company and Hubbard and Brown lined the railroad between the Red Wing and La Grange mills (Shober and Carqueville 1880). Other 1870s enterprises not located directly on the railroad but benefitting from its connections all the same were located nearby in the city's quickly growing downtown. These businesses included numerous retail stores that received their wares via the railroad, factories that obtained raw materials and shipped finished goods via rail, and hotels to which the passenger cars brought a substantial clientele. Of note is the St. James Hotel, financed through a joint stock company by citizens of Red Wing and completed in 1875, after being deemed necessary to reflect the city's status as "one of the leading business centers of Minnesota and the Northwest" (Angell 1977:154).

The riverside line was part of the CM&StP main line from Chicago, and by the early 1880s, it extended beyond Minneapolis to South Dakota (Prosser 1966:12), linking Red Wing not only to the urban centers of the Twin Cities and Chicago, but also to inland agricultural markets and wheat sources to the west. In 1884, the CM&StP completed a branch line from Red Wing (Cannon Junction) to Northfield. Likewise, the Minnesota Central Railroad Company built a line from Red Wing to Waterville in 1882, and the Duluth Red Wing and Southern Railroad Company (both later purchased by the Chicago Great Western) completed a line from Red Wing Junction to Zumbrota in 1889 (Prosser 1966:131, 221).

Coinciding with the expansion of Red Wing's railroad network was an expansion in its manufacturing interests, which continued into the turn of the twentieth century, minus the approximately four-year period affected by the Panic of 1893. The period between 1880 and 1900 witnessed reflections of the economic strength of Red Wing's industrial sector, such as the formation of the Red Wing Manufacturing Company in 1882; a successful lime and stone industry, between the establishment of the Twin City Lime and Cement Company in 1890 and the expanded operations of Gustaf A. Carlson, who ran spur lines to the railroad from his two stone quarries and twelve lime kilns; the 1885 reconstruction of the La Grange Mills after an 1883 fire took its main competitor, the Red Wing Mills, leading to an expanded production rate of over 200,000 barrels per year in the 1890s; and the establishment of the advertising paraphernalia manufacturer Sultzer, Shedd &

Livingston, predecessor to the Red Wing Advertising Company (1902), whose flood of business necessitated moving six times in ten years, until the company constructed a large, four-story building at the intersection of Potter and Main in 1905 (Hancock 1893:218, 220; Curtiss-Wedge 1909:633, 968; Angell 1977:172, 174-176, 202).

The period between 1880 and 1900 additionally saw the city's first creamery, built in 1885 and not a moment too soon, as a series of chinch bug invasions beginning in that year forced a transition by the area's farmers from a concentration on wheat to diversified farming. By the mid to late 1880s, dairy farming was a solid component of this diversification, which also included the cultivation of crops like oats, potatoes, and flax, crop rotation between grains and plants such as clover and timothy, and a substantial growth in the raising of livestock (Rasmussen 1933:129-130, 136, 149-150; Angell 1977:233). As Red Wing transitioned into the twentieth century, barley became a major focus of farming in the area, overtaking wheat for several years as the major crop in Goodhue County (Angell 1977:248). The raising of other crops in addition to wheat was such a success that three new, large grain processing plants joined La Grange Mills along the railroad in 1901, these belonging to the Red Wing Linseed Mills, the Red Wing (later Fleischmann) Malting Company, and the Simmons (later Red Wing) Milling Company (Curtiss-Wedge 1909:635; Rasmussen 1933:156). The addition of these plants likely played into the decision by the CM&StP to build a separate passenger depot and replace the former combination depot with a freight house in 1904.

Despite the success of diversified farming, its practice in the vicinity of Red Wing was largely abandoned during World War I due to the promotion of and higher prices realized of wheat and the push for associated products. The shift back to wheat without appropriate rotation, however, had a deleterious effect on the soil quality in Goodhue County, and it therefore ended shortly after the war did (Angell 1977:273). At that time, steamboats largely were phased out, leaving the railroads to do the bulk of grain transportation and other types of shipments in and out of Red Wing.

During the time that diversified farming was on the rise before the turn of the century and into the war era, Red Wing's commercial sector underwent some fluctuation before settling into a pattern of general stability. Although the built environment of downtown Red Wing was largely filled in by the 1880s (Shober and Carqueville 1880), fire insurance maps dating to 1884 and 1891 show that sometime between those years, a relatively high number of its commercial buildings were vacated. On Block 39, for example, which was one of the worst cases, 10 of the 24 commercial addresses that had been occupied in 1884 were vacant in 1891, some of which were then demolished before 1895 (Sanborn 1884, 1891, 1895). Shortly thereafter, though, the commercial area was revived, and it continued to thrive and provide diverse goods and services beyond the First World War and into the late 1920s (Sanborn 1902, 1910, 1917, 1927).

As the 1920s drew to a close, Red Wing, like the rest of the country, was staring into the Great Depression, although it did not have a strong effect there until the local population began to run out of its conserved finances in 1931 (Rasmussen 1933:203-204). Even then, the industrial sector remained viable; although work forces were reduced, none of

the city's major industries were forced to shut down, though the Red Wing Advertising Company came close (Angell 1977:306, 309-310). Thanks to the continuation of the grain processing plants, the economy of Red Wing received a major boost with World War II, but it did not only assist agricultural interests. Other Red Wing industries were also called upon for increased wartime production, such as Meyer Machine and the S. B. Foot Tanning Company, and as the economy recovered during the 1940s, 26 new commercial or service enterprises made Red Wing their home (Angell 1977:340, 344).

NORTH OF THE RIVER SUB-AREA

The North of the River sub-area is that largely undeveloped portion of the APE located to the north of the state line, which is within the Mississippi River (Figure 9). The field assessment of the North of the River sub-area was conducted on March 3 and 4, 2011. The Foth Principal Investigator for geomorphology, Dr. Curtis Hudak, directed the coring.

PRECONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

Historical maps indicate that until fill was brought in to create the causeway through Mud Lake in the early 1960s, the northernmost portion of the sub-area, which follows the causeway, was entirely within the lake, while the southernmost portion of the sub-area has always been within the Mississippi River (GLO 1848; Nash and Morgan 1878; MRC 1895; Rhame 1930; Rockford Map Publishers 1960, 1965). Both of these locations are therefore considered to have little to no potential for containing precontact archaeological sites.

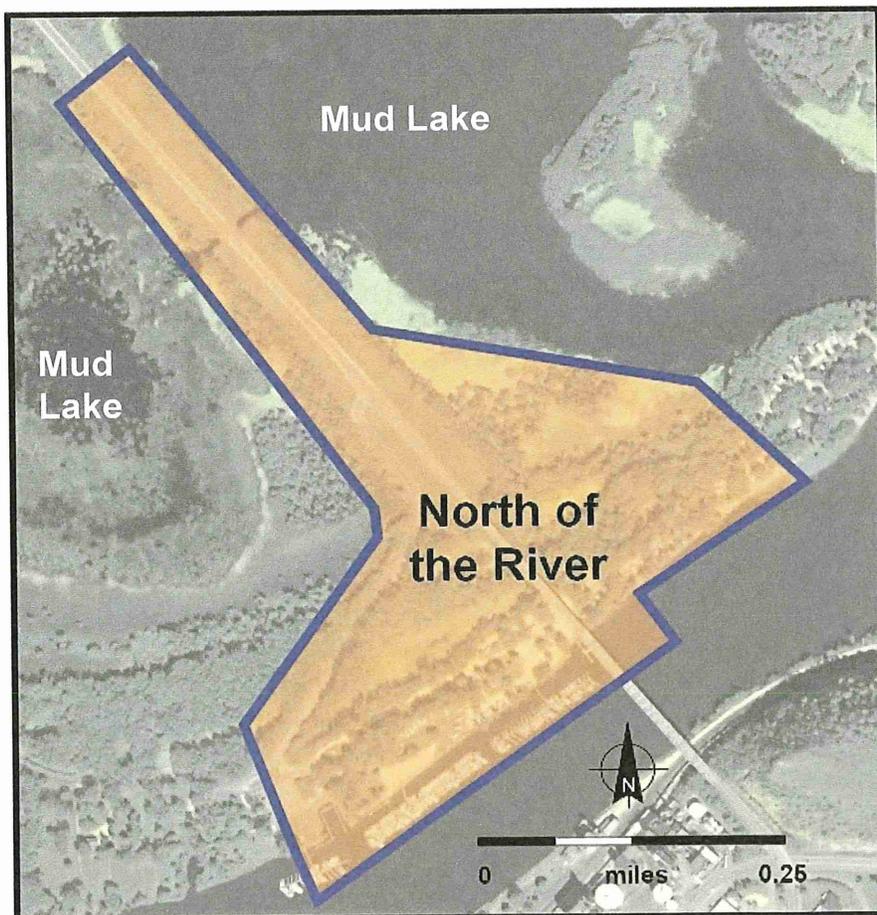


FIGURE 9. NORTH OF THE RIVER SUB-AREA

The south-central portion, in between the two bodies of water, is a thin, band of land slightly higher in elevation than the two water bodies and constituting part of an island, a portion of which is currently inundated and may have been dredged to create the Mud Lake causeway. Although this island has certainly been flooded over the years, if it experienced dry episodes during the precontact period, it may have been a desirable location for occupation, given its proximity to water. While no precontact archaeological sites have been identified within the sub-area, Brower did document a series of pit features along the west edge of Mud Lake (see Figure 4).

As geologic core locations were limited to public property and easements, the core taken to characterize this sub-area, 11GD-01, was located on the causeway across Mud Lake. This core, unsurprisingly, provided no strong indicators of the potential for precontact archaeological deposits; while Foth notes the possibility for precontact or historical-period materials to be present in the 1-2 m (3-7 ft.) of deposits below the road fill, they also note that these deposits “may be dredged materials placed here to help lower sags in the island landscape, or channel deposits” (Hudak 2011:15).

Based, however, on the overall characteristics of the floodplain landform sediment assemblage, Foth concludes that the “near surface for the remaining majority of the floodplain landform sediment assemblage (away from the road fills) may contain either late prehistoric or historic materials” (Hudak 2011). Based on these findings and those of the literature search, the non-inundated, south-central portion of the North of the River sub-area is considered to have moderate to high potential for containing precontact archaeological resources.

CONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

As with the precontact period, the portions of the North of the River sub-area within Mud Lake and the Mississippi River are considered to have little to no potential for containing contact-period archaeological sites. If the portion, however, of the sub-area between these two water bodies did experience drier episodes, it may have been desirable for occupation, given its proximity to the two water sources.

Fieldwork conducted by Foth (see above) indicates that the south-central portion of the North of the River sub-area, that area located between the Mississippi River and Mud Lake, has the potential to contain contact-period archaeological deposits. Historical research, however, particularly that focused on early explorers’ records, provides no indication of a contact-period occupation in this location, and in fact, places contact-period occupations in the vicinity on the Red Wing side of the river, resulting in a somewhat mitigated potential. The non-inundated part, therefore, of the south-central portion of the North of the River sub-area is considered to have moderate potential for containing contact-period archaeological sites.

HISTORICAL-ARCHAEOLOGICAL POTENTIAL

As with the earlier periods, the portions of the North of the River sub-area within Mud Lake and the Mississippi River are considered to have little to no potential for containing historical-period archaeological deposits. The remaining portion, however, of the sub-area is within a location historically known as Trenton Island, which was occupied by at least three saloons and a brothel in 1908, and other “resorts” for at least 25 years prior, the island having been accessed via ferry prior to the construction of a wagon bridge over the Mississippi in 1895 (*Red Wing Republican Eagle* 1908; Rasmussen 1933:129). An 1890s MRC map shows a series of buildings on the island, at least three of which are located in the APE, while earlier panoramic maps show two (Ruger 1868) and three or four (Shober and Carqueville 1880) buildings in the APE on the north side of the river (Figure 10). The island apparently continued to serve as a recreational site during the historical period, including possibly harboring bootlegging operations during Prohibition (Island Camping and Marina 2012).

Fieldwork conducted by Foth (see above) indicates that the south-central portion of the North of the River sub-area, that area located between the Mississippi River and Mud Lake, has the potential to contain historical-period archaeological deposits. These findings, combined with the results of the literature search, indicate that the south-central portion of the North of the River sub-area has high potential for containing historical-period archaeological sites.

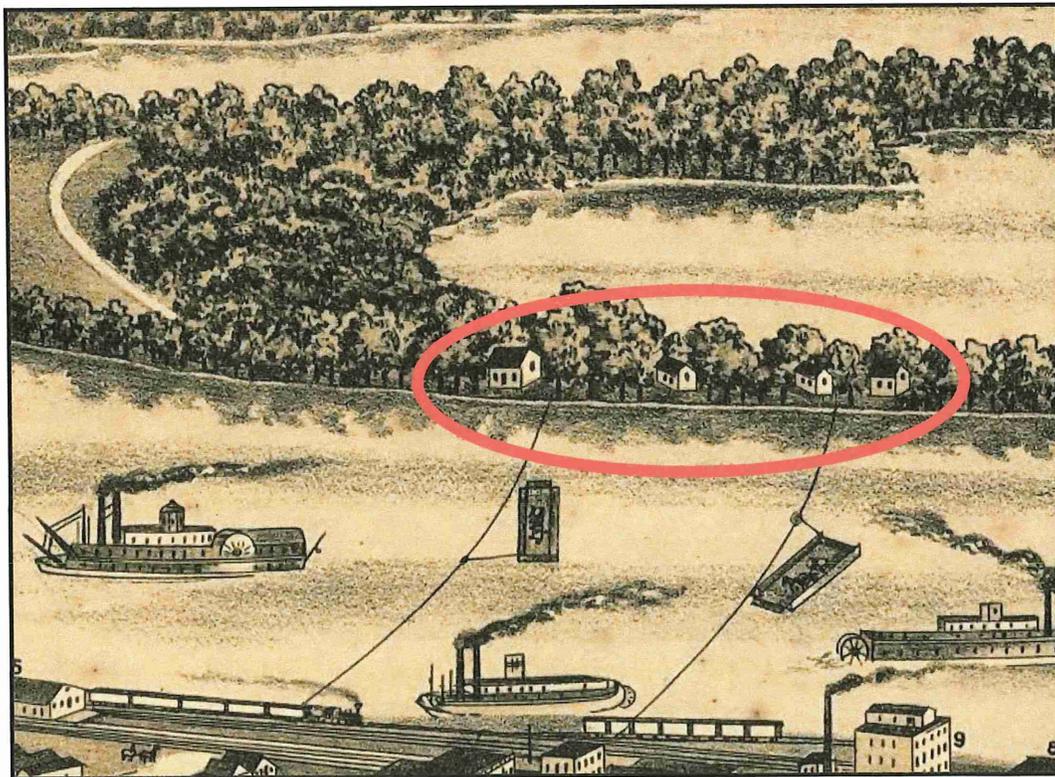


FIGURE 10. 1880 PANORAMIC IMAGE DETAIL SHOWING BUILDINGS ON NORTH SIDE OF RIVER (CIRCLED)

RECOMMENDATIONS

Due to the moderate to high potential of the south-central portion of the North of the River sub-area for containing precontact-period, contact-period, and historical-period archaeological sites, it is recommended that this area be subject to a Phase I archaeological survey, possibly to include deep testing, if it is to be impacted by bridge construction activities (Figure 11).

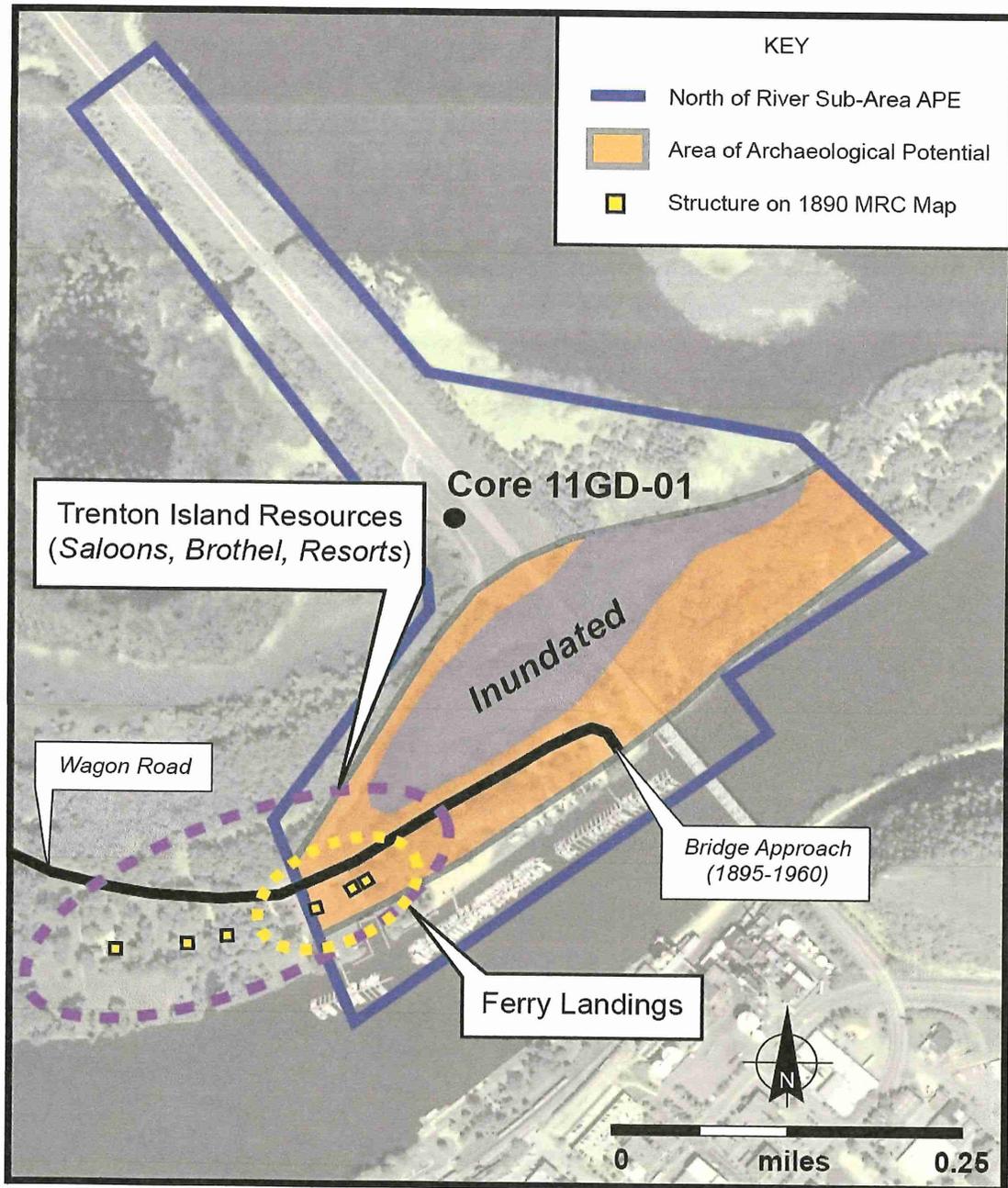


FIGURE 11. NORTH OF RIVER SUB-AREA ARCHAEOLOGICAL POTENTIAL

LEVEE SUB-AREA

The Levee sub-area is that portion of the APE that was historically oriented toward river and railroad transportation. It includes the north halves of Blocks 41-46, which historically housed industrial concerns, and extends north through the railroad corridor and levee area to the state line (Figure 12). The field assessment of the Levee sub-area was conducted on March 1, 2011, directed by the Foth Principal Investigator for geomorphology, and on June 21, 2011, directed by the Two Pines Principal Investigator for archaeology, Michelle Terrell.

MODIFICATION OF THE RED WING WATERFRONT

Historical research indicates that much of the land mass within the Levee sub-area is artificial. At the time of initial EuroAmerican settlement, the natural riverbank sloped down to the river (see Figures 6 and 8). Missionary Joseph Hancock wrote that the “only road up the riverbank seemed a sort of gully through a thicket of bushes,” while the mouth of a natural creek informally known as the Jordan provided the “safest harbor for canoes” (Curtiss-Wedge 1909:330). According to the 1856 GLO survey map, the original shoreline approximated the location of the southern edge of the current rail corridor (Figure 13). Historical photographs from the 1860s show the buildings located along the north edge of Blocks 41-44 fronting directly on the river (Figure 14).

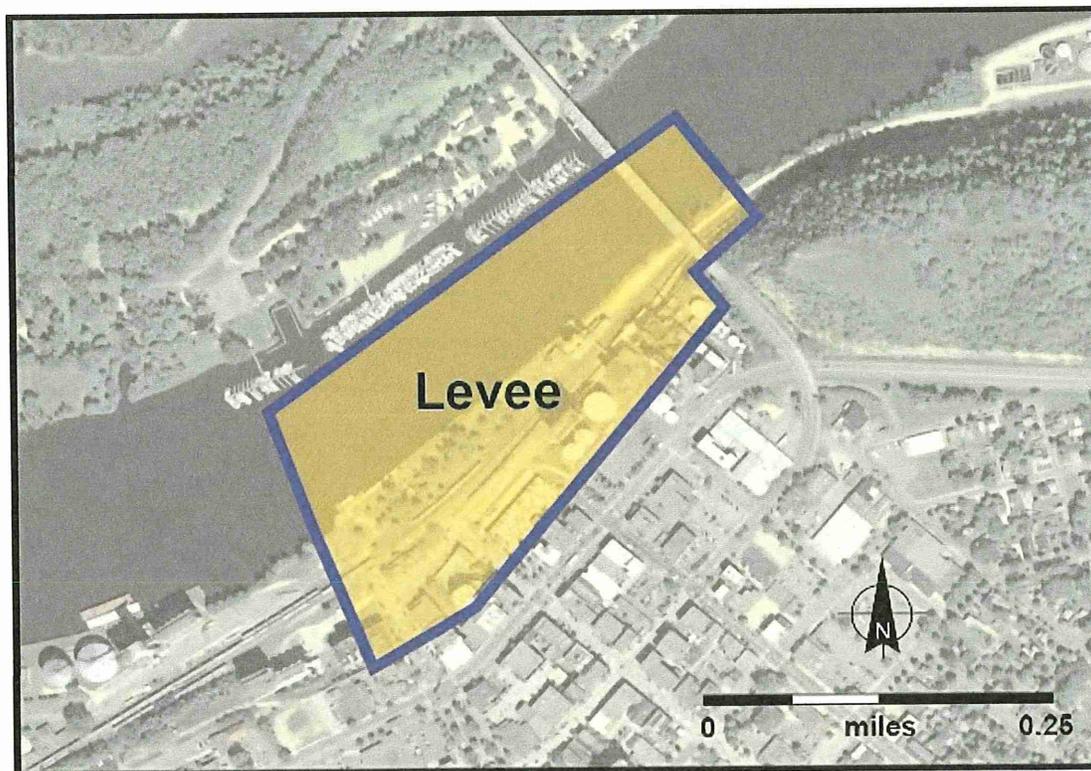


FIGURE 12. LEVEE SUB-AREA

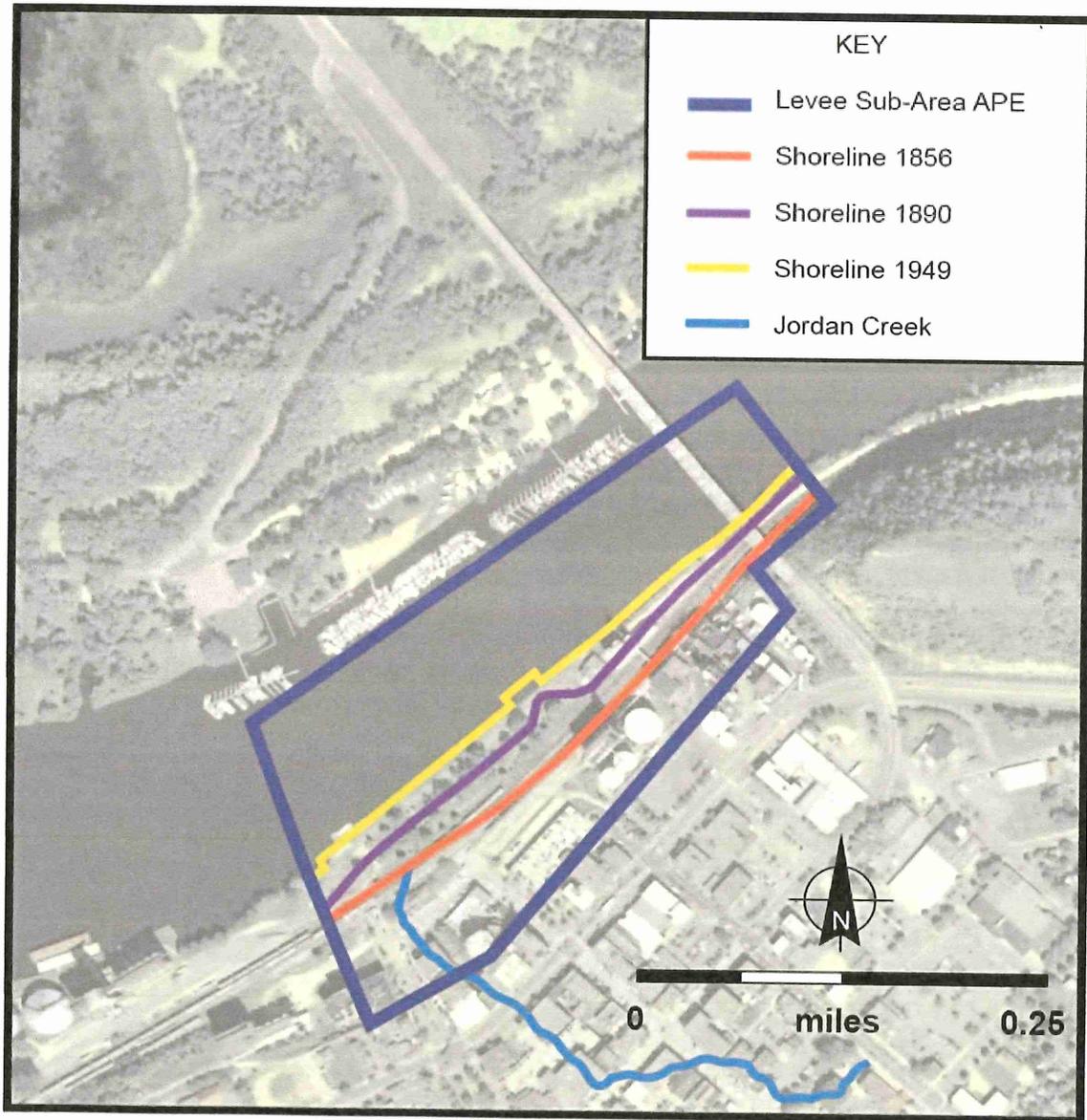
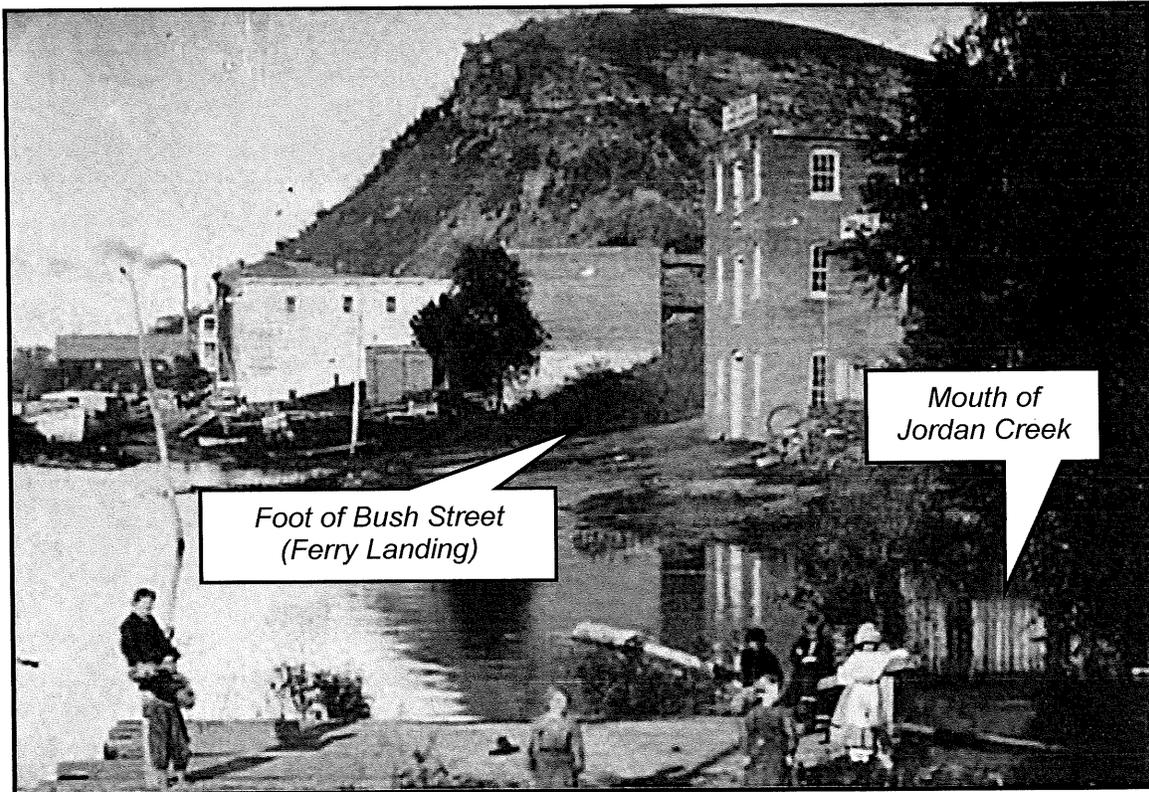
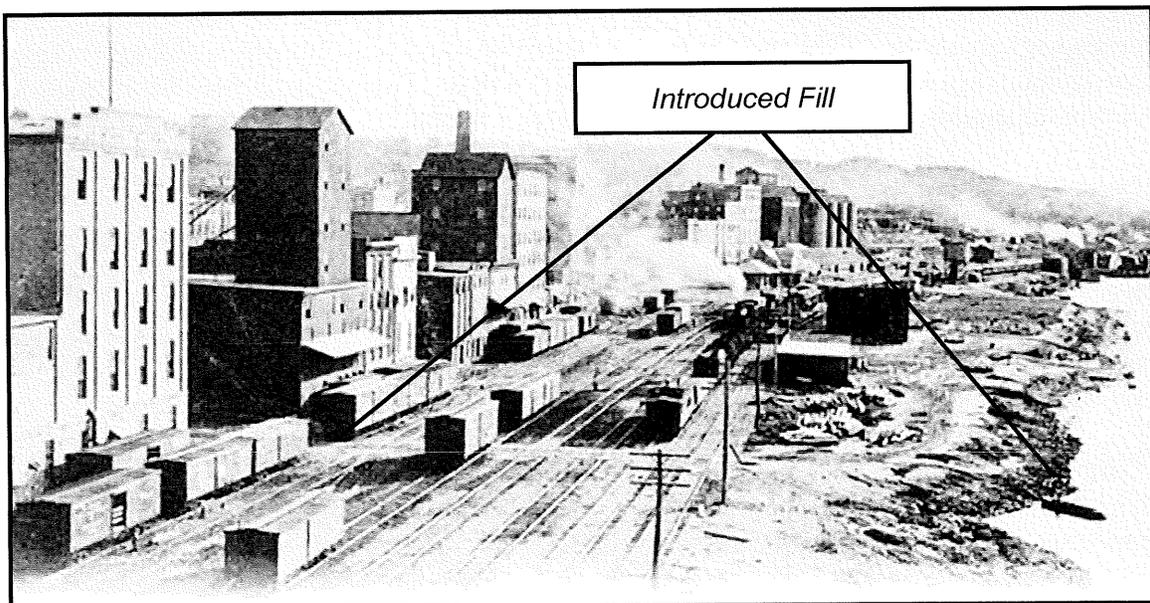


FIGURE 13. ALTERATIONS TO RED WING SHORELINE

The low ground within Block 44 through which the Jordan Creek flowed was eventually filled. Efforts to underground and fill the creek channel commenced in 1858 (Rasmussen 1933:77). Later in the nineteenth century, the Red Wing riverfront was expanded beyond the natural levee through the introduction of fill in order to provide level acreage for railroad lines (Figure 15). The levee was further expanded into the Mississippi River when Levee Park was constructed in 1904-1905 (Angell 1977:239) through the introduction of substantial amounts of fill. Today, the former riverbank is occupied by the northern halves of Blocks 41-46.



**FIGURE 14. RED WING RIVERFRONT WITH MOUTH OF JORDAN CREEK AT RIGHT, 1860S
(MHS NEG. NO. 64113)**



**FIGURE 15. MILLS ON THE RED WING RIVERFRONT, C. 1900
(MHS LOCATION NO. FERRELL III.201)**

PRECONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

Historical research indicates that the northernmost portion of the Levee sub-area, which is located in the Mississippi River, has always been located in the Mississippi River. It also confirms that that portion of the levee north of the current railroad corridor is entirely artificial. The portion of the Levee sub-area encompassing the entirely artificial portion of the levee and extending north to the state line therefore would be considered to have low potential for containing precontact archaeological sites.

To the south beyond the entirely artificial portion of the levee is that portion of the sub-area consisting of the natural riverbank and adjacent terrace. Although this portion of the sub-area surely experienced periodic flooding during the precontact period, during dry periods it may have been desirable for occupation, given its proximity and topographic relationship to the Mississippi River, with the terrace, particularly near Jordan Creek, being most suitable to habitation. In 1902, Brower examined pit features along the terrace edge just to the west of the APE, which contained pottery sherds indicative of a Late Prehistoric (Silvernale) occupation (see p. 25). Furthermore, the terrace is known to be the site of a Mdewakanton Dakota village during the contact period (see below). The likelihood, however, of intact, precontact-period resources to be present in the Levee sub-area is dependent on the extent of earth-moving disturbance that occurred during urban development, including railroad construction and levee modification, and whether potential resources were protected from such disturbance by prior alluvial deposition or introduced fill.

As geologic core locations were limited to public property and easements, the geologic core taken to characterize this sub-area, 11GD-02, was located north of the railroad right-of-way (ROW) and within Levee Park. This core indicated limited potential for precontact archaeological deposits, as it revealed the presence of artificial fill layers over subaquatic depositional layers (Hudak 2011:17-18). This core, however, is located within the entirely artificial portion of the levee.

An archaeological core, Core 2A, was also taken in this sub-area, in the more southerly location of a former railroad spur line near Levee Street, just north of Block 44 (Figure). This core also suggested low potential for precontact archaeological deposits, as it revealed railroad construction deposits and historical-period fill over stream deposits. It was, however, proximate to the location of the creek that was present historically, and the soil profile of the core indicates that it is within the creek, a location that would not be expected to contain archaeological sites.

That the natural levee and the terrace contain precontact archaeological deposits cannot be ruled out on the basis of the cores taken. Based, therefore, on its proximity and topographic relationship to the Mississippi River and the creek, the southern portion of the Levee sub-area is currently considered to have moderate to high potential for containing precontact archaeological sites.

CONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

As with the precontact period, the portion of the Levee sub-area within the Mississippi River and the entirely artificial portion of the levee are considered to have little to no potential for containing contact-period archaeological sites. The southern portion however, of the sub-area includes part of the river terrace, which is known to have been the site of a Mdewakanton Dakota village.

A Dakota village was recorded at Red Wing as early as 1805 and continued to be occupied until the Treaty with the Sioux of 1851 required the removal of its occupants in 1853 to the Lower Sioux Agency reservation in the Minnesota River valley. During the first quarter of the nineteenth century, Long in 1817 and Schoolcraft in 1820 describe the village as being a ½ mile from Barn Bluff, and Colhoun places it a mile to the east of present-day Hay Creek (Schoolcraft 1821:324; Long 1978 [1823]:78-79; Colhoun 1978 [1823]:278). This location would be near the center of Section 30 and along the west edge of the project APE, which is the general area where Eastman's painting from the late 1840s also places the village (Figure 16 – Dakota Village I). Contact-period artifacts (“old fashioned blue dishes” and “decayed tinware”) found within pit features proximate to the Chicago Great Western railroad (to the west of Broad Street) are likely related to this village location (Brower 1903:65-66).

During the mid-nineteenth century, however, Joseph Hancock, who came to the village in 1849 as a missionary, recorded that the Dakota lodges “stood along the river bank near where Main street now occupies, between Bush and Potter streets” (Hancock 1893:50) (see Figure 16 – Dakota Village II). Most likely the village was near a natural spring-fed creek indicated on the 1856 plat of Red Wing (Smith, Towne & Co. 1856). This location is supported by an account of Alfred J. Hill, in which he notes the presence of, “a small ravine or coulee which ran through Red Wing's village, and in 1854, when I lived there, was called the Jordan. It only headed a few blocks back, and is now doubtless a sewer or filled up” (Coues 1895:70 fn68) (see Figure 16 - Creek). The mission buildings consisted of “two substantial log buildings a few rods in the rear of the native houses” (Curtiss-Wedge 1909:530) (see Figure 16 – Mission Buildings). They were “near what is now Bush street, about one-third of the distance from Third to Main street” (Curtiss-Wedge 1909:529) or “near the junction of Bush and Third streets” (Curtiss-Wedge 1909:530). The ravine of the creek was “just back of the mission houses” (Curtiss-Wedge 1909:530). Locational information on the homes of these early settlers is limited, but both were proximate to the Mdewakanton Dakota village.

The fieldwork conducted by Foth (see above) and Two Pines, along with historical research, indicate that the potential for the natural portion of the Levee sub-area to contain contact-period archaeological deposits cannot be ruled out on the basis of the cores taken. Based, therefore, on the known Dakota occupation of the terrace just south of the Levee sub-area and the historical identification of contact-period subsurface features to the west, the southern portion of the Levee sub-area is considered to have moderate to high potential for containing contact-period archaeological sites. Like the precontact-period resources, whether intact resources from the contact period are present

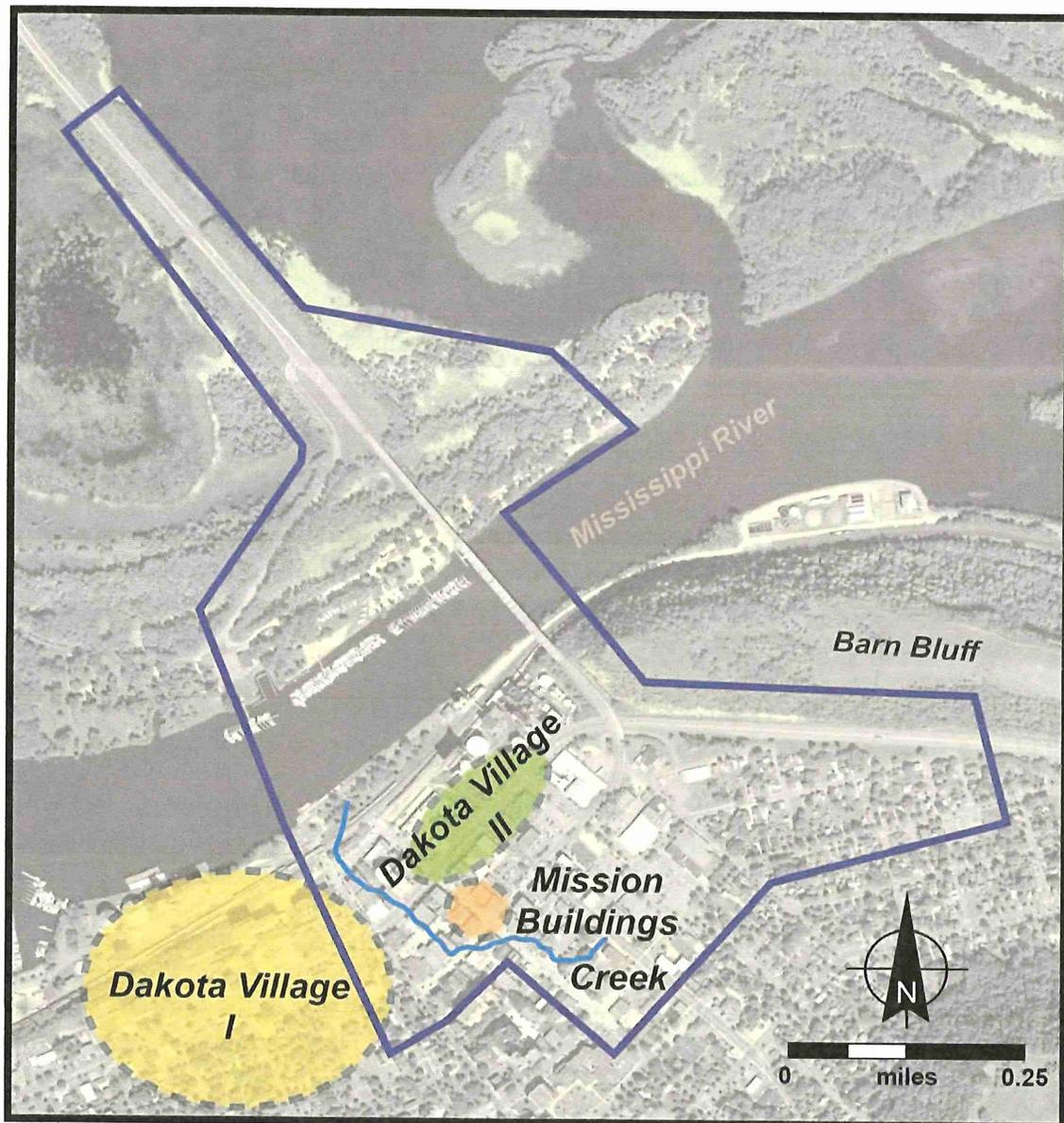


FIGURE 16. POTENTIAL CONTACT-PERIOD RESOURCES WITHIN AND PROXIMATE TO THE APE

within the Levee sub-area is dependent on the extent of earth-moving disturbance that occurred during urban development, including railroad construction and levee modification, and whether potential resources were protected from such disturbance by prior alluvial deposition or introduced fill.

HISTORICAL-ARCHAEOLOGICAL POTENTIAL

As with the earlier periods, the portion of the Levee sub-area within the Mississippi River and Levee Park are considered to have little to no potential for containing historical-period archaeological sites. The remainder of the Levee sub-area has been part of the

core of Red Wing's industrial and transportation operations since the mid nineteenth century, and includes the locations of former ferry and steamboat landings, railroad-associated buildings and structures, and buildings and structures associated with industrial concerns.

An 1894 map places landings for parallel ferry crossings at the feet of Broad and Bush streets (Foote 1894); this location is also indicated as the southwest end of the steamboat landing on an 1868 map (Ruger 1868). The earlier map depicts a large building, possibly a freight building, at the foot of Broad Street, and later fire insurance maps show a two-story dwelling and associated structure there, presumably the home of the ferry operator (1884-1895). Fire insurance maps also depict the portion of the Levee sub-area between the industries and the river as containing a two-story warehouse of the La Grange Mills (1884-1895) and a one-story freight shed and associated small one-story structure (1884-1895), both near the foot of Plum Street; two one-story fisherman's dwellings, one with an associated small, one-story structure and both with several associated boat houses, at the Bush Street ferry crossing (1895-1902); a small, one-story structure labeled "flag man" (1917) and a one-story steamboat line freight house, later just called a "boat landing" (1917-1943), at the foot of Potter Street, and a one-story warehouse, possibly associated with the Red Wing Mills, between Bluff and Potter (1884). With the exception of those at the foot of Potter Street and the Red Wing Mills warehouse (all of which are now within the footprint of Archer Daniels Midland's (ADM) riverside facilities), the locations of these buildings and structures are within the current railroad ROW, which was historically CM&StP trackage.

Historical fire insurance maps show that railroad buildings and structures within the Levee sub-area included the 1904 CM&StP passenger depot, which is extant; a water tank, tool shed, and two one-story structures near the end of Broad Street (1884-1895); an additional one-story structure, a stone artesian well, and derrick platform near the other railroad facilities at the end of Broad Street (1891-1895); a one-story structure, located on a siding that ran by Levee Park (1910); the east end of the CM&StP freight house (1910-1943); three small one-story structures, one of which is labeled as a hand car shed, near the end of Bluff Street (1917-1943); and a one-story cement warehouse (1943). Additionally, a railroad pump house, which is extant, is shown in the southwest corner of Levee Park (1910-1943).

South of the rail corridor, the northern halves of Blocks 41-46 within the APE were historically occupied and in-filled almost entirely by buildings and structures associated with industries such as the Red Wing Mills, La Grange Mills, Red Wing Linseed Mills, Simmons Milling Company, Red Wing Iron Works, and various grain storage and shipment companies (Figure 17). Among these buildings was the Red Wing Sawmill, located at the foot of Bluff Street. The sawmill, built in 1865, was closed by 1884 and abandoned in 1891 (Sanborn 1884, 1891). The mill was removed by 1895 when the new bridge approach was constructed through its former location. The area of the sawmill is currently occupied by structures of the ADM complex.

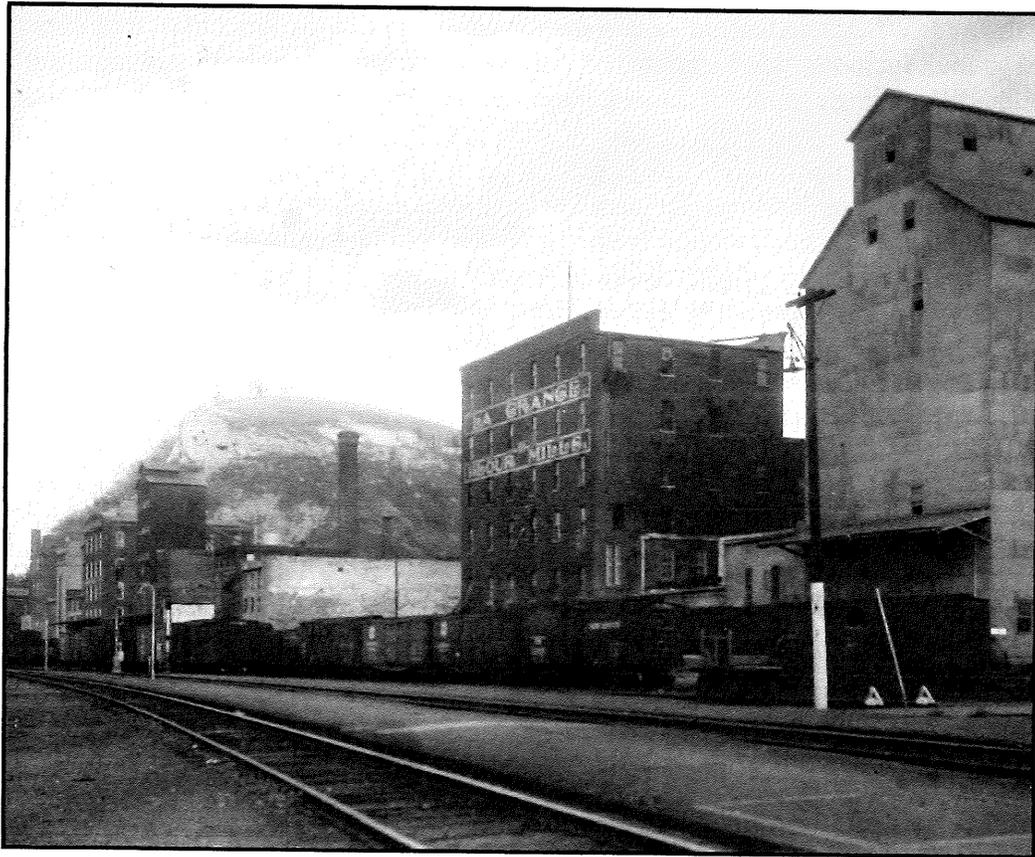


FIGURE 17. LA GRANGE FLOUR MILLS AND OTHER LEVEE INDUSTRIES, C. 1920

In the area south of Levee Park and north of Blocks 41-46, the Levee sub-area is largely occupied by railroad tracks, although the edges of newer industrial facilities are also present. Due to the frequent historical practice of using fill to cover over the remnants of demolished buildings and structures rather than removing them in their entirety, archaeological resources may be capped by the railroad corridor, which is known to contain fill.

Archaeological Core 2A was advanced in the southern part of the railroad corridor, in a parking lot where trackage previously existed. This core contained a succession of historical-period deposits beginning at 50 cmbs, including a cinder-laden, railroad-associated fill, a structure-related layer of limestone and mortar, a potentially organic soil, and over 1 m (3.3 ft.) of fill used to raise the elevation of the landscape prior to construction of the structure. The structural remains encountered in this core may be related to a platform for a trackside derrick documented near this location on the 1895 Sanborn map. Based on the presence of these deposits, the portion of the Levee sub-area south of Levee Park and north of Blocks 41-46 is considered to have high potential for containing historical-period archaeological resources.

South of the historical railroad corridor, between Levee and Main streets, the built environment of the Levee sub-area has been modified since the historical period through the removal of many historical industrial facilities, but the layout remains fairly similar. While modern parking ramps and newer industrial facilities have taken up the locations of the historical industrial concerns, no evidence is present to indicate that these more recent elements of the built environment include substantial subsurface construction; therefore the northern halves of Blocks 41-46 are considered to have high potential for containing historical-period archaeological resources. Testing to confirm the presence or absence of historical-period deposits within the northern halves of Blocks 41-46 could not be conducted during the current study. Only one open space was present on these blocks, consisting of a parking lot and driveway on Block 44. The marking of underground utilities just prior to the field assessment identified storm water and sewer lines running throughout this open space, which prevented coring.

RECOMMENDATIONS

Due to the moderate to high potential of the southern portion of the Levee sub-area for containing precontact-period, contact-period, and historical-period archaeological sites, it is recommended that this area be subject to a Phase I archaeological survey if it is to be impacted by bridge construction activities (Figure 18). However, due to the substantial railroad and industrial construction that has occurred in this location, the survey would need to include intensive, regularly spaced coring to determine whether any deposits potentially dating to the precontact or contact period remain intact.

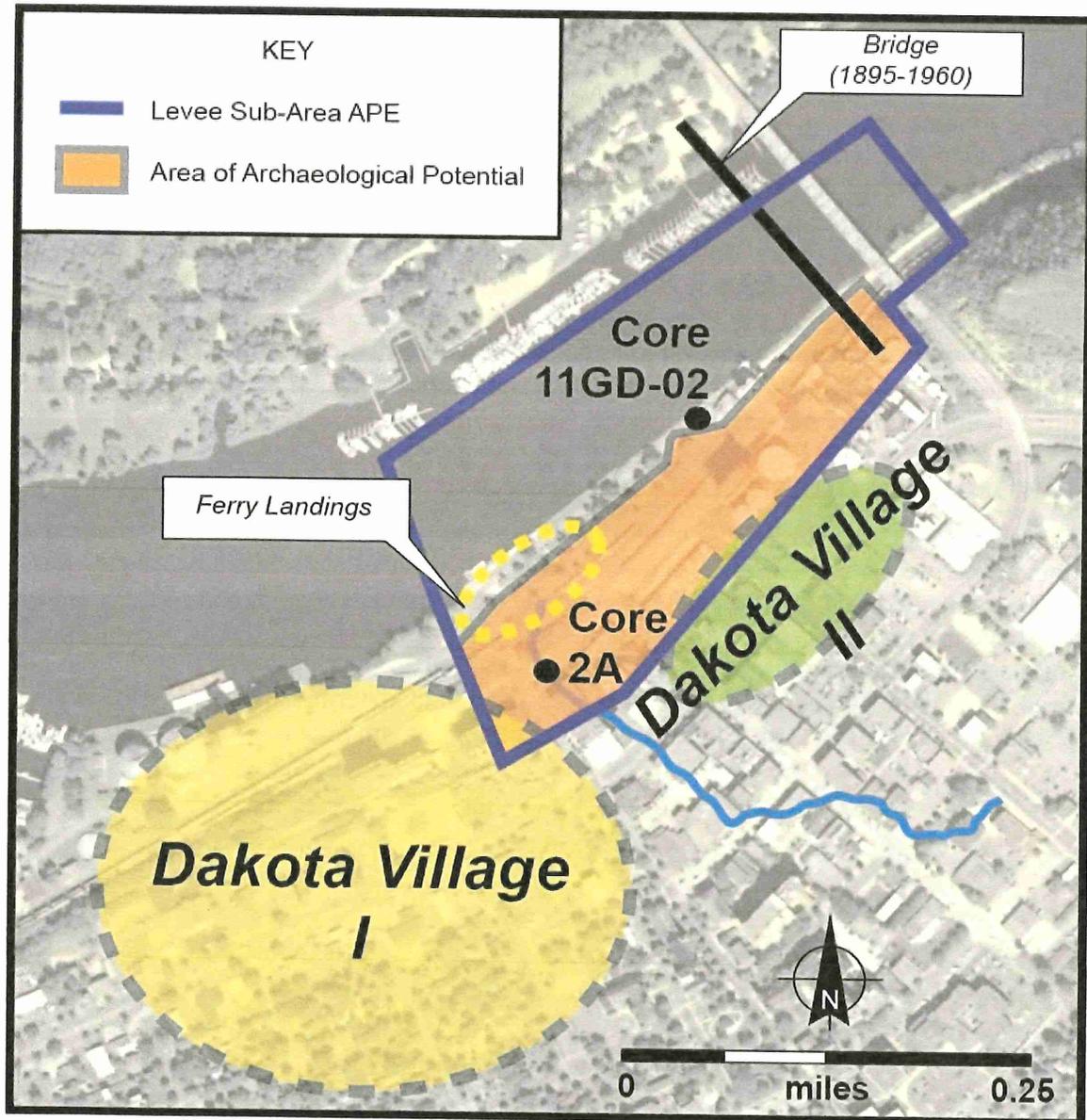


FIGURE 18. LEVEE SUB-AREA ARCHAEOLOGICAL POTENTIAL

DOWNTOWN COMMERCIAL SUB-AREA

The Downtown Commercial sub-area encompasses a portion of Red Wing's historical commercial district. Extending west from Bluff Street and the edge of Barn Bluff, it includes the southern halves of Blocks 41-46 within the APE, which were primarily commercial in nature during the historical period, and extends south to the first tier of properties on the south side of 5th Street W. (Figure 19). The field assessment of the Downtown Commercial sub-area was conducted on February 28, 2011, directed by the Downtown Commercial sub-area was conducted on February 28, 2011, directed by the Foth Principal Investigator for geomorphology, and on June 21-24 and August 9, 2011, directed by the Two Pines Principal Investigators for archaeology, Michelle Terrell (June 21-24) and Andrea Vermeer (June 22 and August 9).

MODIFICATION OF DOWNTOWN RED WING TOPOGRAPHY

The current topography of portions of downtown Red Wing varies considerably from its initial appearance at the time of EuroAmerican settlement. Not only has the natural riverbank been modified, as described in the Levee sub-area section of this report, but the spring-fed Jordan Creek flowed through a natural gully on its way to the riverfront. As early as 1858 (Rasmussen 1933:77), efforts were undertaken to underground the Jordan Creek, and an 1860s image shows fill being brought in to carry Main Street across the creek valley (Figure 20). By 1884, Main Street had been leveled, but the central portions of Blocks 37 and 44 continued to be labeled "low ground" (Figure 21), and sidewalks



FIGURE 19. DOWNTOWN COMMERCIAL SUB-AREA



FIGURE 20. THE JORDAN CREEK VALLEY (PARTIALLY FILLED) IS VISIBLE IN THIS PHOTOGRAPH OF MAIN STREET TAKEN FROM BROAD STREET, C. 1860, LOOKING NORTHEAST (MHS NEG. NO. 368)

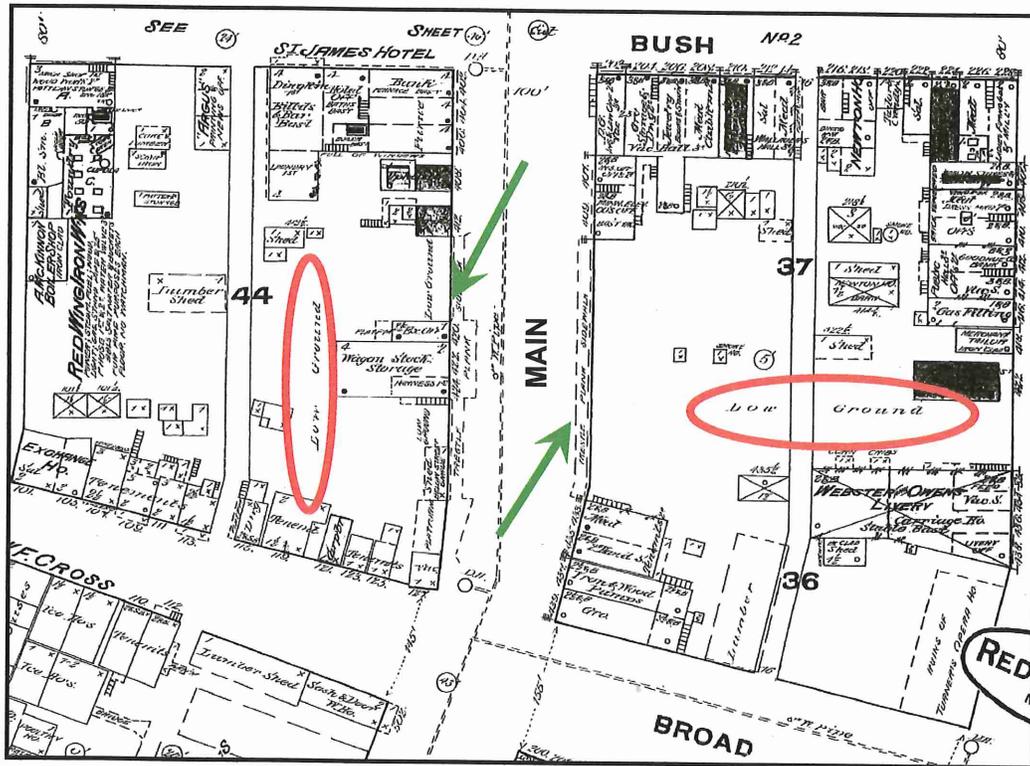


FIGURE 21. DETAIL FROM 1884 SANBORN MAP SHOWING AREAS LABELED "LOW GROUND" (CIRCLED) AND SIDEWALKS ON TRESTLES (ARROWS) WITHIN BLOCKS 37 AND 44

along Main Street were carried across the low land on raised wooden trestles. These raised sidewalks were present into the first part of the twentieth century, as indicated by their presence on the 1910 Sanborn map. They are, however, absent on the 1917 Sanborn map, suggesting still further modification of the landscape. The historical modification of Red Wing's natural topography required the introduction of a significant amount of fill in an area generally bounded by Plum Street to the east, 3rd Street W. to the south, Broad Street to the west, and the riverbank to the north.

PRECONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

The Downtown Commercial sub-area is situated at distances ranging from approximately 500 to 2,000 feet from the Mississippi River. Historical documents and photographs, however, suggest that prior to buildup of the levee and railroad corridor, the riverbank was located just north of Main Street (Hancock 1893:50) (see Figure 8), and thus the northwestern-most portion of the sub-area is at the edge of the natural terrace closest to the river. Further, Jordan Creek ran through the downtown area roughly from Plum Street between W. 4th and 5th streets, then to Bush Street between W. 4th and 3rd streets, then along the middle of the block between Bush and Broad streets from 3rd Street to the river (Smith, Towne & Co. 1856) (see Figure 18). The sub-area, being situated as close as possible to the river beyond the floodplain and including drier areas proximate to the creek bed, would have been a desirable location for occupation, which is supported by the presence of the Dakota village on the terrace near the creek during the contact period (Hancock 1893:50) (see below).

While the potential for intact precontact archaeological resources to be present within the project area may be reduced by urban development, National Register-eligible precontact resources are occasionally preserved in urban environments, as exemplified by the Converse Site (20KT0002) in Grand Rapids, Michigan (Commonwealth Cultural Resources Group 2006:12-12). Furthermore, in riverine environments like that of Red Wing, early deposits may become buried over time by an accumulation of sediment. The likelihood, therefore, of resources from the precontact period to be intact is dependent on the extent of earth-moving disturbance that occurred during urban development and whether potential resources were protected from such disturbance by prior alluvial deposition or introduced fill.

Geologic core locations were limited to public property and easements. Within the Downtown Commercial sub-area, one geologic core was taken, 11GD-03, near the intersection of Potter Street with 4th Street W. This core identified a bedrock bench at approximately 2 mbs (6.5 ft. below surface), which subsequent archaeological coring indicated began at depths ranging from 0 to 6 mbs (0 to 20 ft. below surface) throughout the Downtown Commercial sub-area. The bench is overlain by "possible natural alluvium and colluvium" (Hudak 2011:16), which has been impacted to various degrees by subsequent construction activities. Natural deposits unaffected by subsequent historical-period activities were observed in several of the archaeological cores within the sub-area.

The results of both the geologic and archaeological coring, along with those of the historical research, indicate that natural deposits within the Downtown Commercial sub-area have high potential to contain precontact archaeological deposits, with particularly strong potential in proximity to the creek and the river as they were located historically. These results also indicate that although the presence of natural deposits will vary in specific locations based on the severity of historical-period impacts, they do occur within the sub-area.

CONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

According to the literature search, the Mdewakanton Dakota village at Red Wing and the mission assigned to Aiton and Hancock are the principal contact-period occupations for which an archaeological signature likely would be present within the Downtown Commercial sub-area. While the mission occupation occurred during what is typically designated as the historical period, it is included here because as noted previously, early missions are better situated in the framework of EuroAmerican and American Indian contact, and the contact period for Red Wing is afforded some latitude given that the area was not open to EuroAmerican settlement until 1851.

As described in the contact-period discussion for the Levee sub-area, the Dakota village at Red Wing was recorded at two locations. During the first quarter of the nineteenth century, the village was described as being one half-mile from Barn Bluff, and a mile to the east of present-day Hay Creek (Schoolcraft 1821:324; Long 1978 [1823]:78-79; Colhoun 1978 [1823]:278). This location would be near the center of Section 30 and along the west edge of the Downtown Commercial sub-area (Figure 22 – Dakota Village I). Contact-period artifacts (“old fashioned blue dishes” and “decayed tinware”) found within pit features proximate to the Chicago Great Western railroad (to the west of Broad Street) are likely related to this village location (Brower 1903:65-66). According to missionary Joseph Hancock, who came to the village in 1849, the later location (Dakota Village II) of the lodges was located within the Downtown Commercial sub-area “along the river bank near where Main street now occupies, between Bush and Potter streets” (Hancock 1893:50) (see Figure 22 – Dakota Village II). The village was near a natural spring-fed creek indicated on the 1856 plat of Red Wing (Smith, Towne & Co. 1856). The mission buildings consisted of “two substantial log buildings a few rods in the rear of the native houses” (Curtiss-Wedge 1909:530) (see Figure 22 – Mission Buildings). They were “near what is now Bush street, about one-third of the distance from Third to Main street” (Curtiss-Wedge 1909:529) or “near the junction of Bush and Third streets” (Curtiss-Wedge 1909:530). The ravine of the creek was “just back of the mission houses” (Curtiss-Wedge 1909:530).

Based on the locations described for the Dakota villages and mission buildings, the Downtown Commercial sub-area would be considered to have high potential for containing contact-period archaeological resources. As with the precontact resources, however, the likelihood for contact-period resources to be intact is dependent on post-occupation natural processes and construction events.

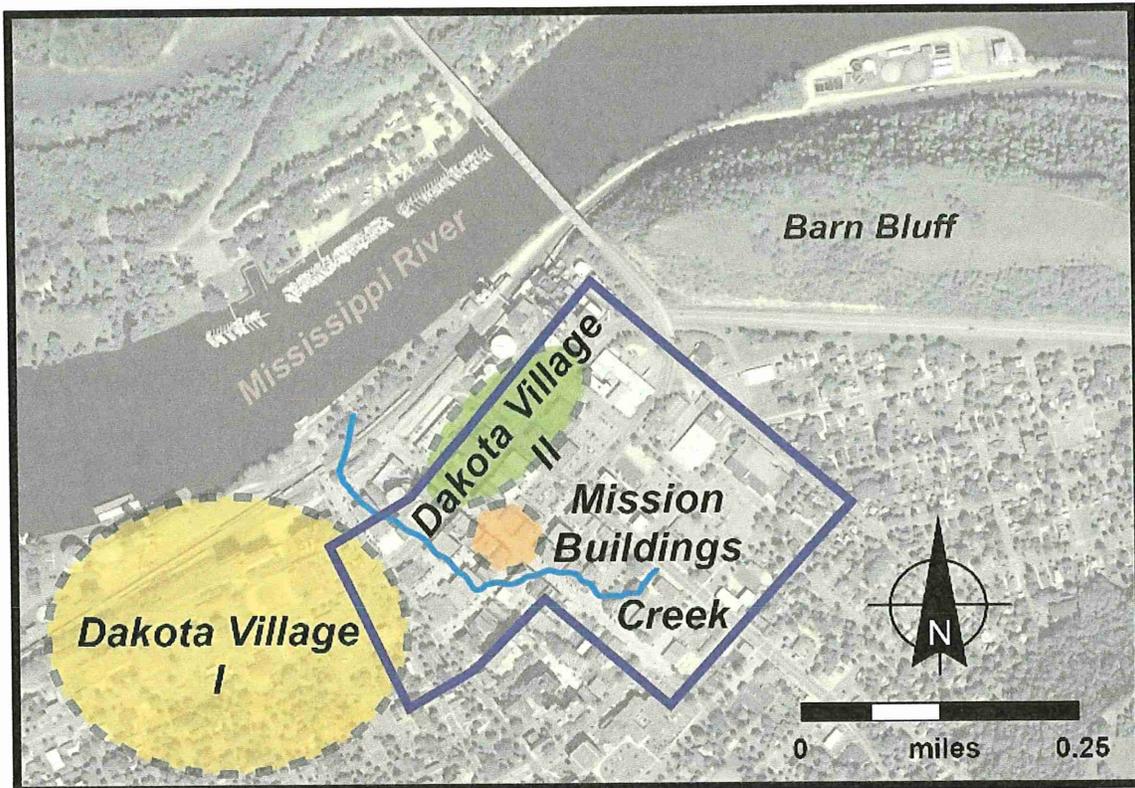


FIGURE 22. CONTACT-PERIOD RESOURCES WITHIN THE DOWNTOWN COMMERCIAL SUB-AREA

HISTORICAL-PERIOD ARCHAEOLOGICAL POTENTIAL

The Downtown Commercial sub-area has been the core of Red Wing's commercial operations since the mid nineteenth century, and much of the built environment retains its historical character and layout. Some of the buildings present during the historical period, however, were demolished, and their locations are currently occupied by vacant spaces, such as parking lots and driveways. Due to the frequent historical practice of using fill to cover over the remnants of demolished buildings and structures rather than removing the buildings in their entirety, archaeological resources, including not only the foundations of buildings but also of associated depositional features, are often capped by pavement, gravel, or other surfaces in these vacant spaces. The review of historical fire insurance maps and aerial photographs indicates that many of the vacant spaces within the Downtown Commercial sub-area have not been subject to construction or other substantial earth-moving operations subsequent to the removal of buildings during the historical period. These open areas would therefore be considered to have high potential for containing intact historical-period archaeological resources, dependent on the use of these spaces historically.

The literature search identified 26 open areas with the potential for containing historical-archaeological deposits in the Downtown Commercial sub-area, which were designated as Areas 1 through 23, and 25 through 27 (Area 24 is located within the East Red Wing

Residential sub-area) (Figure 23). In the sections that follow, for each of the 26 test areas, a summary of the property's current condition and potentially present archaeological resources are provided (detailed historical land use as reconstructed through Sanborn fire insurance maps is presented in tabular format by individual lot in Appendix D.) Landowners gave permission to test 21 separate open surface parking lots (most of which encompass more than one city lot). During the testing, 68 archaeological cores were completed within the Downtown Commercial sub-area (Figure 24). Results of the coring and recommendations are provided by area in the following sections. For those areas in which archaeological features or deposits were encountered during coring and the associated property occupant (business or persons) could be identified, more in-depth, property-specific historical information is provided.

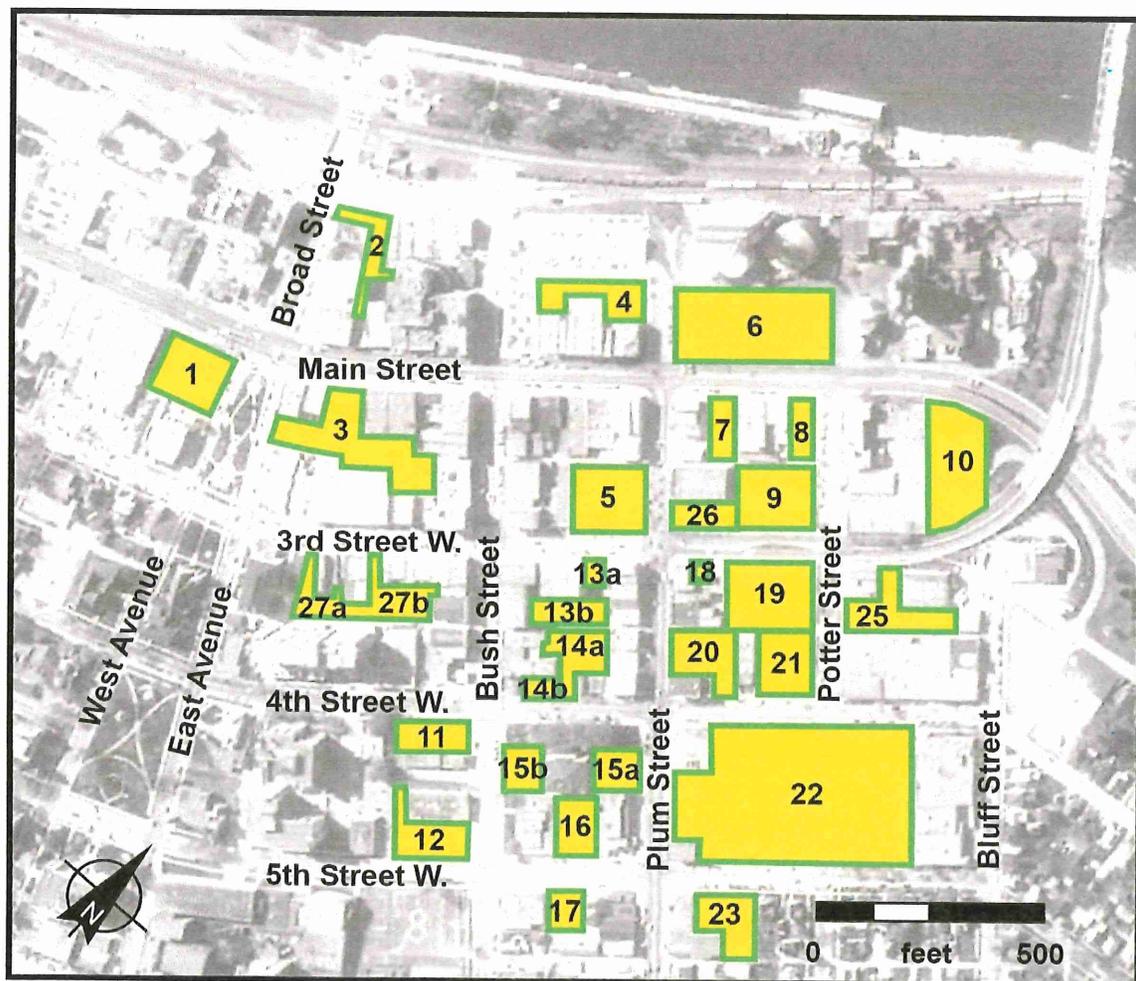


FIGURE 23. IDENTIFIED TEST AREAS IN THE DOWNTOWN COMMERCIAL SUB-AREA

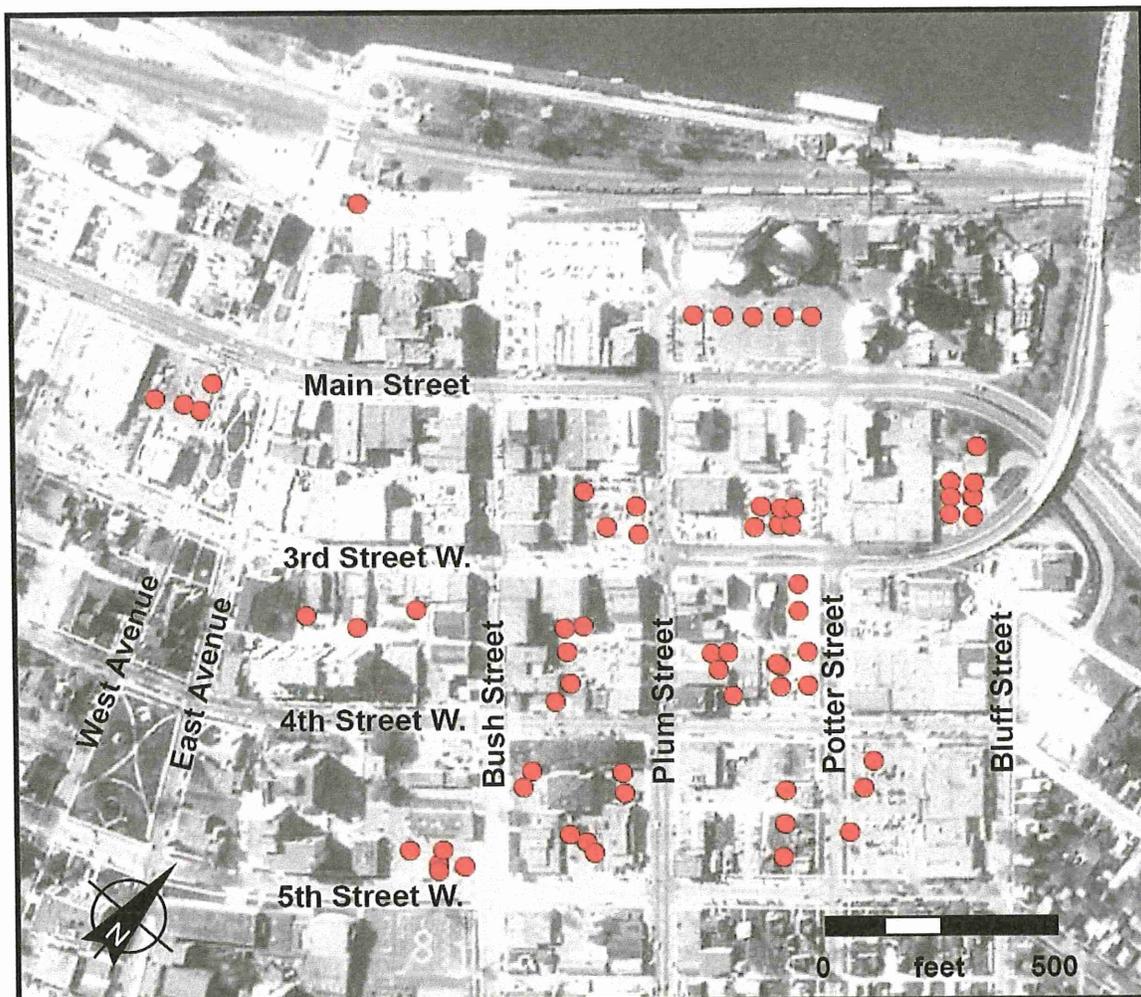


FIGURE 24. DISTRIBUTION OF ARCHAEOLOGICAL CORES IN THE DOWNTOWN COMMERCIAL SUB-AREA

AREA 1 (BLOCK 35, LOTS 7-9)

Area 1 is located on the southwest corner of the intersection of Main Street and West Avenue and encompasses Lots 7-9 of Block 35 (see Figure 23). The area is currently an asphalt-paved parking lot.

Block 35, Lot 7

Associated Addresses: 210 (212), 212 (214) Broad St. (West Ave.)

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of rowhouses, associated artifact deposits or features

Block 35, Lot 8

Associated Addresses: 206 (208), 208 (210) Broad St. (West Ave.) and 507 Main St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of rowhouses, dwelling, and lumber shed/auto facility, artifact deposits or features associated with residential properties

Block 35, Lot 9

Associated Addresses: 200 (202), 202 (204), and 204 (206) Broad St. (West Ave.)

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of rowhouses, associated artifact deposits or features

Results of Coring

Four archaeological cores were advanced within Area 1 (Figure 25). The cores were distributed within this test area as the arrangement of vehicles within the lot allowed. One core was located near the front of Lot 9, while the other three were distributed across Lot 7. Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 1-A was located within the footprint of a former rowhouse at 204 (206) Broad St. (West Ave.). The core encountered a lens of cinders and concrete flecks at a core depth of 4 ft. (120 cm) amidst layered fill that continued to a depth of 10.5 ft. (320 cm). At that depth, a layer of demolition debris was encountered. The debris gave way to a limestone and mortar floor at 15.5 ft. (475 cm). The floor overlay a base of approximately 1.5 ft. (45 cm) of clean sand that in turn capped a natural soil at a depth of 25.7 ft. (783 cm). The core was advanced to 28 ft. into a natural 7.5YR 4/6 (strong brown) sand.

Core 1-B was located 20 m from Core 1-A near the abuttal of two dwellings at 210 (212), and 212 (214) Broad St. (West Ave.). Like Core 1-A, this core consisted largely of layered fill. An accumulation of brick-flecked soil was encountered amidst the fill at a core depth of 6 ft. (185 cm). A limestone and mortar floor, which was underlain by sand and gravels, was encountered at 265 cm (9 ft.). The core met with refusal at 19 ft. (579 cm).

Core 1-C was located 12 m from Core 1-B and within the footprint of the rear addition to 210 (212) Broad St. (West Ave.). This core exhibited multiple historical-period layers, including a lens of brick and mortar at a core depth of 2.3 ft. (70 cm). At 9.7 ft. (295 cm) a lens of limestone and mortar was encountered. This lens overlay a horizon of fill consisting of coarse sand and gravels that gave way at 11.8 ft. (360 cm) to a stone and mortar floor. That floor capped clean sand as well as a buried soil with brick flecks and charcoal near 15.7 ft. (480 cm). The core was advanced to 28 ft. into a natural 7.5YR 5/6 (strong brown) sand.

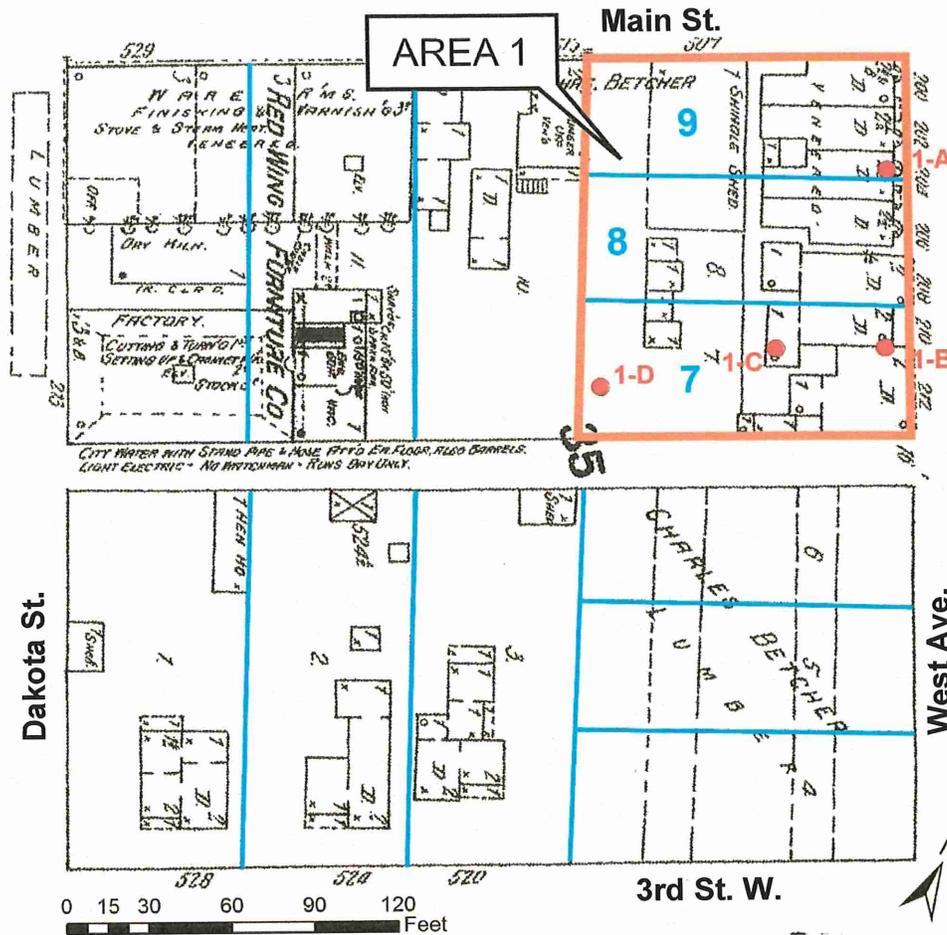


FIGURE 25. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREA 1 ON 1891 SANBORN MAP

Core 1-D was located 20 m from Core 1-C. This core was located within the rear portion of Lot 7, which was associated with 507 Main Street. This location historically was vacant. The core encountered a thick horizon of demolition debris consisting of brick, mortar, and wood elements between 0.8-2.8 ft. (25-85 cm) that gave way to an apparent floor of stone and mortar. Beneath these materials, banded layers and fill were present to a depth of 5.7 ft. (175 cm), at which depth a banded lens with thinly bedded organics (possibly sawdust) was encountered. This horizon is consistent with the operation of the neighboring furniture company and lumber operations. At 5.2 ft. (160 cm) a natural soil profile was encountered. A sample of this soil was collected from the core (~170-280 cmbs) and water-screened through 1/8th-inch hardwire mesh. The sample was negative for cultural material. The core was advanced to 20 ft. into coarse sand and gravels.

Additional Historical Information

Cores within Area 1 encountered structural elements of the rowhouses at 202 to 214 (previously 200 to 212) Broad Street. Post-1900 U.S. Census Schedules (which have assigned addresses), indicate that these structures were rental properties occupied by a

variety of residents, although 202 and 204 West Avenue both have an extended association with members of the Nelson family (Justine Groas is the daughter of John and Effie Nelson) (Table 3).

Recommendations

According to the archaeological cores, Area 1 contains intact historical-period deposits and structural remnants of the former rowhouses. The historical-period deposits cap intact natural soils with the potential for containing precontact- and contact-era deposits. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts.

TABLE 3. OCCUPANTS OF 202-214 WEST AVENUE/BROAD ST.

202 WEST AVE.	RESIDENTS	PLACE OF BIRTH	OCCUPATION
1900	Anna Johnson	Sweden	Dressmaker
	Emma Towls	Minnesota	Dressmaker
	Ole Davidson (Roomer)	Norway	Typesetter
1910	John Nelson and family	Sweden	Boat Livery
	Ole Davidson (Roomer)	Norway	Compositor
1920	John Nelson and wife	Sweden	Molder
1930	Roxie Nelson and wife	Sweden	Clerk (Cigar Store)
1940	Edward Hughes and family	Wisconsin	Manager (Meat)
	Spear Johnson and family	Swedent	Janitor (Bank Building)
204 WEST AVE.	RESIDENTS	PLACE OF BIRTH	OCCUPATION
1900	Fred Verner and family	Ohio	Molde Maker
1910	Eric Iverson and family	Norway	Restaurant
1920	Maurice Nelson and family	Minnesota	Tannery
	J. H. Dew and wife	England	Mail Carrier
1930	Charles Foss and wife	New York	Superintendant (Malt House)
1940	Justine Groas and son	Minnesota	Saleslady (Retail Dress Shop)
	Magaline Crisler(?) and daughter	Minnesota	Night Cook (coffee Shop)
206 WEST AVE.	RESIDENTS	PLACE OF BIRTH	OCCUPATION
1900	Marie Brusegaard and daughter	Norway	Dressmaker
1910	Edrick Dyer and wife	Vermont	Engineer Steam
	Nicolas W. Trautner and family	Minnesota	Machinist
1920	Fred Bartson and family	Minnesota	Merchant (Clothing Store)
	George Phelps and wife	Wisconsin	Shoe Factory
1930	Oscar Arntson and family	Minnesota	Side Laster (Shoe Factory)
	John Steiner and family	Wisconsin	Salesman (Farm Implements)
1940	W. Ball and family	Minnesota	Contractor
	Roland Voth and wife	Minnesota	Leather Tannery

TABLE 4. OCCUPANTS OF 202-214 WEST AVENUE/BROAD ST., CONTINUED

208 WEST AVE.	RESIDENTS	PLACE OF BIRTH	OCCUPATION
1900	Wilfred Jellinick and family	Iowa	Cigar Maker
1910	George Gates and wife	Michigan	Fire Insurance Agent
	Charles Rowden and wife	Maryland	Own Income
	Charles Heager (?) (Roomer)	Minnesota	Telegraph Operator
1920	C. E. Richardson and wife	Michigan	Harness Maker
	John Kearney and wife	New York	Superintendent (Shoe Factory)
1930	Bennie Nelson and wife	Sweden	Carpenter
	Ben Leeson, sister and aunt	Minnesota	Laborer (Shoe Factory)
	Charles Johnson and wife (lodgers)	Sweden	Proprietor (Jewelry Store)
1940	Clyde Mabin and family	Minnesota	Automotive Mechanic
	Howard Jarques (?) and family	Iowa	Sole Stitcher (Shoe Factory)
210 WEST AVE.	RESIDENTS	PLACE OF BIRTH	OCCUPATION
1900	No occupants		
1910	No occupants		
1920	G. H. Pilgard and family	Denmark	Electrician
	James Campbell and wife	Ontario	Foreman
1930	Howard Bache and family	Ohio	Fires Kiln (Malt House)
1940	R. G. Bartels and family	Minnesota	Signal Maintainer (Railroad)
212 WEST AVE.	RESIDENTS	PLACE OF BIRTH	OCCUPATION
1900	Emma Bartron and son	Connecticut	Clothing Salesclerk
1910	Edward Zeuhlper (?) and wife	Minnesota	House Carpenter
1920	Robert Bishop and wife	Texas	Shoe Store
	C. Ross and grandson (?) (Roomers)	No State	Salesman (On the Road)
1930	Rutherford Forest and family	Wisconsin	Pullover (Shoe Factory)
	Joseph Jellum (Roomer)	Wisconsin	Mail Truck (Post Office)
1940	Paul Wendland and wife	Minnesota	Bartender (Cocktail Lounge)
214 WEST AVE.	RESIDENTS	PLACE OF BIRTH	OCCUPATION
1900	Clarence Lee and family	Ohio	Police Chief
1910	Joanna Brashaw (?), sister and brother	New Jersey	Keeps Roomers
	John Abuan (?) and wife (Roomers)	New York	Salesman
1920	Frank Coost and family	Minnesota	Salesman (Clothing Store)
1930	Myrtle Arnston	Minnesota	Waitress (Restaurant)
	Irene Carr (Lodger)	Wisconsin	Eyeletting (Shoe Factory)
	Nellie Jaggart and family	Wisconsin	Unemployed
	Ernie Chamberlain (Roomer)	Wisconsin	Laborer (Sand Pit)
1940	Robert Paton and wife	Minnesota	Electrician (Service Store)
	Grace Veldmane (?) (Lodger)	Minnesota	Tube Cutter (Tire Factory)
	Wilbur Olson and wife	Minnesota	Clerk (Grocery Store)

AREA 2 (BLOCK 44, LOTS 1-2 AND 9-10)

Area 2 consists of a parking lot and alley located within Block 44 and part of the former alignment of Levee Street (see Figure 23). The Jordan Creek flowed through this area, which was therefore late to be developed.

Block 44, Lot 1

Associated Address: 426 Main St.

Portion of Lot: Small northeast/central-east portion

Current Land Use: Driveway/parking lot.

Potential Resources: Minimal structural remnants of one-story building, small outbuildings, associated artifact deposits or features

Block 44, Lot 2

Associated Address: 420-424 Main St.

Portion of Lot: Northern approximately one-third

Current Land Use: Driveway/parking lot

Potential Resources: Historical-archaeological resources unlikely

Block 44, Lot 9

Associated Address: None

Portion of Lot: Entire lot

Current Land Use: Driveway/parking lot

Potential Resources: Historical-archaeological resources unlikely

Block 44, Lot 10

Associated Address: 101 Broad St.

Portion of Lot: Northern approximately one-fifth

Current Land Use: Parking lot

Potential Resources: Structural remnants of saloon, associated artifact deposits or features

Results of Coring

The marking of underground utilities prior to the field assessment indicated the presence of storm water and sewer lines running throughout much of Area 2, which prevented coring. The installation of these lines would also have substantially disturbed any potential archaeological deposits. One core was taken to the north of Area 2 in a boulevard within the Levee sub-area (see previous chapter).

Recommendations

Based on the level of subsurface disturbance that has occurred, and the generally low potential of this location for historical-period archaeological resources due to the course of the Jordan Creek, no further archaeological work is recommended within Area 2.

AREA 3 (BLOCK 36, LOTS 1-4; BLOCK 37, LOTS 1-4 AND 7-10)

Area 3 consists of the open portions of Blocks 36 and 37 (see Figure 23). Area 3 is the location of a public parking ramp. The ground level of the parking ramp is at the historical grade. No cores were taken within the ramp area.

Block 36, Lot 1

Associated Address: 433 Main St.

Portion of Lot: Eastern approximately one-quarter

Current Land Use: Greenspace next to parking ramp

Potential Resources: Artifact deposits or features associated with meat shop

Block 36, Lot 2

Associated Addresses: 432-435 (433-435), 437, and 430 (439) Main St.

Portion of Lot: Approximately eastern one-quarter and southern edge

Current Land Use: Greenspace adjacent to parking ramp and portion of ramp

Potential Resources: Structural remnants of tenements/lodgings, meat shop, secondhand store, restaurant, and grocery store, associated artifact deposits or features

Block 36, Lot 3

Associated Address: 111-113 (211-213) Broad St. (East Ave.)

Portion of Lot: Entire lot

Current Land Use: Parking ramp

Potential Resources: Historical-archaeological resources unlikely

Block 36, Lot 4

Associated Address: None

Portion of Lot: Irregularly shaped area in eastern approximately one-third

Current Land Use: Open space behind and between existing buildings

Potential Resources: Structural remnants of stables and sheds

Block 37, Lot 1

Associated Address: 422-428 (422-430) 3rd St. W.

Portion of Lot: Northern one-third, minus its western edge

Current Land Use: Parking ramp

Potential Resources: Historical-archaeological resources unlikely

Block 37, Lot 2

Associated Addresses: 418 (420), 420-422, and 422 3rd St. W.

Portion of Lot: Northern one-third

Current Land Use: Parking ramp

Potential Resources: Historical-archaeological resources unlikely

Block 37, Lot 3

Associated Addresses: 412-414 (414-416) and 416 (418) 3rd St. W.
Portion of Lot: Northern approximately one-half, minus its southwest corner
Current Land Use: Parking ramp
Potential Resources: Structural remnants of stable, artifact deposits or features associated with commercial enterprises

Block 37, Lot 4

Associated Addresses: 216-218 and 218 ½ Bush St., 406 (408) and 408-410 (410-412) 3rd St. W.
Portion of Lot: Northern approximately one-half of the western four-fifths
Current Land Use: Parking ramp
Potential Resources: Structural remnants of Newton/Hickman Hotel stable, artifact deposits or features associated with hotel and early commercial operations fronting 3rd St. W.

Block 37, Lot 7

Associated Addresses: 407-409 Main St. and 204-208, 210, and 212-214 Bush St.
Portion of Lot: Irregularly shaped portion of southern three-quarters
Current Land Use: Parking ramp and parking lot
Potential Resources: Structural remnants of building at 206 Main St. and stable and shanty complex to its south, artifact deposits or features associated with early commercial properties and shanties

Block 37, Lot 8

Associated Address: 411-413 Main St.
Portion of Lot: Southern one-quarter
Current Land Use: Parking ramp
Potential Resources: Structural remnants of dry goods store/grocery store

Block 37, Lot 9

Associated Addresses: 415-417 (417-419) and 421 Main St.
Portion of Lot: Southern one-quarter and all but northern end of western one-third
Current Land Use: Parking ramp
Potential Resources: Structural remnants of shed/garage and large garage, artifact deposits or features associated with crockery and grocery store

Block 37, Lot 10

Associated Addresses: 435 ½ and 429 Main St.
Portion of Lot: Entire lot
Current Land Use: Parking ramp
Potential Resources: Structural remnants of large garage

Recommendations

The Jordan Creek flowed through the central portion of this block, and the topography still reflects the presence of the creek's former channel. Due to the presence of the creek, much of the block was slow to be developed; however, the southeast corner of the block near Bush and 3rd streets is proximate to the location of the former mission buildings and other historical-period resources. Furthermore, precontact and contact-period Native American resources may be located proximate to the former creek. A Phase I archaeological survey of the Area 3 is therefore recommended should it be subject to project-related impacts.

AREA 4 (BLOCK 43, LOTS 2-5)

Area 4 includes the rear lots and parking spaces within Lots 2-5 of Block 43 between Bush and Plum Streets (see Figure 23).

Block 43, Lot 2

Associated Addresses: 320-322 and 324 Main St.

Portion of Lot: Northern approximately one-third of the eastern two-thirds

Current land use: Paved/landscaping

Potential Resources: Structural remnants of commercial buildings, associated artifact deposits or features

Block 43, Lot 3

Associated Address: 314 Main St.

Portion of Lot: L-shaped portion extending from the northwest corner to the south and east

Current Land Use: Paved/landscaping

Potential Resources: Structural remnants of commercial building

Block 43, Lot 4

Associated Addresses: 308, 310, and 312 Main St.

Portion of Lot: Narrow area along alleyway at north end of lot

Current Land Use: Loading dock

Potential Resources: Structural remnants of commercial building at 310 Main, artifact deposits or features associated with early commercial operations

Block 43, Lot 5

Associated Addresses: 116 and 118-120 Plum St.

Portion of Lot: Northern portion, extending just slightly less than halfway down the lot

Current Land Use: Loading dock

Potential Resources: Structural remnants of industrial buildings

Results of Coring

Permission to conduct coring in Area 4 was not received from the property owner; therefore, no cores were taken in this location. Utility marking in preparation for testing also indicated that much of the area has been impacted by utility installation.

Recommendations

Because the literature search indicates that Area 4 has the potential to contain historical-period (and earlier) archaeological deposits, but the subsurface conditions of the area could not be assessed, a Phase I archaeological survey of the area is recommended should it be subject to project-related impacts.

AREA 5 (BLOCK 38, LOTS 3-5)

Area 5 is located on the northwest corner of the intersection of 3rd Street W. and Plum Street, and it encompasses the east half of Lot 3 and all of Lots 4 and 5 of Block 38 (see Figure 23). The area is currently an asphalt-paved parking lot.

Block 38, Lot 3

Associated Addresses: 318 ¼-318 ½ (314-316 [312-314]) 3rd St. W., 216 ½ Plum St.

Portion of Lot: East half

Current Land Use: Parking lot

Potential Resources: Structural remnants of commercial building and stable, artifact deposits or features associated with commercial operations

Block 38, Lot 4

Associated Addresses: 216, 216 ½ [218], 218 [218 ½], 216-218, 220, 222, 224, 226, and 228 Plum St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of commercial buildings and S. B. Foot & Co. shoe factory, associated artifact deposits and features.

Block 38, Lot 5

Associated Addresses: 216, 216 ½ [218], 218 [218 ½], 216-218, 220, 222, 224, 226, and 228 [228-230] Plum St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of commercial buildings and S. B. Foot & Co. shoe factory

Results of Coring

Four archaeological cores were advanced within Area 5 (Figure 26). The cores were distributed within this test area as the arrangement of vehicles within the lot allowed

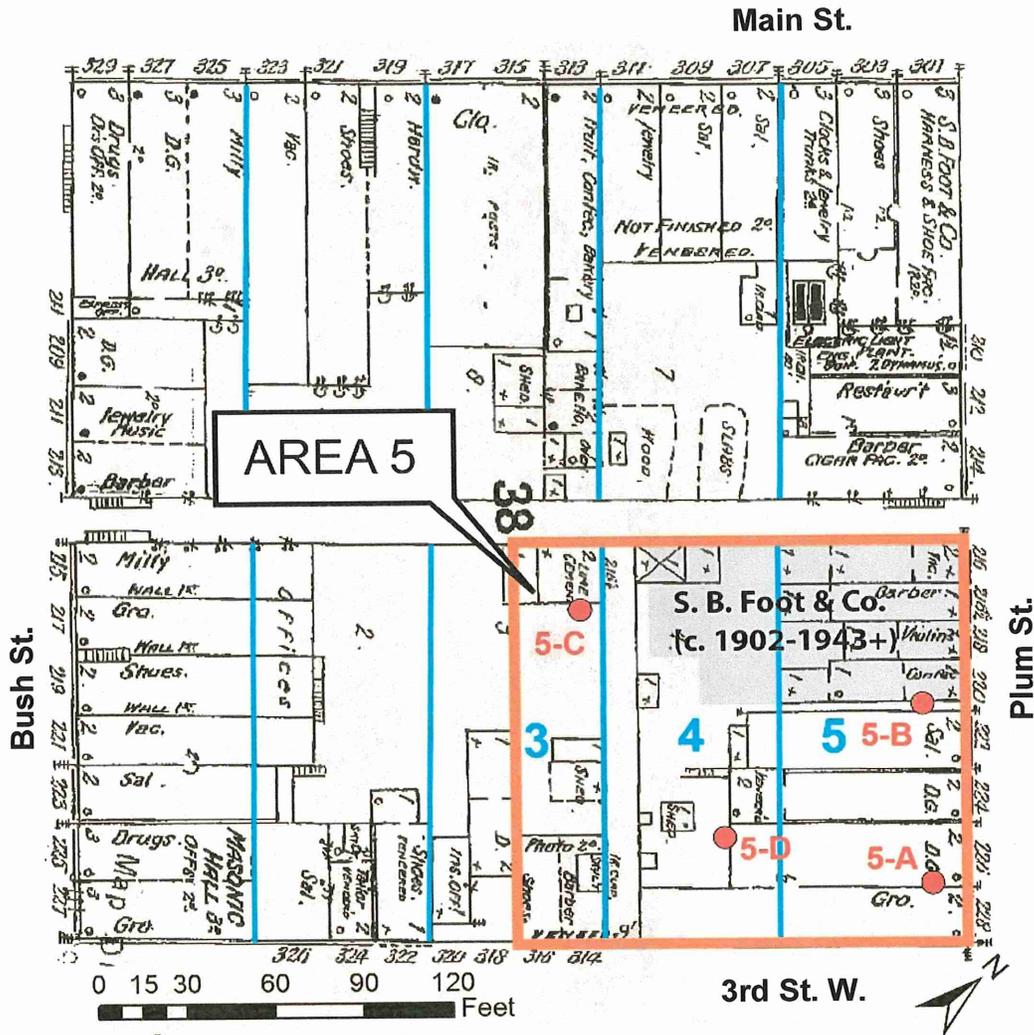


FIGURE 26. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREA 5 ON 1891 SANBORN MAP

Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 5-A was located near the intersection of the adjoining walls of two commercial buildings located at 226 and 228 Plum Street. At a depth of 4 ft. (122 cm), the core encountered layered brick and mortar consistent with a wall/foundation (Figure 27). Brick and mortar were present to a depth of 9 ft. (274 cm), at which depth bedrock was encountered. The core met with refusal at 10.7 ft. (326 cm).

Core 5-B was located approximately 20 m from Core 5-A and near the south wall of 220 Plum Street. At a depth of 2.8 ft. (85 cm), the core encountered a concrete slab. This slab was underlain by a thin horizon of soil, which gave way to a thick horizon of brick and mortar that continued to a depth of 9 ft. (274 cm). This foundation/wall was separated from bedrock by a thin layer of sand. The core met with refusal at 10 ft. (3 m).



FIGURE 27. ARCHAEOLOGICAL CORE 5-A WITH BRICK AND MORTAR

Core 5-C was located within the east half of Lot 3. This lot was associated with 314-316 (312-314) 3rd St. W., and the core was in the vicinity of an outbuilding used for lime cement storage, which was later replaced by an auto garage. This core revealed only a cinder drive and associated bedding beneath the existing asphalt parking surface. The core met with refusal in bedrock at 3.2 ft. (97 cm). No intact strata with the potential to contain cultural deposits were documented.

Core 5-D was located near the rear wall of 226 Plum Street. This core encountered a concrete and mortar foundation at a depth of approximately 4 ft. (122 cm), which gave way directly to bedrock. According to the archaeological log, the core met with refusal at 6 ft. (1835 cm), however the geomorphologist's log for this core indicates the presence of a buried soil containing historical-period deposits at a depth of 8 ft. [244 cm].

Additional Historical Information

Cores 5-A and 5-B encountered structural remains of commercial buildings that formerly fronted on Plum Street (Figure 28). Core 5-B revealed a concrete pad most likely associated with the circa-1902, two-story addition to the S. B. Foot & Co. building. This pad overlies an earlier brick and mortar foundation, which is associated with the earlier single-story building on the lot. The earlier building had been a jewelry store in 1884, a confectionary in 1891, and a barber shop in 1895 (Sanborn 1884, 1891, 1895).

The S. B. Foot & Co. shoe factory was begun by Silas Buck Foot, a Pennsylvania native who initially came to Red Wing in 1857 and shortly thereafter obtained and began operating a shoe store in partnership with William W. Sweney. In either 1861 or 1862, Foot bought out Sweney, then partnered with an individual by the name of Sterling. Foot & Sterling began manufacturing shoes and shoepacs in Red Wing circa 1872. Although the manufacture of shoes was transferred to St. Paul through an associated corporation, Foot, Schulze & Co., the shoepacs division continued in Red Wing under Foot's supervision, with a large factory constructed sometime between 1895 and 1902 at 216-218 Plum Street. The factory housed hides and leather in the basement, packing and shipping operations on the first floor, a bottoming room on the second, stitching operations on the third, and a stockroom on the fourth (Sanborn 1902). It continued to operate under Foot's direction until his death in 1908, after which his son, Edwin H.

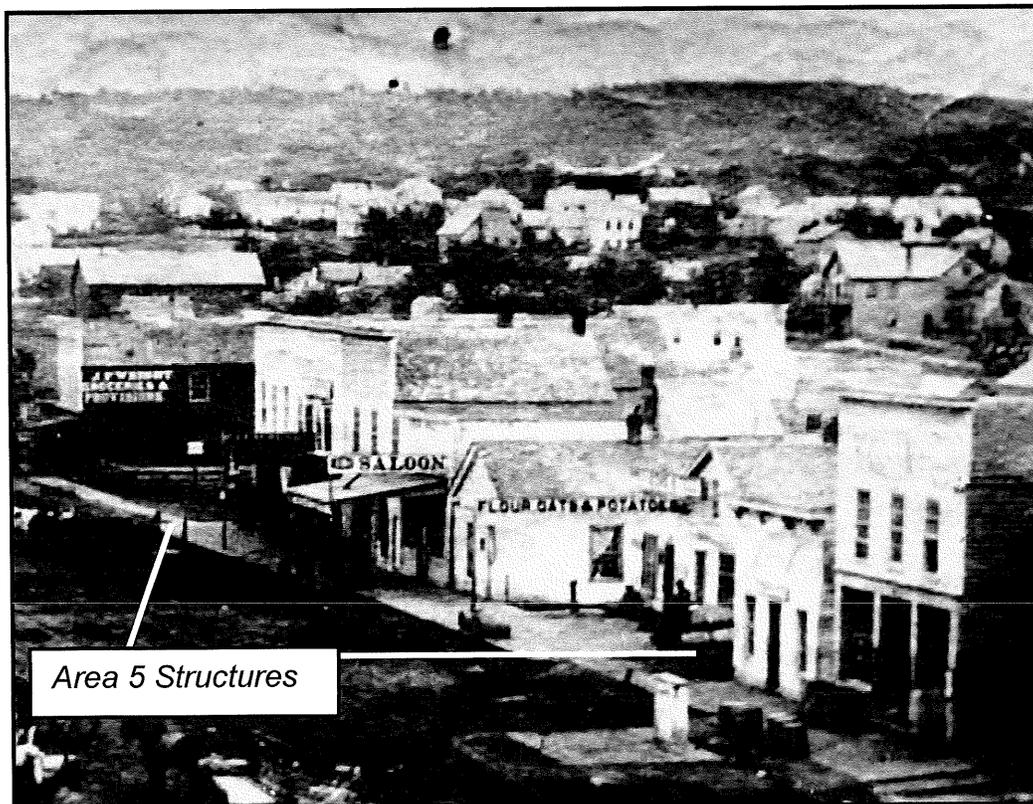


FIGURE 28. DETAIL FROM C. 1866 PHOTOGRAPH SHOWING BUILDING IN TEST AREA 5, VIEW TO SOUTH (GOODHUE COUNTY HISTORICAL SOCIETY NO. 1.2.8075)

Foot, served as company president (Curtiss-Wedge 1909:626-627). Sometime during the next two decades, the shoe factory came under the ownership of the L. D. Stickles Shoe Co., and then between 1927 and 1943, the La Grange Shoe Corporation (Sanborn 1927, 1943).

Recommendations

According to the archaeological cores, Area 5 contains structural remains associated with commercial buildings that formerly fronted on Plum Street. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts.

AREA 6 (BLOCK 42, LOTS 1-5)

Area 6 encompasses all of Lots 1-5 of Block 42, which are located along the north side of Main Street between Plum and Potter streets (see Figure 23).

Block 42, Lot 1

Associated Addresses: 226-230, 230 ¼, and 230 ½ Main St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of commercial buildings

Block 42, Lot 2

Associated Addresses: 220, 220 ½, 222, 224 [224A-224B], 222-224, 224 ¼, 224 ½ Main St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of commercial and industrial buildings, artifact deposits or features associated with commercial and industrial operations

Block 42, Lot 3

Associated Addresses: 216 and 218 Main St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of farm implement warehouses.

Block 42, Lot 4

Associated Addresses: 206 [208] and 210 Main St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of Red Wing Advertising Company building and auto painting shop, artifact deposits or features associated with early dwelling or advertising company

Block 42, Lot 5

Associated Addresses: 202, 204, and 202-208 Main St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of Red Wing Advertising Company building

Results of Coring

Five archaeological cores were advanced within Area 6 (Figure 29). The cores were spaced at 20-m intervals along a single transect selected to evaluate the rear portion of the lots associated with structures that formerly fronted on Main Street. Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 6-A was located within the footprint of a single-story storage structure located to the rear of the Public Hall in Lot 1. The core was shallow to bedrock, meeting with refusal at 2.5 ft. (76 cm). No structural remains or intact cultural horizons were encountered.

Core 6-B was situated within the rear portion of Lot 2 in an area that was open for much of its history, but which between 1917 and 1927 became the site of a single-story warehouse (Sanborn 1917, 1927). At a depth of 2.7 ft. (82 cm), a buried soil was encountered. This soil gave way to weathered bedrock. The core met with refusal in bedrock at 4.6 ft. (140 cm).

Core 6-C was placed in a portion of Lot 3 that was historically a vacant rear lot. At a depth of 1.7 ft. (52 cm), the core encountered a buried soil containing flecks of material indicative of historical-period deposits. This soil gave way to weathered bedrock. The core met with refusal in bedrock at 4.4 ft. (134 cm).

Core 6-D was located within the rear portion of Lot 4 in an area that was often historically covered by piles of lumber. The probe documented a possible soil just below the surface of the parking lot at a depth of 1.1 ft. (33 cm). An unidentifiable metal object in this soil indicates an historical-period association. This soil gave way to weathered bedrock. The core met with refusal in bedrock at 5.2 ft. (158 cm).

Core 6-E was driven at the rear of Lot 5. This area was an open lot until the development of the Red Wing Advertising Company in 1905, which eventually occupied all of Lot 5 and the eastern portion of Lot 4. Core 6-E is located within a portion of the building that had a basement. Commencing at a depth of 1.5 ft. (46 cm), the core encountered alternating horizons of concrete and clean sand fill. The first horizon of concrete was present from 1.5-3 ft. (46-90 cm), the second from 4-4.9 ft. (122-150 cm), and the third from 8.0-9.2 ft. (244-280 cm). Beneath the concrete, clean sand fill gave way to clay and weathered rock. The core met with refusal in bedrock at 12 ft. (366 cm).

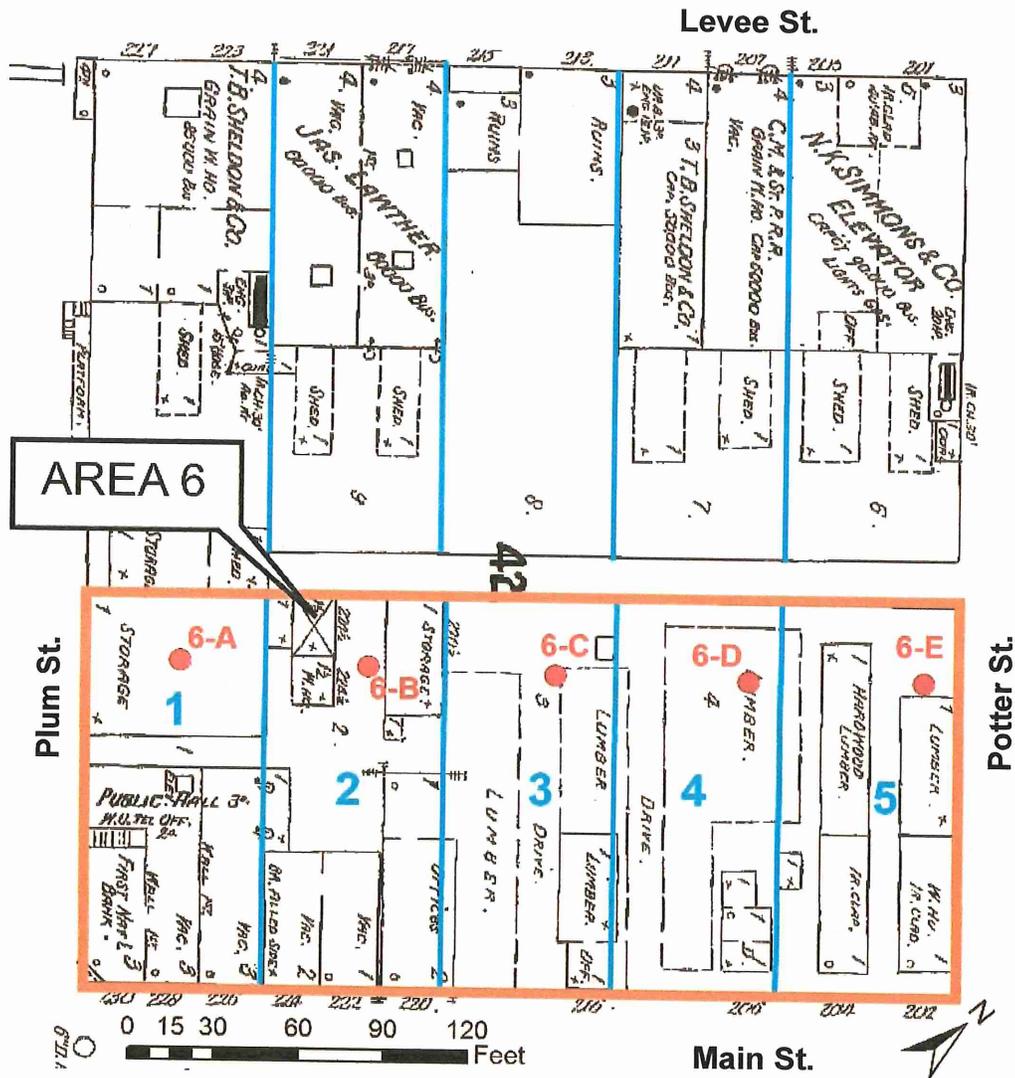


FIGURE 29. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREA 6 ON 1891 SANBORN MAP

Additional Historical Information

Core 6-E within Lot 5 encountered structural remains associated with the Red Wing Advertising Company. The company was incorporated in 1902, existing in the five years prior as the business partnership of Sultzer, Shedd & Livingston. The Red Wing Advertising Company manufactured advertising paraphernalia, including “leather utilities such as check covers, purses, pocketbooks, money bags, card cases, policy cases, diaries, memorandum books and pass books” (Curtiss-Wedge 1909:633), as well as a clothing line, consisting of items such as hats and aprons, and art calendars, for which they were particularly well known. Its rampant success caused the company to construct a four-story factory building at the corner of Main and Potter in 1905, to which was added a two-story office wing in 1910. The factory was organized to accommodate a stock room and shipping department in the basement, printing on the first floor, a calendar

department on the second floor, leather goods and novelty work on the third, and leather and paper stock storage on the fourth (Sanborn 1917). The company continued to work out of this building until at least 1943 (Sanborn 1943).

Recommendations

Cores across Area 6 mostly encountered a buried soil horizon that gave way to shallow bedrock. This soil has the potential to contain historical-period resources and possibly precontact and contact-period resources, although its shallow depth and the presence of historical-period artifacts suggest this landform was reworked during the historical period. Core 6-E demonstrates that the 1905 construction of the Red Wing Advertising Company and the excavation of its basement destroyed the archaeological potential of Lot 5. A Phase I archaeological survey is therefore recommended of Lots 1-4 only, should they be subject to project-related impacts.

AREA 7 (BLOCK 39, LOTS 9 AND 10)

Area 7 is located on the southeast corner of the intersection of Main Street and Plum Street (see Figure 23). The test area consists of portions of Lots 9 and 10 of Block 39.

Block 39, Lot 9

Associated Addresses: 217, 217 ½, 219, 221, and 217-221 [219-223] Main St., 209-211 Plum St.

Portion of Lot: Eastern two-thirds of the north half and entire south half

Current Land Use: Parking lot

Potential Resources: Structural remnants of the Kemp Block, commercial building at 209-211 Plum, and possibly earlier buildings at 217, 219, and 221 Main, associated artifact deposits or features

Block 39, Lot 10

Associated Address: 209-211 Plum St.

Portion of Lot: Central

Current Land Use: Driveway/parking area

Potential Resources: Structural remnants of commercial building

Results of Coring

Permission to conduct coring in Area 7 was not received from the property owner; therefore, no cores were taken in this location.

Recommendations

Because the literature search indicates that Area 7 has the potential to contain historical-period (and earlier) archaeological deposits, but the subsurface conditions of the area could not be assessed, a Phase I archaeological survey of the area is recommended should it be subject to project-related impacts.

AREA 8 (BLOCK 39, LOT 6)

Area 8 is located on the southwest corner of the intersection of Main Street and Potter Street (see Figure 23). The test area consists of Lot 6 of Block 39.

Block 39, Lot 6

Associated Addresses: 201, 203 and 205 Main St., 214 (212-214) Potter St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of hotels and commercial building, associated artifact deposits or features

Results of Coring

Permission to conduct coring in Area 8 was not received from the property owner; therefore, no cores were taken in this location.

Recommendations

Because the literature search indicates that Area 8 has the potential to contain historical-period (and earlier) archaeological deposits, but the subsurface conditions of the area could not be assessed, a Phase I archaeological survey of the area is recommended should it be subject to project-related impacts.

AREA 9 (BLOCK 39, LOTS 3-5)

Area 9 is located on the northwest corner of the intersection of 3rd Street W. and Potter Street. The test area encompasses Lots 3, 4, and 5 of Block 39 (see Figure 23).

Block 39, Lot 3

Associated Addresses: 210 (216), 210 ¼, 214, and 218 3rd St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwellings, associated artifact deposits or features

Block 39, Lot 4

Associated Addresses: 210 ½ and 206-208 (214) 3rd St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Historical-archaeological resources unlikely

Block 39, Lot 5

Associated Addresses: 202 and 204 3rd St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Historical-archaeological resources unlikely

Results of Coring

Six archaeological cores were advanced within Area 9 (Figure 30). Three cores were placed near the front of the lots, and three within the rear lots. Utilities prohibited placing cores within the east half of Lot 5. Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 9-A was located in the historically open portion of the lot to the rear of a dwelling at 210 (216) 3rd St. W. An thin horizon of coarse, black (10YR 2/1) to very dark brown (10YR 2/2), sandy loam with pebbles was present between 0.7 and 0.8 ft. (22 and 25 cm). This apparent fill contained brick and coal flecks. At a depth of 1.7 ft. (52 cm), the core encountered shallow weathered bedrock that continued to a depth of 6 ft. (183 cm), at which depth coring stopped.

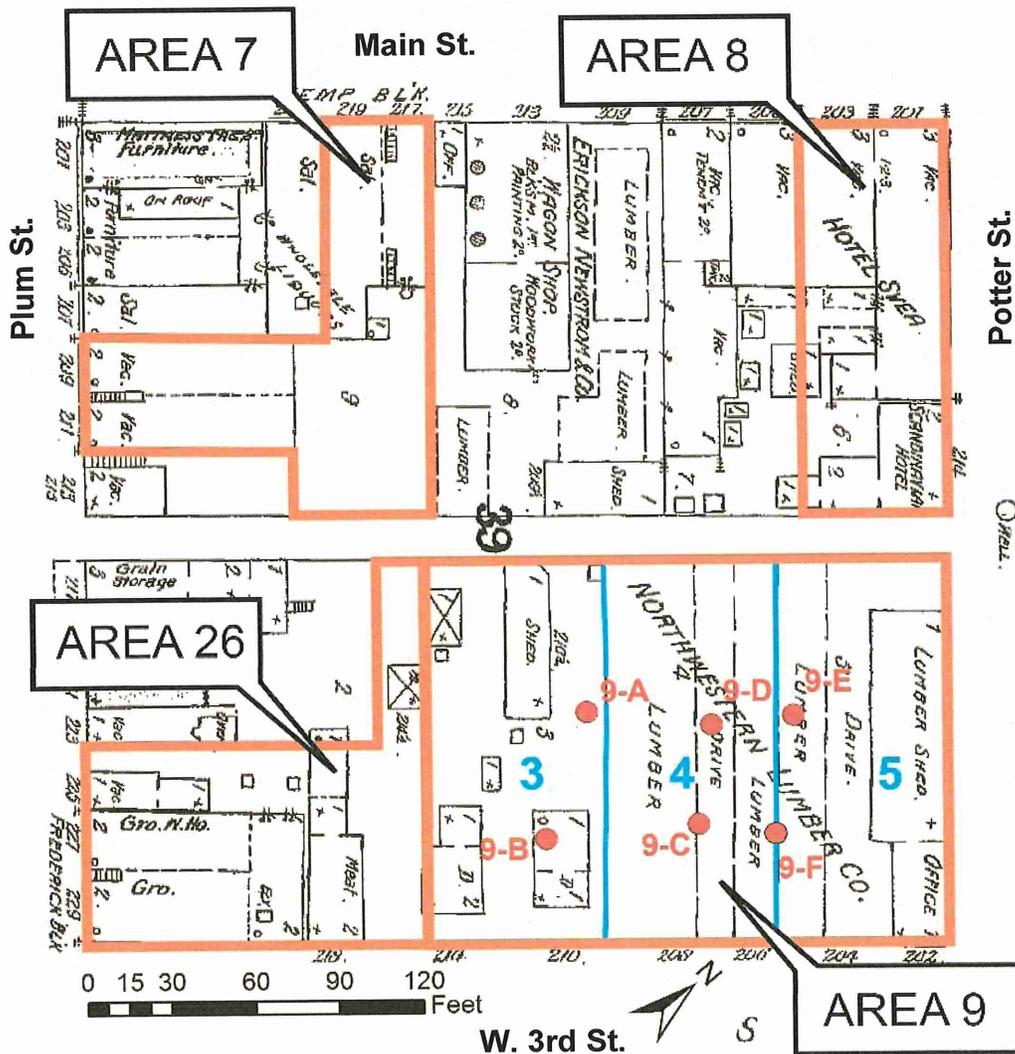


FIGURE 30. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREA 9 ON 1891 SANBORN MAP

Core 9-B was situated within the footprint of 210 (216) 3rd St. W, which according to the Sanborn maps was a single-story dwelling without a basement removed between 1927 and 1943. The asphalt of the lot directly overlay the coarse fill, which in this core contained limestone fragments in addition to brick fragments. At a depth of 1.1 ft. (35 cm), the fill gave way to degraded bedrock.

Core 9-C was driven in the front portion of Lot 4, which was an open lot used for lumber storage for much of its history. The profile of Core 9-C contained the same shallow horizon of dark fill, but without brick fragments. In Core 9-C, the fill overlay a very dark brown (10YR 2/2) fine sandy loam of possible natural origin. At a depth of 1.1 ft. (35 cm), the core transitioned to degraded bedrock.

Core 9-D was placed in the rear portion of Lot 4. The profile exhibited fill underlain by a thin horizon of wood, which was present at 1.8 ft. (52 cm) below the surface. This horizon of peaty wood is likely related to the former use of the lot for lumber storage. The lens of wood capped a natural soil profile consisting of a black (10YR 2/1) to reddish black (2.5Y 3/1), that gradually went to a gley. At a depth of 4 ft. (122 cm), the core transitioned to degraded bedrock.

Core 9-E was located in the rear portion of the west half of Lot 5, which like Lot 4, was used primarily for lumber storage. As in Core 9-D, a black (10YR 2/1) clay loam was encountered at 1.8 ft. (52 cm) below the surface. This soil gradually transitioned to subsoil. At a depth of 5.4 ft. (164 cm), the core transitioned to degraded bedrock.

Core 9-F was situated within the front portion of the west half of Lot 5. This core likewise encountered an apparent natural soil horizon at 1.8 ft. (52 cm) below the surface. At a depth of 4.5 ft. (137 cm), the core transitioned to degraded bedrock.

Recommendations

Archaeological cores within Lot 3 exhibited shallow, truncated profiles with low potential for containing intact archaeological deposits; however, cores within Lots 4 and 5 encountered an apparently intact soil profile at a depth of approximately 1.8 ft. below the surface. Because Lots 4 and 5 were used primarily for lumber storage throughout their history, these potentially undisturbed soils may contain precontact and contact-era deposits. A Phase I archaeological survey of Lots 4 and 5 is therefore recommended should it be subject to project-related impacts. No additional work is recommended for Lot 3.

AREA 10 (BLOCK 40, LOTS 4-7)

Area 10 encompasses the east portion of Block 40 including most of Lots 4 through 7 (see Figure 23). The test area is bound to the south by the Highway 63 bridge approach and to the north by Highway 61/Main Street.

Block 40, Lot 4

Associated Addresses: 108 and 114 ½ [108 ½] 3rd St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifacts or features

Block 40, Lot 5

Associated Addresses: 106, 106 ½, 106 ½ (420 Bluff St.), 106 ⅓ (424 [224 {222}] Bluff St.), 106 ¼ 3rd St. W. (422 [222 {218}] Bluff St.) and 226 (426 [226]) Bluff St.

Portion of Lot: Entire lot

Current Land Use: Parking lot and adjacent greenspace

Potential Resources: Structural remnants of dwellings and Red Wing Manufacturing Company warehouse, artifact deposits or features associated with residential properties

Block 40, Lot 6

Associated Address: 101 Main St.

Portion of Lot: Entire lot

Current Land Use: Parking lot and adjacent greenspace

Potential Resources: Structural remnants of Red Wing Manufacturing Company complex

Block 40, Lot 7

Associated Address: 109 Main St.

Portion of Lot: Entire lot

Current Land Use: Parking lot and adjacent greenspace

Potential Resources: Structural remnants of Red Wing Manufacturing Company complex, associated artifact deposits or features

Results of Coring

Seven archaeological cores were advanced within Area 10 (Figure 31). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 10-A was placed within the footprint of the Red Wing Manufacturing Company's boiler room in Lot 6. Beneath recent fill, the core encountered brick, mortar, cinders, and limestone between 1.0 and 4.5 ft. (30 and 137 cm) below the ground surface. These materials are consistent with the structural remains of the boiler room. The historical-period deposits capped an apparently natural soil profile that continued to 8 ft. (244 cm), at which depth weathered bedrock was encountered.

Core 10-B was situated near what was historically the south edge of the alley at the north end of a stable located within Lot 4. This core encountered various layers of fill that gave way to a series of loams at a depth of 2.7 ft. (82 cm). A peat-like horizon of wood, possibly associated with the nearby Red Wing Manufacturing Company, was recovered

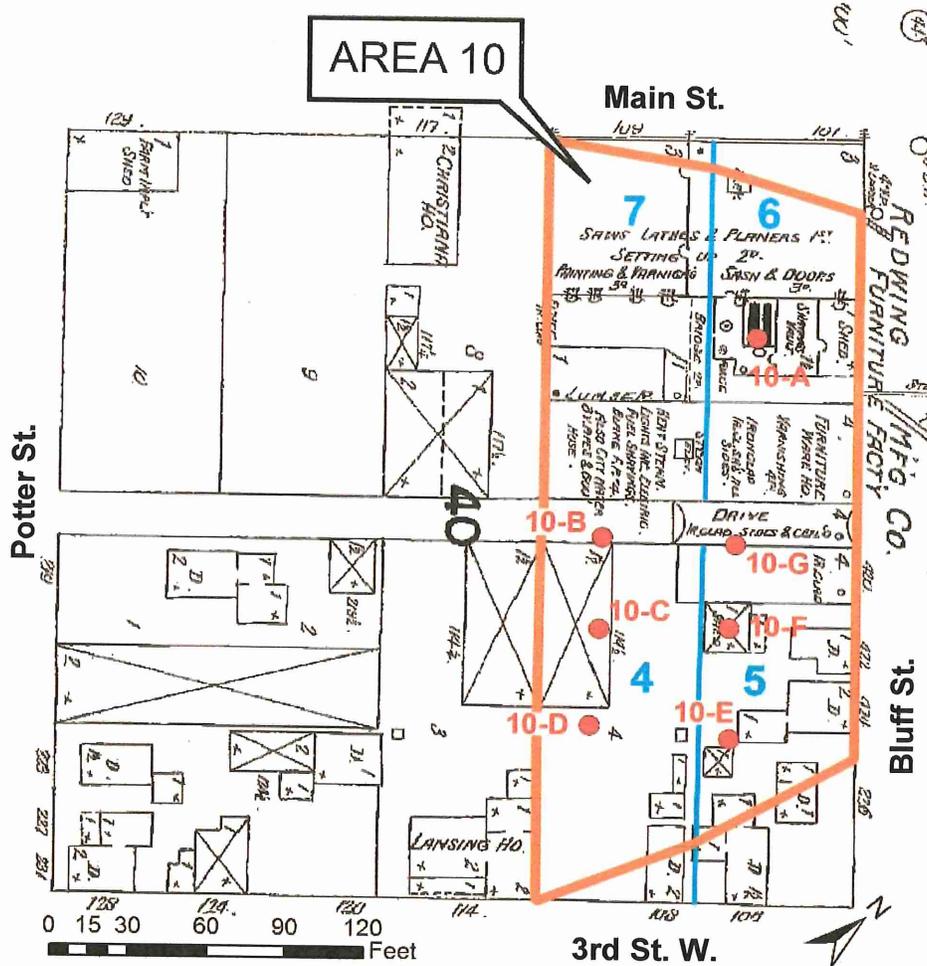


FIGURE 31. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREA 10 ON 1891 SANBORN MAP

at a depth of approximately 6 ft. A radiocarbon sample from the wood in this horizon returned a date of 40 ± 30 years B.P. (1910 ± 30 years). Another radiocarbon sample of leafy plant matter was collected at a depth of approximately 6.9 ft. (210 cm) from near the intersection of a muck layer with a buried black (10YR 2/1), silty clay loam soil that underlay it. The sample returned a date of 230 ± 30 years B.P. (1720 ± 30 years). Weathered bedrock was encountered at 9.4 ft. (286 cm).

Core 10-C was driven within the footprint of the stable building formerly located within Lot 4. This core encountered a horizon of brick underlain by crushed limestone at a depth of 1.5 ft. (45 cm). The brick is most likely associated with the former stable. At a depth of 4.0 ft. (122 cm), a natural, black (10YR 2/1), silt containing plant material was documented. Weathered bedrock was encountered at 8.6 ft. (2.6 m).

Core 10-D was placed in a historically open portion of Lot 4. This core was blocked by a cobble which limited recovery. Weathered bedrock was encountered at 8.0 ft. (244 cm).

Core 10-E was located near the adjoining corners of a dwelling at 424 (224 [222]) Bluff Street and an outbuilding associated either with that dwelling or one at 106 3rd St. W. This core was proximate to a water pipe trench and the elevated Highway 63 bridge approach. Core 10-E exhibited fill and mixing from past disturbance throughout. Amber bottle glass fragments were present at approximately 6 ft. (183 cm). Weathered bedrock was encountered at 8.7 ft. (2.6 m).

Core 10-F was situated within the footprint of a shed associated with a dwelling at 422 Bluff Street. Assorted fills and textures were recorded in the upper portion of the core. No distinct structural remains were noted. A peat-like horizon of wood, possibly associated with the nearby Red Wing Manufacturing Company, was recovered at a depth of approximately 6 ft. (183 cm). Beneath this horizon at a depth of 8 ft. (244 cm) was a natural soil profile that gave way to clays and weathered siltstones at approximately 10 ft. (304 cm).

Core 10-G was placed on what was historically the south side of the alley at the north wall of a former iron-clad warehouse building. Assorted fills and textures were recorded in the upper portion of the core. At a depth of 5.2 ft. (158 cm), limestone and mortar likely associated with the foundation of the warehouse was encountered. A peat-like horizon of wood, possibly associated with the nearby Red Wing Manufacturing Company, was recovered at a depth of approximately 6 ft. (183 cm). Beneath this horizon was a natural soil profile at 8 ft. (244 cm) that gave way to clays and weathered siltstones at approximately 10 ft. (304 cm).

Additional Historical Information

Core 10-A, within Lot 6, encountered structural remains associated with the Red Wing Manufacturing Company. Core 10-B, at the south edge of the alley adjacent to Lot 4, and Cores 10-F and 10-G, in and adjacent to Lot 5, respectively, contained historical-period deposits that may be associated with the same.

The Red Wing Manufacturing Company was begun by Daniel C. Hill in 1862 at the corner of Main and Bluff streets. Operating in a 30-by-60-foot, two-story frame building with a 16-by-30-foot addition, Hill initially produced sash, doors, blinds, and mouldings. By 1869, the frame building could no longer accommodate Hill's quickly growing business, therefore he had constructed a 50-by-60-foot, three-story, brick building to the southwest of the frame building (Curtiss-Wedge 1909:638). Sometime between 1869 and 1884, the frame building was razed to make way for a 70-by-60-foot, three-story brick addition at the corner of Main and Bluff, this addition having a one-and-a-half-story structure off the back to house the boiler and shavings room, and a four-story, brick warehouse was built southeast of the main complex, along with a bridge to connect the two (Sanborn 1884) (Figure 32). In 1882, Hill, along with C. E. Erickson, Andrew Swanson, and T. K. Simmons, incorporated the Red Wing Manufacturing Company. Although sash and doors continued to be a part of the company's production line until 1902, these were phased out in favor of furniture (Sanborn 1902). Between 1917 and 1927, the Red Wing Manufacturing Company is no longer present on this corner

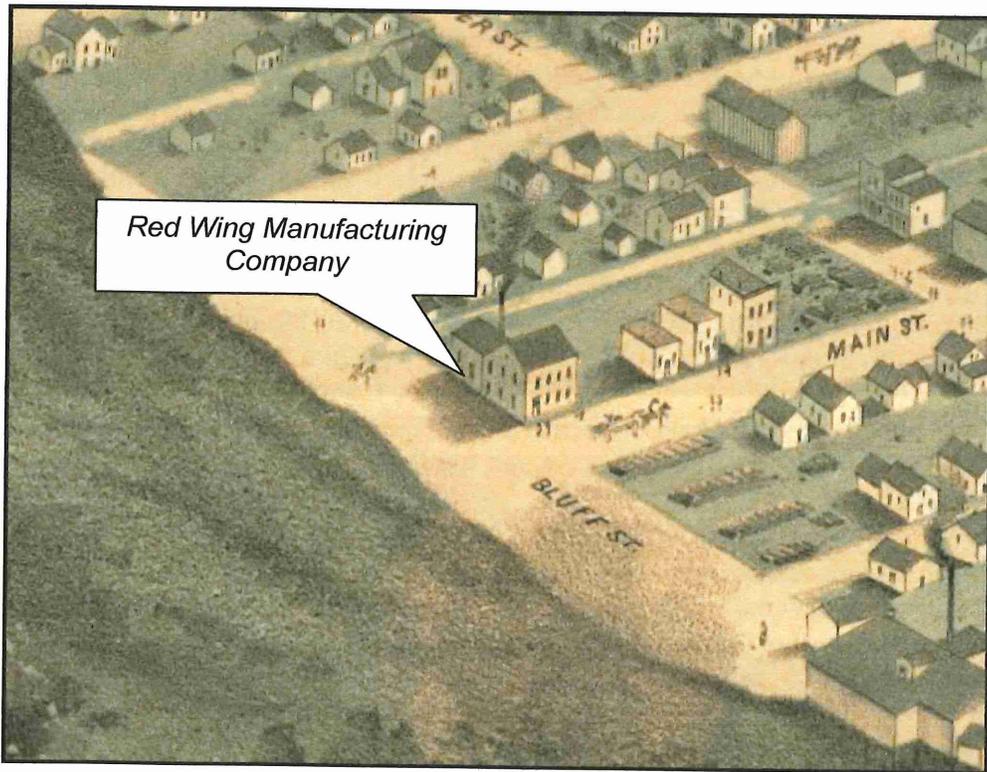


FIGURE 32. RED WING MANUFACTURING COMPANY ON DETAIL FROM 1868 PANORAMIC MAP



FIGURE 33. RED WING MANUFACTURING COMPANY, 1937, VIEW TO SOUTHEAST (MHS NEG NO. 829-A)

(Sanborn 1917, 1927). The company's main building is adapted for use for auto sales, parts, and repair (Figure 33).

Recommendations

Archaeological cores within Area 10 encountered structural remains associated with the Red Wing Manufacturing Company and other historical-period resources recorded within the test area. These features were considered a site lead and assigned number 21GDbj. The historical-period deposits cap intact natural soils, which contain indications of perhaps having been inundated in the past, but which may contain precontact and contact-era deposits. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts.

AREA 11 (BLOCK 21, LOTS 6 AND 7)

Area 11 is located on the southwest corner of the intersection of Bush Street and 4th Street West (see Figure 23).

Block 21, Lot 6

Associated Addresses: 402 and 414 Bush St.

Portion of Lot: Northern seven-sixteenths and an irregular area including roughly the southern one-fourth

Current Land Use: Bank drive thru and parking lot

Potential Resources: Structural remnants of dwelling and gas station, artifact deposits or features associated with residential property

Block 21, Lot 7

Associated Address: 411 [409] 4th St. W.

Portion of Lot: Northern seven-sixteenths and the southern one-fourth

Current Land Use: Bank drive thru and a parking lot

Potential Resources: Structural remnants of dwelling/hotel, associated artifact deposits or features

Results of Coring

Permission to conduct coring in Area 11 was not received from the property owner; therefore, no cores were taken in this location.

Recommendations

Because the literature search indicates that Area 11 has the potential to contain historical-period (and earlier) archaeological deposits, but the subsurface conditions of the area could not be assessed, a Phase I archaeological survey of the area is recommended should it be subject to project-related impacts.

AREA 12 (BLOCK 21, LOTS 3-5)

Area 12 is located on the northwest corner of the intersection of Bush Street and 5th Street W. (see Figure 23). The area is currently a parking lot.

Block 21, Lot 3

Associated Addresses: 428 ¼ (410) and 428 ⅓ 5th St. W.

Portion of Lot: Southeastern one-quarter and extension to north end of lot from its west half

Current Land Use: Driveway and parking lot

Potential Resources: Structural remnants of Remmler Brewing Company ice houses and ice house/beer cellar, associated artifact deposits or features

Block 21, Lot 4

Associated Address: 428 ¼ (410) 5th St. W.

Portion of Lot: Southern half

Current Land Use: Driveway and parking lot

Potential Resources: Structural remnants of Remmler Brewing Company ice house/beer cellar, associated artifact deposits or features

Block 21, Lot 5

Associated Address: 428 Bush St.

Portion of Lot: Southern half and small adjacent portion on the north side of the east end of south half

Current Land Use: Driveway and parking lot

Potential Resources: Structural remnants of Remmler Brewing Company brewery and associated saloon, associated artifact deposits or features

Results of Coring

Six archaeological cores were advanced within Area 12 (Figure 34). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 12-A was located near the east wall of the former ice house of the Heising/Remmler brewery. Beneath fill, the core struck granite stone at a depth of 2 ft. (65 cm), which gave way to the limestone and mortar foundation of the ice house, which was present to a depth of at least 9 ft. (274 cm).

Core 12-B was placed 5 m to the northwest of Core 12-A and also within the footprint of the brewery's ice house. Layers of concrete and a large void between 4 ft. (122 cm) and 12 ft. (3.6 m) below the surface suggest the presence of floors and possibly subterranean rooms. The limestone and brick floor of the ice house was documented at a depth of 12.5 ft. (3.8 m) (Figure 35). The floor was underlain by clean sand that gave way to weathered bedrock at a depth of 19.0 ft. (5.8 m).

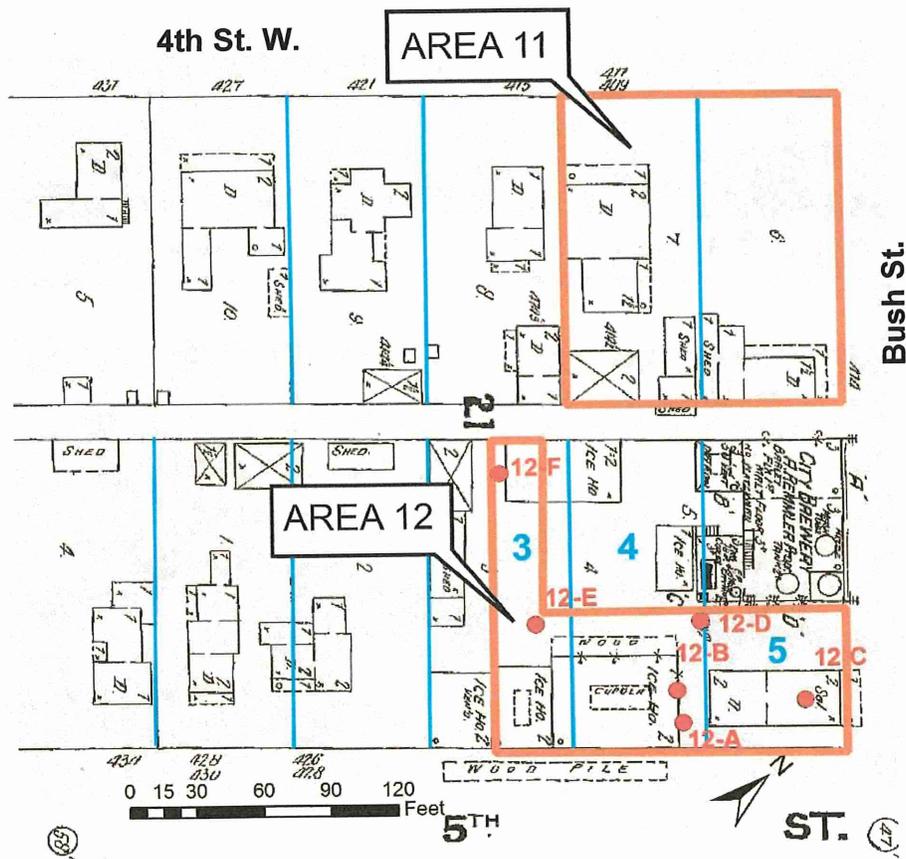


FIGURE 34. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREA 12 ON 1891 SANBORN MAP

Core 12-C was located within the footprint of the hotel/saloon building that fronted on Bush Street. This core encountered several layers of brick and limestone to a depth of 8.8 ft. (2.7 m). These materials capped a natural soil profile that gave way to bedrock at 9.6 ft. (2.9 m).

Core 12-D (absent from geomorphological core logs) was placed proximate to the extant store building and within the footprint of a portion of the brewery's engine room as documented on Sanborn fire insurance maps after 1910. The core went met refusal in concrete at a depth of 0.5 ft. (15 cm).

Core 12-E (12-D in geomorphological core logs) was situated within an open portion of Lot 3 that historically would have been within the brewery yard between the ice houses and the wagon shed. Although no structures were documented in the immediate vicinity, the core revealed banded mortar and loam with brick flecks to a depth of 2.5 ft (75 cm) at which depth a solid horizon of brick was encountered. This brick layer capped a possible natural soil profile at a depth of 4.1 ft. (126 cm).

Core 12-F (12-E in geomorphological core logs) was placed in an open portion of Lot 3 proximate to the historical location of an ice house. The core encountered a natural soil

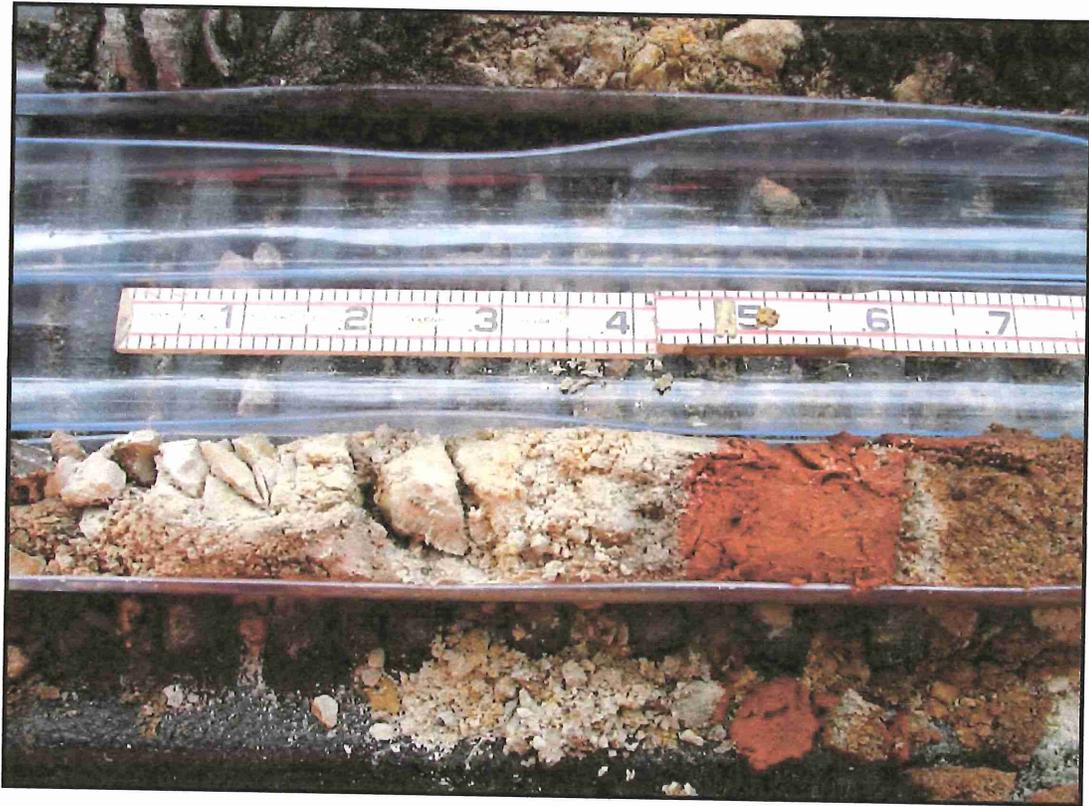


FIGURE 35. LIMESTONE AND BRICK IN CORE 12-B

profile at 0.7 ft. (20 cm). This soil was sampled and processed, but was negative for cultural material.

Additional Historical Information

Archaeological cores within Area 12 documented structural remains associated with the Heising/Remmler Brewery. The Heising brewery was begun in 1861 by William Heising, a Prussian immigrant who arrived in Red Wing during that year. The brewery, a frame building, was located at the corner of Bush and 5th streets, in the former Old Minnesota house, which Heising converted for his purposes (Curtiss-Wedge 1909:378) (Figure 36).

In 1869, Heising built a new, three-story-plus-basement, brick brewery building just northwest of the original building, the old frame brewery subsequently being used as a saloon (see Figure 36). In the new building, the “basement contained the malt machinery and other apparatus. On the first floor were the beer kettle, mash tub, cooler works and the various appliances. Second and third floors were devoted to general purposes” (Curtiss-Wedge 1909:378). Flooding in the basement required Heising to add an 800-foot-long drainage line from the new building in 1871, by which year his brewery had become the largest in the city, with a production of 600 barrels annually (Hoverson 2007:276-277). When Heising died in 1873, his wife, Christina, carried on the brewery

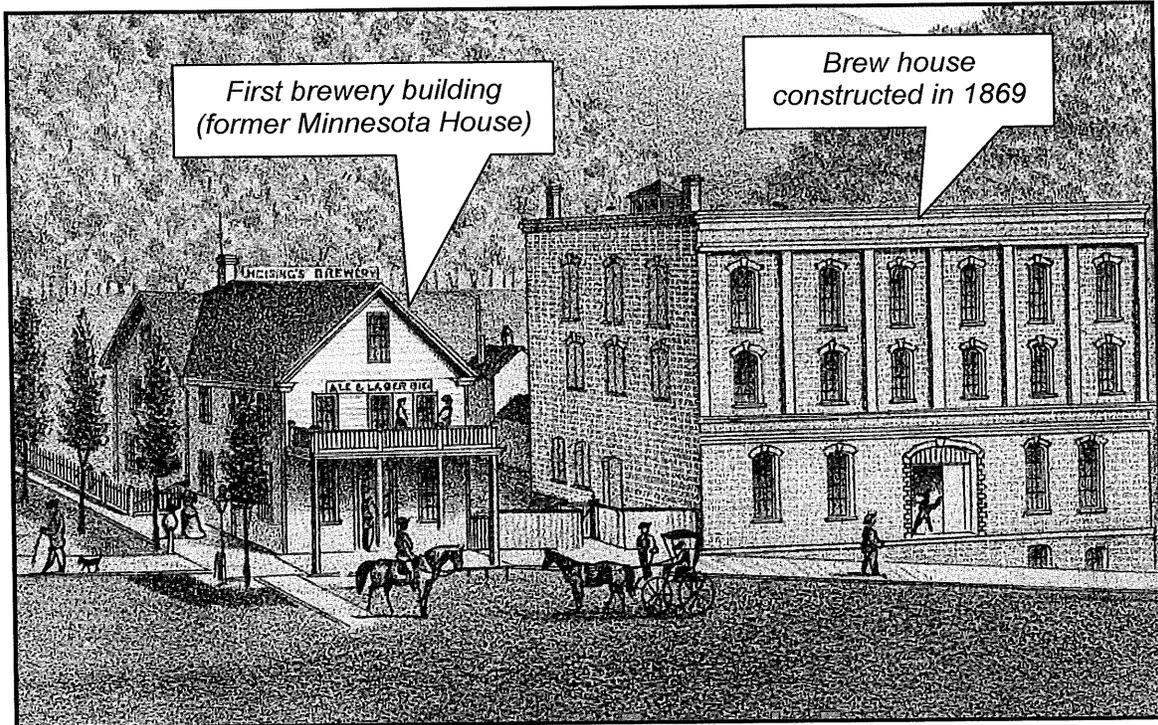


FIGURE 36. DETAIL OF ILLUSTRATION OF HEISING BREWERY (ANDREAS 1874)



FIGURE 37. HEISING/REMMLEER BREWERY, 1937 (MHS NEG. NO. 882-A), VIEW NORTHWEST FROM BUSH STREET

operations, adding a two-story brick ice house over a new beer cellar to the southwest of the original frame brewery (Figure 37).

Christina received assistance in the form of Adolph Remmler, who arrived in Red Wing in 1875 to manage the brewing operations, and within two years, he and Christina married. In 1877, with Remmler as the new proprietor, the brewing company was renamed the Remmler Brewing Company, and bottling facilities were added to the brewery's operations (Hoverson 2007:277). The following year saw the addition of a three-story, brick dry kiln and a three-story, brick engine house off the back of the brick brewery building. The first floor of the engine house housed an engine and a boiler, the second floor hot and cold water tanks, and the third a "cooler apparatus" (Curtiss-Wedge 1909:378). As the brewery operation grew physically, so did production, to an annual rate of 6,000 barrels during the 1890s.

After Adolph's death in 1908, his son, Otto, managed the brewery operations until Prohibition brought them to a standstill with an ordered cessation in November of 1918 (Rasmussen 1933:183; Hoverson 2007:278). Awaiting its repeal, the brewery complex sat dormant over the next 15 or so years because the Remmlers chose not to convert it for other products. Even so, the complex was not in turnkey condition when brewing once again became permissible, requiring the company to make "significant improvements" (Hoverson 2007:278) before operations could recommence in 1934. The Remmler brewery, despite its quick growth in the early years, found itself stunted by the competition after its reincarnation. With a maximum capacity of 20,000 barrels per year, it existed as one of Minnesota's smallest breweries until a lack of profits forced it to close in 1948 (Curtiss-Wedge 1909:378; Hoverson 2007:278).

Recommendations

Archaeological cores within Area 12 documented structural remains associated with the Heising/Remmler Brewery. These features were considered a site lead and assigned number 21GDbi. Intact natural soils, which may contain precontact and contact-era deposits, are also present within the test area. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts.

AREA 13 (BLOCK 27, LOTS 7-9)

Area 13 consists of rear lots and alleyways in the north half of Block 27, which is located between Bush and Plum Streets and 3rd and 4th Streets W. (see Figure 23).

Block 27, Lot 7

Associated Addresses: 301 ¹/₆ (311) and 301 ¹/₉ (311) 3rd St. W., 302, 304, 306, 310, 312, and 314 Plum St.

Portion of Lot: Roughly the northwestern one-fourth and all but the eastern edge of the southern approximately three-eighths

Current Land Use: HVAC and parking lot

Potential Resources: Structural remnants of saloon, artifact deposits or features associated with saloon and commercial buildings fronting Plum

Block 27, Lot 8

Associated Address: 301 ½ 3rd St. W.

Portion of Lot: Southern approximately one-fourth

Current Land Use: Parking lot

Potential Resources: Structural remnants of veterinary hospital, associated artifact deposits and features

Block 27, Lot 9

Associated Addresses: 301 ⅓ (317 [319]) and 301 ½ (317 ½) 3rd St. W., 301-303, 307, 305-313 Bush St.

Portion of Lot: Irregular portion extending in a stepped fashion up from the southeast and south-central portion to north of center along west edge

Current Land Use: Parking lot and a space between buildings

Potential Resources: Structural remnants of commercial building, artifact deposits and features associated with fire engine house, commercial buildings, and lockup

Results of Coring

Three archaeological cores were advanced within those portions of Area 13 for which landowners gave permission to test (Figure 38). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 13A-A was located in an area that was historically open and to the rear of buildings fronting on Plum Street and to the side of a saloon fronting on 3rd St. W. This core revealed historical-period accumulations to a depth of 1.3 ft (38 cm) overlying a natural soil profile. A sample from the A and B horizons of this soil produced a colorless glass spall. Bedrock was encountered at approximately 10 ft. (3.0 m).

Core 13B-A was placed within the footprint of an earlier agricultural implements storage building and a subsequent veterinary hospital in the south portion of Lot 8. Core 13B-B was within a historically open area to the west of the storage building/veterinary hospital and to the rear of a building fronting on 3rd St. W. The current building on the lot was constructed between 1902 and 1910, and both cores indicated that these construction activities disturbed all deposits to the depth of bedrock (Sanborn 1902, 1910).

Recommendations

The archaeological core placed within Area 13A within the north half of Lot 7 demonstrated intact natural soils, which may contain cultural deposits. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts. Cores within Area 13B within the south half of Lot 8 demonstrated intensive disturbance and a lack of archaeological potential. Due to a lack of landowner permission, the archaeological potential of the south half of Lot 7 and the open portion of Lot 9 remain unassessed. Based on these results, a Phase I archaeological survey of Lots 7 and 9 of Block 27 is recommended should it be subject to project-related impacts.

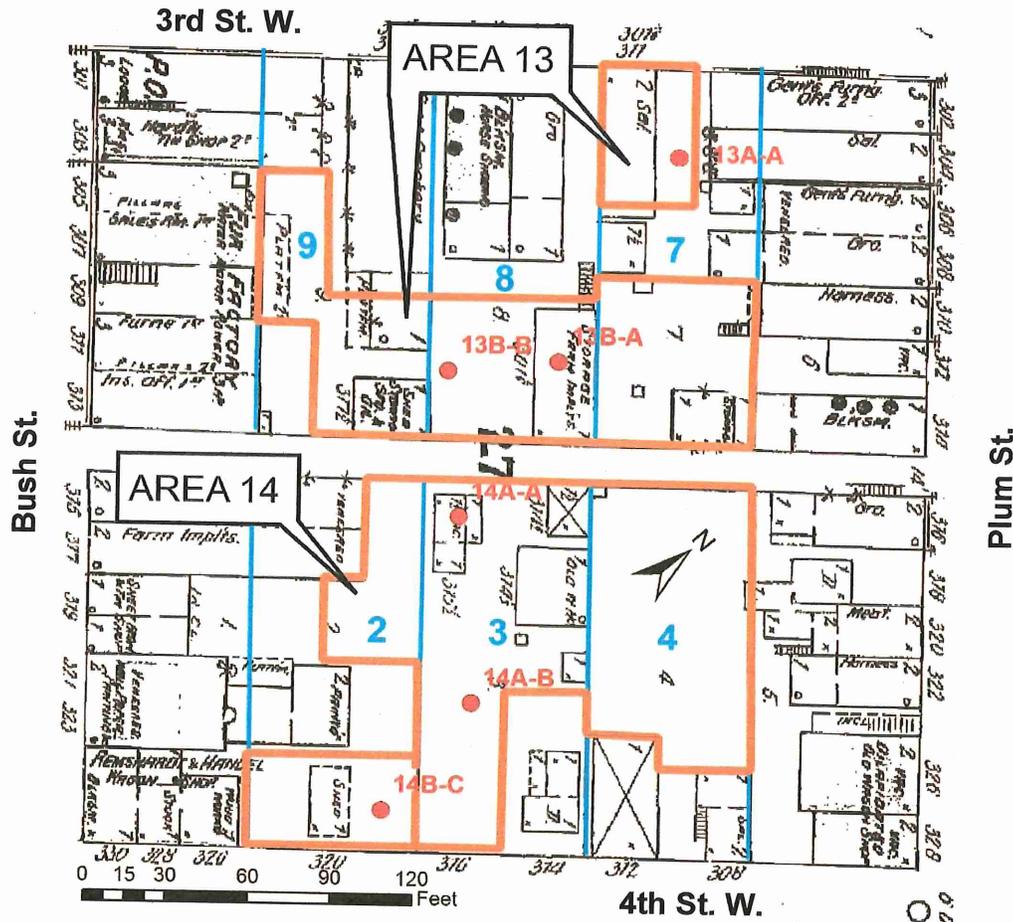


FIGURE 38. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREAS 13 AND 14 ON 1891 SANBORN MAP

AREA 14 (BLOCK 27, LOTS 2-4)

Area 14 consists of parking lots, alleyways and backlots within the south half of Block 27, which is located between Bush and Plum Streets and 3rd and 4th Streets W. (see Figure 23).

Block 27, Lot 2

Associated Addresses: 315-317, 319 (319-321), and 321-325 (323-325) Bush St., 320, 326-330 (324-330), and 330 4th St. W.

Portion of Lot: Southern one-fourth and backwards-L-shaped area in the northeast and north-central parts of lot

Current Land Use: Parking lot

Potential Resources: Artifact deposits or features associated with livery/commercial building, other commercial buildings, and wagon shop complex

Block 27, Lot 3

Associated Addresses: 315 ½ Bush St., 314, 314 ½, 314 ⅓, and 314 ⅓ [316] 4th St. W.

Portion of Lot: All but the eastern half of the southern seven-sixteenths

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling at 314 4th W. and service/industrial/commercial buildings, artifact deposits and features associated with residential properties

Block 27, Lot 4

Associated Addresses: 308, 312, and 314 ½ 4th St. W., 316, 318, 320, 322, and 326 Plum St.

Portion of Lot: North three-quarters

Current Land Use: Parking lot

Potential Resources: Structural remnants of saloon and monument works building, artifact deposits or features associated with saloon, dwelling/commercial buildings, and commercial buildings fronting Plum

Results of Coring

Three archaeological cores were advanced within those portions of Area 14 for which landowners gave permission to test (see Figure 38). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 14A-A (14B-A in core logs) was placed in Lot 3 within the footprint of a dwelling that was later replaced by a warehouse. Beneath historical-period deposits, the core encountered a concrete and stone floor at a depth of 4 ft. (122 cm). This floor capped a natural soil profile. A sample from the A horizon of this soil produced fragments of wood.

Core 14A-B (14B-B in core logs) was situated within a portion of Lot 3 that was open for much of its history until a clay tile warehouse was built on the lot between 1917 and 1927 (Sanborn Map Company 1917, 1927). Brick and mortar encountered at a depth of 1.5 ft. (48 cm) are likely related to this structure. The remnants of the warehouse capped historical-period deposits accumulated atop a layer of limestone (which may also be structural) present at a depth of 4.2 ft. (128 cm). This layer of limestone capped a natural soil profile, which produced a piece of colorless bottle glass from within this buried A horizon. Degraded bedrock was encountered at 10.6 ft. (3.2 m).

Core 14 B-C (14C-A in geomorphological core logs) was located within a historically open portion of Lot 2. This core contained historical-period materials in the upper 4 ft. (122 cm). Between 8 (2.5 m) and 10 ft. (3.0 m) two layers of black (10YR 2/1) soil containing wood fragments were encountered. This core is proximate to the Jordan Creek channel, and silts and gleys in this core may be related to the presence of the former waterway. Weathered bedrock was documented at 9.6 ft. (3.0 m).

Recommendations

Archaeological cores within Area 14 encountered structural remains and intact natural soils which may contain precontact and contact-era deposits. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts.

AREA 15 (BLOCK 22, LOTS 6, 9, AND 10)

Area 15 is located within the north half of Block 22 and consists of the parking lots located to the east (15a) and west (15b) of City Hall.

Block 22, Lot 6

Associated Addresses: 301, 301 $\frac{1}{3}$, and 301 $\frac{1}{4}$ 4th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot and adjacent greenspace

Potential Resources: Structural remnants of buildings at 301 and 301 $\frac{1}{3}$ 4th W., associated artifact deposits and features

Block 22, Lot 9

Associated Address: 407 Bush St.

Portion of Lot: West portion of southern two-thirds of lot

Current Land Use: Parking lot and adjacent greenspace

Potential Resources: Structural remnants of machinist's repair shop, artifact deposits and features associated with shop and fireman's hall

Block 22, Lot 10

Associated Addresses: 407 and 409 Bush St.

Portion of Lot: Southern two-thirds of lot

Current Land Use: Parking lot and adjacent greenspace

Potential Resources: Structural remnants of machinist's repair shop, adjacent building, and fireman's hall, associated artifact deposits or features

Results of Coring

Four archaeological cores were advanced within areas 15A and 15B (Figure 39). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 15A-A was driven within a historically open portion of Lot 6. This location is proximate to the natural spring that fed Jordan Creek. The core demonstrates a series of intact soils separated by silts and pebbles most likely deposited by flooding proximate to the creek. A strata present at approximately 6.7 ft. (2.0 m) was noted in the field as containing cinders. At 9.2 ft. (2.8 m) a very dark gray (5Y 3/1), silty loam was encountered. A 40-cm sample of this stratum was water-screened through 1/8th-inch hardwire mesh. The sample contained partially-calcined, long bone fragments, cinders, coal slag, mortar and brick fragments, a metal fragment, and modified (historical-period)

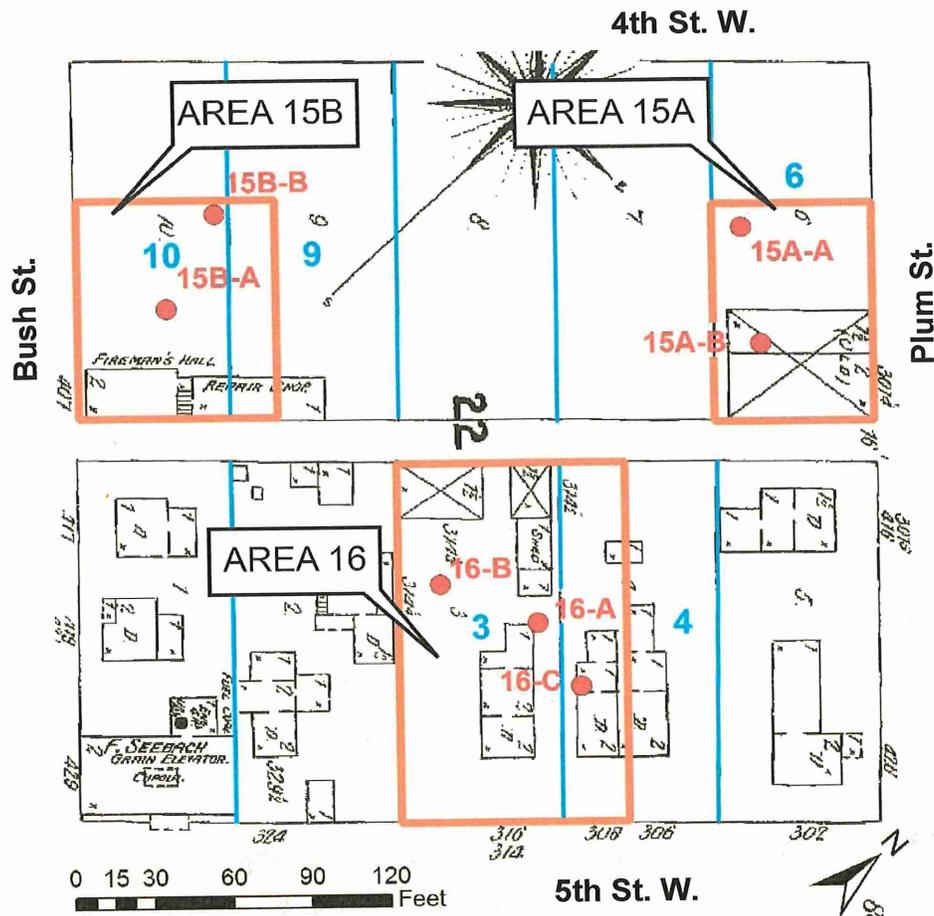


FIGURE 39. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREAS 15 AND 16 ON 1891 SANBORN MAP

pieces of wood. This soil continued to a depth of 12.4 ft. (3.8 m). Wetland plant matter recovered from within yet another buried black (10YR 2/1), silty loam horizon at 20.2 ft. (6.2 m) returned a radiocarbon date of 5,240±30 years B.P. (3290±30 years B.C.). The core encountered weathered bedrock at approximately 22.5 ft. (6.8 m).

Core 15A-B was placed within the footprint of a stable within Lot 6 that was described as “old” on 1884 and 1891 fire insurance maps (see Figure 39) and which had been removed by 1895. This core encountered horizons similar to those in core 15A-A. Horizons between 4 ft. (122 cm) and 8 ft. (2.4 m) contained cinders. A horizon of gravels encountered at 8 ft. (2.4 m) was water-screened through 1/8th-inch hardwire mesh contained a piece of coal and fragments of mortar. This layer of gravel was underlain by a horizon of sawdust, wood, and occasional coal fragments. Bedrock was encountered at 12.2 ft. (3.7 m).

Core 15B-A was located within a portion of Lot 10 that was the site of a vacant building and machinist’s repair shop on the 1884 fire insurance map but vacant on Sanborn maps beginning in 1891. Historical-period deposits were recorded between 2 ft (60 cm) and 3 ft. (92 cm). When sampled, these were found to include a small ironstone sherd and

fragments of brick, mortar, and cinders. Another layer of ash, coal, and charcoal was encountered at approximately 132 cm (4.3 ft.). Bedrock was documented at a depth of 6.2 ft. (1.9 m).

Core 15B-B was situated in an open portion of Lot 10 proximate to the former Jordan Creek channel. Below layers of fill, an intact horizon of historical-period deposits was encountered at a depth of 5.0 ft. (1.5 m). This apparent burn layer consisted of a layer of ash that when sampled included fragments of flat glass, lamp glass, a wire nail, brick, mortar, coal, and cinders (Figure 40). This horizon was underlain by a lens of lime and mortar that may be related to the presence of a former structure. Additional coal, slag, ash, and mortar, as well as wall plaster, were present in the sample from a depth of 8 ft. (2.4 m). This horizon also contained a bisque doll head fragment. Between 8 ft. and 12 ft., the horizon of historical-period deposits gave way to a layer of wet gravels. A deeply buried natural soil profile consisting of a black (10YR 2/1), silty clay loam A horizon was documented at a depth of 12.0 ft. (3.7 m). Weathered bedrock was encountered at a depth of 16.0 ft. (4.9 m).

Recommendations

Archaeological cores within Area 15 encountered horizons containing historical-period cultural deposits, as well as intact natural soils which may contain precontact and contact-era deposits. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts.



FIGURE 40. DETAIL OF ASH AND CINDERS AT A DEPTH OF 5 FT. (1.5 M) IN CORE 15B-B

AREA 16 (BLOCK 22, LOTS 3-4)

Area 16 is located within the south half of Block 22 and consists of a parking lot located to the south of City Hall (see Figure 23).

Block 22, Lot 3

Associated Addresses: 314 (316 [320]), 314 ⅓, and 314 ½ 5th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifact deposits and features

Block 22, Lot 4

Associated Addresses: 308 (318 [312]) 5th St. W.

Portion of Lot: West half

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwellings, associated artifact deposits and features

Results of Coring

Three archaeological cores were advanced within Area 16 (see Figure 39). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 16-A was located near the rear of the dwelling located at 314 (316 [320]) 5th St. W. This core produced evidence for a three distinct soil horizons at 0.9 ft. (28 cm), 3.5 ft. (105 cm), and 5.0 ft. (1.5 m). A sample of the soil at 5.0 ft. (1.5 m) contained wood, coal, and charcoal fragments. With depth this horizon transitioned to an intact native soil. Bedrock was documented at a depth of 12.3 ft. (3.7 m).

Core 16-B was placed within a historically open portion of Lot 3. As in Core 16-A, a horizon mottled with cinders was present at a depth of 5.0 ft. (1.5 m). Weathered bedrock was encountered at a depth of 8 ft. (2.4 m).

Core 16-C was situated within the footprint of the dwelling located at 308 (318 [312]) 5th St. W. This core was shallow to bedrock, which was documented at a depth of 4.8 ft. (1.5 m). A granite cobble and mortar encountered at 2.4 ft. (73 cm) may be related to the former structure.

Recommendations

Archaeological cores within Area 16 encountered horizons containing historical-period cultural deposits as well as intact natural soils which may contain precontact and contact-era deposits. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts.

AREA 17 (BLOCK 11, LOTS 6-9)

Area 17 consists of parking lots and alleyways located within the north half of Block 11 located between Bush and Plum Streets and to the south of 5th Street West.

Block 11, Lot 6

Associated Addresses: 301-303 5th St. W.

Portion of Lot: Northern one-fourth

Current Land Use: Parking lot

Potential Resources: Structural remnants of saloon/grocery store/dwelling, associated artifact deposits

Block 11, Lot 7

Associated Addresses: 309 (311) 5th St. W. and 308 Plum St.

Portion of Lot: Areas at the north end, northeast edge, center, and southeast

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling and saloon, artifact deposits or features associated with dwelling, saloon, and adjacent dwelling in Lot 6

Block 11, Lot 8

Associated Address: 315 5th St. W.

Portion of Lot: Northern two-thirds

Current Land Use: Parking lot

Potential Resources: Structural remnants of wagon shop complex, associated artifact deposits and features

Block 11, Lot 9

Associated Addresses: 319 5th St. W. and 513 ½ Bush St.

Portion of Lot: Eastern one-third and two stepped strips across center and south of western two-thirds

Current Land Use: Parking lot and driveway

Potential Resources: Structural remnants of wagon shop complex, associated artifact deposits or features

Results of Coring

Permission to conduct coring in Area 17 was not received from the property owner; therefore, no cores were taken in this location.

Recommendations

Because the literature search indicates that Area 17 has the potential to contain historical-period (and earlier) archaeological deposits, but the subsurface conditions of the area could not be assessed, a Phase I archaeological survey of the area is recommended should it be subject to project-related impacts.

Core 18-A was located within a concrete driveway in an area that historically began as vacant space to the rear of the former Lyon's Hotel, but which was later occupied by a gas station that was present through at least 1943. This core did not reveal any cultural deposits or intact soils.

Recommendations

Based on the results of the archaeological core placed within Area 18, it is likely that the removal of the former gas station on this corner destroyed any archaeological deposits related to the earlier occupation of this portion of the project APE. No further archaeological testing is recommended within Area 18.

AREA 19 (BLOCK 26, LOTS 6-9)

Area 19 is located on the southwest corner of the intersection of Potter Street and 3rd Street W. (see Figure 23).

Block 26, Lot 6

Associated Addresses: 304 and 312 (314) Potter St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwellings, associated artifact deposits or features

Block 26, Lot 7

Associated Address: 209 3rd St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling

Block 26, Lot 8

Associated Addresses: 213 3rd St. W. and 313 ½ Plum St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifact deposits or features

Block 26, Lot 9

Associated Addresses: 305, 305-307 (307), and 309-313 Plum St., 217-219 (219-221 [217-219]) 3rd St. W.

Portion of Lot: Irregularly shaped area in southern half

Current Land Use: Parking/alley

Potential Resources: Artifact deposits or features associated with hotel and commercial buildings

Results of Coring

Landowner permission was only given to test Lots 6 and 9; however the presence of utilities prevented testing within Lot 9. Two cores were advanced within Lot 9 in Area 19 (see Figure 41). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 19-A was located in what was historically the side yard to the northwest of a dwelling formerly located at 304 Potter St. The core was shallow to weathered bedrock, which was encountered at 2.2 ft. (67 cm). This core did not reveal any cultural deposits or intact soils.

Core 19-B was situated in what was historically the side yard to the southeast of a dwelling formerly located at 304 Potter St. This core did not reveal any cultural deposits or intact soils. Weathered bedrock was encountered at 5.0 ft. (1.5 m).

Recommendations

Archaeological cores placed within Lot 6 in Area 19 demonstrated past disturbance and low archaeological potential. Similar deposits, however, were encountered in Area 21 (see below), also a historically residential area that is shallow to bedrock, yet it contained a relatively deep, intact, artifact-dense feature excavated into bedrock. Because intact deeper features such as a privy may therefore be present in Lot 6, it is recommended that a Phase I survey of Lot 6 occur using surface scraping to identify such features, should this lot be subject to project-related impacts.

Due to a lack of landowner permission, the archaeological potential of Lots 7, 8, and 9 remains unassessed. Based on these results, a Phase I archaeological survey of Lots 7, 8, and 9 of Block 26 is recommended should they be subject to project-related impacts.

AREA 20 (BLOCK 26, LOTS 1-2)

Area 20 is an open surface parking lot located within the southwest portion of Block 26 which is located between Plum and Potter Streets and 3rd and 4th Streets W. (see Figure 23).

Block 26, Lot 1

Associated Addresses: 313 ½-313 ⅓ (315-317) and 319 Plum St.

Portion of Lot: Northern two-thirds

Current Land Use: Parking lot

Potential Resources: Structural remnants of carriage house and Miller Hotel, artifact deposits or features associated with earlier hotel

Block 26, Lot 2

Associated Addresses: 313 ½-313 ⅓ (315-317) and 319 Plum St.

Portion of Lot: Northern two-thirds and southeast corner

Current Land Use: Parking lot and alleyway

Potential Resources: Structural remnants of carriage house and Miller Hotel, artifact deposits or features associated with earlier hotel

Results of Coring

Four archaeological cores were advanced within Area 20 (see Figure 41). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 20-A was located within the footprint of a former barn and a later garage. This core encountered demolition debris that gave way to shallow bedrock at 2.2 ft. (68 cm).

Core 20-B was placed in a historically open portion of Lot 2 and to the rear of the former barn and garage buildings. Like Core 20-A, this core contained fill over a thin (10-cm-thick) horizon containing cinders, but which gave way to weathered siltstone at a depth of 2.6 ft. (79 cm).

Core 20-C was located in Lot 2 and within the footprint of the former Miller Hotel, which was constructed between 1917 and 1927 (Sanborn 1917, 1927). This core contained clean fill sand over bedrock, which was documented at a depth of 3.2 ft. (97 cm).

Core 20-D was driven within Lot 2 and to the rear of a hotel located on the corner of Plum Street and 4th Street West. This core contained an intact soil profile, but no cultural materials were observed. A layer of limestone was present between 1.2 ft. (35 cm) and 1.5 ft. (45 cm). The core was shallow to reworked bedrock, which was encountered below the limestone at a depth of 1.5 ft. (45 cm).

Recommendations

Archaeological cores within Area 20 demonstrated past disturbance and were shallow to bedrock. The removal of buildings that formerly stood in the northern two-thirds of Lots 1 and 2 had disturbed soils to the depth of bedrock, thus removing any archaeological deposits related to the occupation of this portion of the project APE. No further archaeological testing is recommended within Area 20.

AREA 21 (BLOCK 26, LOTS 4-5)

Area 21 is located on the northwest corner of the intersection of Potter Street and 4th Street W. (see Figure 23)

Block 26, Lot 4

Associated Addresses: 210 (210B [208-210]), 210 ½, 210 ⅓ (210D), and 210C 4th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling/boarding house, associated artifact deposits or features

Block 26, Lot 5

Associated Address: 204 4th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifact deposits or features

Results of Coring

Five archaeological cores were advanced within Area 21 (see Figure 41). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Cores 21-A, 21-B, 21-C, and 21-D were located within the footprints and historical yards of dwellings located 204 and 210 4th St. W. All contained an introduced very dark brown (10YR 2/2), sandy loam in which no cultural materials were observed. In two of the four cores, this topsoil was underlain by introduced aggregate and sand fill. All four cores were shallow to reworked siltstone and weathered bedrock, which was encountered between 1 ft. (30 cm) and 2 ft. (60 cm) below the surface of the parking lot.

Core 21-E was placed within a depression visible in the surface of the parking lot in what was historically the yard between outbuildings associated with a dwelling/boarding house at 210 4th St. W. This core revealed a thick asphalt patch over the same introduced topsoil and fill encountered in the four cores described above. However, at a depth of 2 ft (62 cm) the probe encountered a black (10YR 2/1), sandy clay loam. The sample from this horizon contained bone, ceramic spalls, eggshell fragments (approx. 100), flat glass, coal, slag, wood fragments, and miscellaneous metal fragments. Identifiable faunal remains included rib (n=2) and long bone (n=11) fragments consistent with medium-sized bird(s), fish vertebrae (n=5) and scale (n=1) fragments; and an atlas and rib fragments (n=2) from a rodent. Some remains could be broadly assigned to taxa, but the element could not be identified, including 21 fragment of bird bone and an indeterminate mammal bone. Faunal remains unidentifiable to element and taxa numbered five. Some of the faunal remains were calcined (n=4). At approximately 4 ft. (122 cm) the core gave way to reworked siltstone and weathered bedrock.

Additional Historical Information

The feature encountered in Core 21-E was located in an area of sheds and outbuildings at the rear of Lot 4. Post-1900 U.S. Census Schedules (which have assigned addresses), indicate that this home was a rental property used for time as a boarding house and occupied by a variety of residents (Table 4). Around 1920, the building was subdivided into a duplex (208 and 210 4th St. W.).

Recommendations

Archaeological cores within Area 21 demonstrated past disturbance and were very shallow to bedrock. The removal of buildings that formerly stood on these lots disturbed

TABLE 5. OCCUPANTS OF 210 4TH STREET WEST

CENSUS YEAR	RESIDENTS	PLACE OF BIRTH	OCCUPATION
1900	Ellen Hedborg and family	Sweden	Runs Boarding House
	Mary Aker	Illinois	Servant
	Swan Peterson (Boarder)	Sweden	Tailor
	Carl Lidholm (Boarder)	Sweden	Tailor
1910	Theodore J. Herman and wife	Illinois	Foreman (Shoe Factory)
1920 (208 4 th)	H. A. Helmelse (?) and family	Minnesota	City Teamster
1920 (210 4 th)	Harry W. Swanson and family	Sweden	Barber
1930 (208 4 th)	William Paton and family	Minnesota	Clerk (Hardware Store)
1930 (210 4 th)	Peter Gerken and family	Minnesota	Painter (Paint Shop)

soils to the depth of bedrock thus removing any archaeological deposits related to the occupation of this portion of the project APE that would have been above bedrock. As Core 21-E demonstrates, however, features excavated into the bedrock would be preserved, and they are likely to occur, given the shallow depth of the bedrock. The documented feature was considered a site lead and assigned number 21GDbk. Should, therefore, Area 21 be subject to project-related impacts, a Phase I survey using surface scraping to look for other preserved subsurface features and to further delineate the feature identified in Core 21-E is recommended.

AREA 22 (BLOCK 23, LOTS 1-10; BLOCK 24, LOTS 1-2 AND 9-10)

Area 22 consists of portions of Blocks 23 and 24 located between Plum and Bluff Streets and 4th and 5th Streets W. (see Figure 23)

Block 23, Lot 1

Associated Addresses: 415 and 417 Plum St., 228 5th St. W.

Portion of Lot: Northern two-thirds

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling and grocery store, artifact deposits or features associated with residential property

Block 23, Lot 2

Associated Addresses: 220 and 222 (224) 5th St. W., 415 and 415 ½ Plum St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwellings, associated artifact deposits or features

Block 23, Lot 3

Associated Addresses: 214 (216), 214 ½, and 214 ⅓ 5th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifact deposits or features

Block 23, Lot 4

Associated Address: 210 5th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifact deposits or features

Block 23, Lot 5

Associated Addresses: 202 and 202 1/3 5th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling and early building, associated artifact deposits or features

Block 23, Lot 6

Associated Addresses: 201 and 205 4th St. W, 408 Potter St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Historical-archaeological resources unlikely

Block 23, Lot 7

Associated Addresses: 410 1/4 Potter[?] St., 209 and 211 4th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of store buildings

Block 23, Lot 8

Associated Addresses: 401 1/3 (219 4th St. W.) and 401 1/5 Plum St., 217 4th St. W.

Portion of Lot: All but a small portion in north

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling and warehouse/repair shop, artifact deposits or features associated with residential properties

Block 23, Lot 9

Associated Address: 401 1/2 Plum St. (223 4th St. W.)

Portion of Lot: Southern one-third, and eastern one-third of northern two-thirds

Current Land Use: Parking lot

Potential Resources: Structural remnants of auto shop

Block 23, Lot 10

Associated Addresses: 409-411 Plum St.

Portion of Lot: Southern one-third

Current Land Use: Parking lot

Potential Resources: Structural remnants of carriage and wagon shop, associated artifact deposits or features

Block 24, Lot 1

Associated Addresses: 415 (417 [415]) and 419 Potter Street, 128 and 128 $\frac{1}{3}$ (126) 5th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwellings, associated artifact deposits or features

Block 24, Lot 2

Associated Addresses: 118 $\frac{1}{4}$, 118 $\frac{1}{3}$ (122 $\frac{1}{2}$), 122, and 128 $\frac{1}{3}$ (124 [126]) 5th St. W.

Portion of Lot: All but eastern edge

Current Land Use: Parking lot

Potential Resources: Structural remnants of carpenter/motorcycle shop and dwelling, associated artifact deposits or features

Block 24, Lot 9

Associated Addresses: 117 $\frac{1}{3}$ (121 $\frac{1}{2}$) and 121-123 (121) 4th St. W.

Portion of Lot: All but eastern edge

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifact deposits or features

Block 24, Lot 10

Associated Addresses: 127 4th St. W., 411 [413] and 411 $\frac{1}{2}$ Potter St.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling and dressmaker shop/dwelling, associated artifact deposits or features

Results of Coring

Landowner permission was given to test Lots 4-5 and 6-7 of Block 23 and Lots 1-2 and 9-10 of Block 24. Six archaeological cores were placed within Area 22 (Figure 42). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 22-A was placed within a portion of Lot 7 of Block 23 that historically remained open. The upper portion of this core consisted of introduced topsoil and fill. At a depth of 2.4 ft. (75 cm) a horizon of historical-period deposits was encountered. The core sample contained three fragments of the same pressed glass vessel within this horizon. The historical-period deposits gave way directly to bedrock which was present at a depth of 3.3 ft. (100 cm).

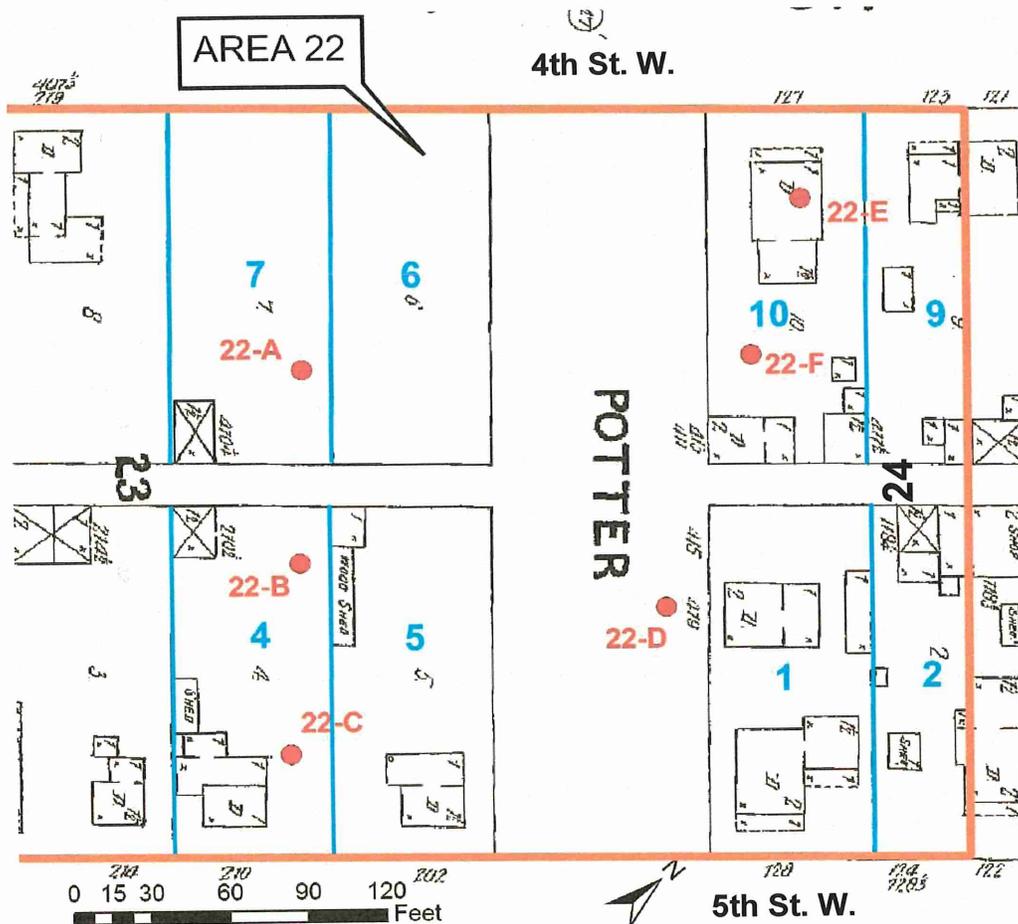


FIGURE 42. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREA 22 ON 1891 SANBORN MAP

The upper portion of Core 22-B, as in Core 22-A, consisted of introduced fill; however, at a depth of 3 ft. (90 cm), a horizon of black (10YR 2/1), coarse sand with cinders was encountered. These historical period deposits were underlain by a natural soil that in turn capped a series of distinct horizons consisting of material deposited by at least three distinct washouts/flood events. Beneath these deposits, at a depth of 8 ft. (2.4 m), a natural soil consisting of a black (10YR 2/1), silty clay loam with rootlets was encountered. Bedrock was documented at a depth of 14.2 ft.

Core 22-C was driven within the side yard of the dwelling formerly located at 210 5th Street W. This core documented a lens of ash and charcoal at a depth of 2.6 ft. (78 cm), which likely dates to the historical period. A buried A horizon consisting of a black (10YR 2/1) to very dark grayish brown (10YR 3/2), silt loam with rootlets was encountered at a depth of 4 ft. (122 cm). Weathered bedrock was present at a depth of 6.6 ft. (2.0 m).

Core 22-D was placed within the former alignment of Potter Street. The upper horizons of the core consisted of introduced fill. At a depth of 8 ft. (2.4 m), limestone and

associated sand and mortar were documented. These structural materials capped an apparently natural intact soil that gave way to bedrock at a depth of 13.1 ft. (4.0 m).

Core 22-E was located within the footprint of a dwelling formerly located at 127 4th Street W. This core consisted entirely of fill over bedrock, indicating that when the dwelling was removed, the activity disturbed soils to the depth of bedrock, thus removing any archaeological deposits in the immediate vicinity. Bedrock was present at a depth of 6.0 ft. (1.9 m).

Core 22-F was placed within a historically open area at the rear of Lot 10 of Block 24. Like many of the tests within Area 22, the uppermost horizons within this core consisted of introduced fill; however, at a depth of 3.2 ft. (97 cm), a natural soil was documented that gradually gave way to weathered bedrock at a depth of 5.5 ft. (1.7 m).

Recommendations

With the exception of Core 22-E, the archaeological cores within Area 22 encountered horizons containing historical-period cultural deposits as well as intact natural soils that may contain precontact and contact era deposits. A Phase I archaeological survey of the area is therefore recommended should it be subject to project-related impacts.

AREA 23 (BLOCK 10, LOTS 7-9)

Area 23 is located within the north half of Block 10 between Plum and Potter Streets and to the south of 5th Street W. (see Figure 23).

Block 10, Lot 7

Associated Address: 209 ½ 5th St. W.

Portion of Lot: Southern one-third

Current Land Use: Parking lot

Potential Resources: Artifact deposits or features associated with dwelling

Block 10, Lot 8

Associated Address: 215 5th St. W.

Portion of Lot: Entire lot

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifact deposits or features

Block 10, Lot 9

Associated Address: 221 (219-221) 5th St. W.

Portion of Lot: North half

Current Land Use: Parking lot

Potential Resources: Structural remnants of boarding house/hotel/dwelling, associated artifact deposits or features

Results of Coring

Permission to conduct coring in Area 23 was not received from the property owner; therefore, no cores were taken in this location.

Recommendations

Because the literature search indicates that Area 23 has the potential to contain historical-period (and earlier) archaeological deposits, but the subsurface conditions of the area could not be assessed, a Phase I archaeological survey of the area is recommended should it be subject to project-related impacts.

AREA 25 (BLOCK 25, LOTS 6-10)

Area 25 is located within the north half of Block 25 between Potter and Bluff streets and to the south of 3rd Street W. (see Figure 23).

Block 25, Lot 6

Associated Addresses: 101 (300 Bluff St.), 101 ½ (308 Bluff St.), and 107 3rd St. W.

Portion of Lot: Northern two-thirds

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwellings, associated artifact deposits or features

Block 25, Lot 7

Associated Addresses: 109 ½ and 109 ⅓ 3rd St. W.

Portion of Lot: Southern half

Current Land Use: Parking lot

Potential Resources: Artifact deposits or features associated with dwelling

Block 25, Lot 8

Associated Addresses: 115 ½ (115 ⅓), and 115 ½ 3rd St. W.

Portion of Lot: Southern half

Current Land Use: Parking lot

Potential Resources: Artifact deposits or features associated with dwelling and cigar factory/grocery store

Block 25, Lot 9

Associated Addresses: 117 ½ and 119 3rd St. W., 307 (309) Potter St.

Portion of Lot: All but northwestern-most corner

Current Land Use: Parking lots

Potential Resources: Structural remnants of dwellings, associated artifact deposits or features

Block 25, Lot 10

Associated Address: 307 (309) Potter St.

Portion of Lot: Southern two-thirds

Current Land Use: Parking lot

Potential Resources: Structural remnants of dwelling, associated artifact deposits or features

Results of Coring

Permission to conduct coring in Area 25 was not received from the property owner; therefore, no cores were taken in this location.

Recommendations

Because the literature search indicates that Area 25 has the potential to contain historical-period (and earlier) archaeological deposits, but the subsurface conditions of the area could not be assessed, a Phase I archaeological survey of the area is recommended should it be subject to project-related impacts.

AREA 26 (BLOCK 39, LOTS 1-2)

Area 26 is located on the northwest corner of the intersection of Plum Street and 3rd Street W. (see Figure 23).

Block 39, Lot 1

Associated Addresses: 223 (225 [225A]), 225, and 227-229 (225-227) Plum St.

Portion of Lot: Southern half

Current Land Use: Parking lot

Potential Resources: Structural remnants of commercial buildings, associated artifact deposits or features

Block 39, Lot 2

Associated Addresses: 218 (218A) 3rd St. W., 223 and 227-229 (225-227) Plum St.

Portion of Lot: Southern half

Current Land Use: Parking lot

Potential Resources: Structural remnants of commercial buildings, associated artifact deposits or features

Results of Coring

Permission to conduct coring in Area 26 was not received from the property owner; therefore, no cores were taken in this location.

Recommendations

Because the literature search indicates that Area 26 has the potential to contain historical-period (and earlier) archaeological deposits, but the subsurface conditions of the area could not be assessed, a Phase I archaeological survey of the area is recommended should it be subject to project-related impacts.

AREA 27 (BLOCK 28, LOTS 7-10; BLOCK 29, LOTS 3-4)

Area 27 consists of the back lots and alleyways within the north half of Blocks 28 and 29 located between East Avenue and Bush Street and 3rd and 4th Streets W.

Block 28, Lot 7

Associated Addresses: 310-314 Bush St., 407 and 409-411 3rd St. W.

Portion of Lot: Southwest quarter and slight extension east off the north line of the southwest quarter

Current Land Use: Parking

Potential Resources: Structural remnants of opera house, artifact deposits or features associated with opera house and commercial buildings

Block 28, Lot 8

Associated Addresses: 413 and 415-417 3rd St. W.

Portion of Lot: South half of the lot and small stepped extension on its north

Current Land Use: Parking

Potential Resources: Artifact deposits or features associated with commercial buildings

Block 28, Lot 9

Associated Addresses: 419, 419 ½, 421, 421 ½, and 423 (425) 3rd St. W.

Portion of Lot: Southern seven-sixteenths of the eastern one-third, all of the middle one-third, and the eastern edge and southern three-sixteenths of the western third

Current Land Use: Landscaped – brick paving (Jordan Court)

Potential Resources: Structural remnants of commercial and commercial/industrial buildings, associated artifact deposits or features

Block 28, Lot 10

Associated Addresses: 423 (425), 425 (427), and 427 (429) 3rd St. W.

Portion of Lot: Stepped area ranging from southern one-eighth of the eastern one-third to the southern three-sixteenths of the western one-third

Current Land Use: Concrete parking pad

Potential Resources: Artifact deposits or features associated with dwelling

Block 29, Lot 3

Associated Addresses: 429, 431, and 431-433 3rd St. W.

Portion of Lot: Southern approximately one-fourth

Current Land Use: Parking

Potential Resources: Artifact deposits or features associated with dwelling

Block 29, Lot 4

Associated Address: None

Portion of Lot: East half

Current Land Use: Parking and greenspace

Potential Resources: Artifact deposits or features associated with dwelling, commercial building/dwelling, and church

Results of Coring

Landowner permission was given to test Lots 7-10 of Block 28 and portions of Lots 3-4 of Block 29. Three archaeological cores were placed within Area 27 (Figure 43). Because coring does not provide precise stratigraphic control, all depths provided should be considered approximate.

Core 27 A-A was situated within the footprint of a shed/stable located at the rear of Lot 10 of Block 28. The dwelling on this lot was replaced with commercial buildings between 1902 and 1910 (Sanborn 1902, 1910). This core did not contain any intact soil horizons, although a horizon of stone, possibly with mortar, encountered at a depth of 4 ft. (122 cm) may be related to the former shed/stable building.

Core 27 A-B was located within a historically open portion of Lot 4. This core did not contain any intact soil horizons.

Core 27 B-A was placed within the only available area within Lots 7 and 8 of Block 28 that was free of underground utilities and parked vehicles. This location was within

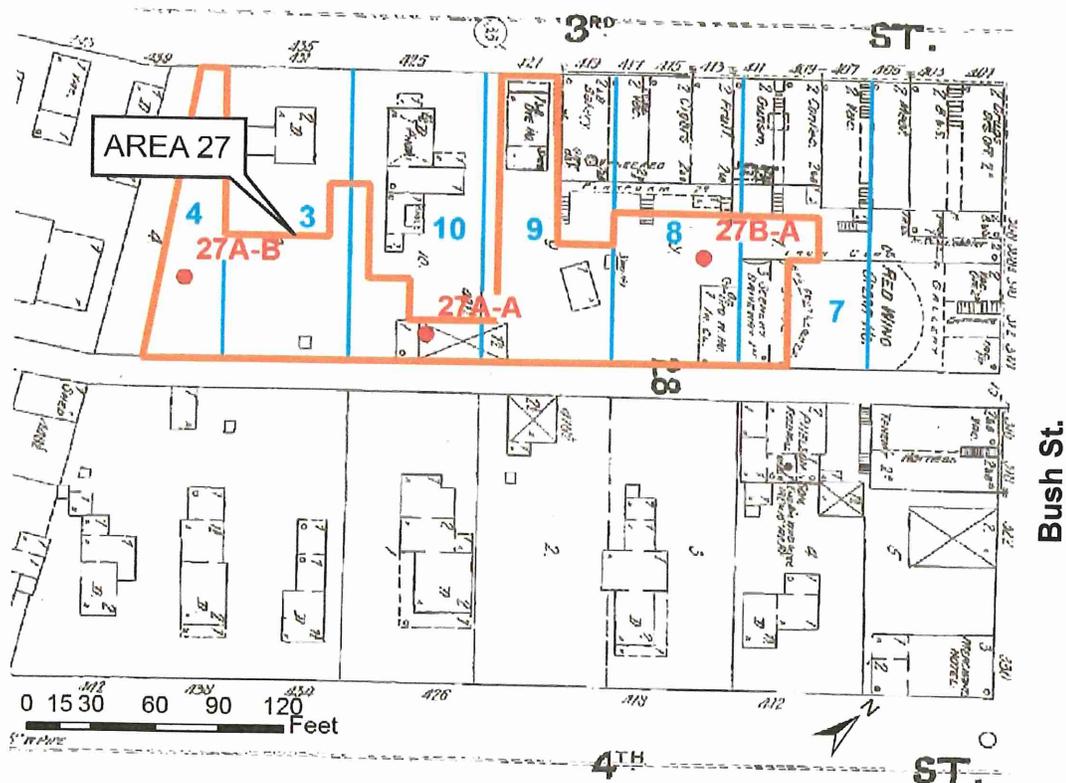


FIGURE 43. LOCATION OF ARCHAEOLOGICAL CORES WITHIN AREA 28 ON 1891 SANBORN MAP

a portion of Lot 8 that was historically open. Prior to 1902, staircases are recorded on Sanborn fire insurance maps at the rear of the buildings in this portion of Block 28. The disappearance of these staircases suggests that this area, which was proximate to the Jordan Creek channel, was low-lying and subsequently filled. According to a building owner, at least one story of fill is present in this rear lot. At a depth of approximately

3 ft. (91 cm), a horizon containing a glazed brick fragment was encountered. Two additional historical-period horizons containing cinders and brick flecks were documented between 6.2 ft. (1.9 m) and 8.8 ft. (2.7 m). Deeply-buried, natural soil horizons with the potential to contain cultural material were recorded at depths of 9.8 ft. (3 m), 16 ft. (4.9 m), and 21.5 ft. (6.5 m). Reworked bedrock was present at a depth of 26.3 ft. (8 m).

Recommendations

The three core samples taken within Area 27 demonstrate that archaeological potential is greater within the east half of the test area. While no intact soils were present at the west end of the test area, multiple horizons containing historical-period cultural deposits and overlying intact natural soil horizons that may contain precontact or contact-period resources were documented within the east half of the test area. A Phase I archaeological survey of all but the west end of the test area is therefore recommended should it be subject to project-related impacts.

DOWNTOWN COMMERCIAL SUB-AREA RESULTS AND RECOMMENDATIONS

The literature review conducted for the TH 63 Red Wing Bridge Project found that prior to urban development, the Downtown Commercial sub-area was at the edge of a natural terrace of the Mississippi River, and it encompassed the Jordan Creek, which ran through the sub-area to the river. Elevated areas proximate to the river and creek would have been desirable locations for occupation during both the precontact and contact periods, which is supported by the known presence of a Dakota village on the terrace near the creek during the contact period. Fieldwork conducted by Foth and Two Pines in the Downtown Commercial sub-area, as previously described, found several locations with intact natural deposits having the potential to contain precontact or contact-period archaeological resources. This fieldwork also identified several areas containing intact historical-period deposits and archaeological features. Although a few areas of identified substantial disturbance can be removed from consideration for future study, the Downtown Commercial sub-area largely has moderate to high potential for containing archaeological resources from the precontact, contact, and historical periods. Areas with such potential that will be impacted by the TH 63 Red Wing Bridge project, as well as those of unknown archaeological potential, will therefore require additional archaeological work prior to construction (Figure 44; Table 5).

TABLE 5. DOWNTOWN COMMERCIAL SUB-AREA SUMMARY OF RESULTS AND RECOMMENDATIONS

Test Area	Block(s)	Lot(s)	Number of Cores	Results	Archaeological Potential	Recommendation
10	40	4-7	7	Intact historical-period deposits and structural remains capping intact natural soils with the potential to contain precontact and contact-era deposits	High (21 GDDb)	Phase I Archaeological Survey
11	21	6-7	None	No landowner permission	Unknown	Phase I Archaeological Survey
12	21	3-5	6	Intact historical-period deposits and structural remains as well as intact natural soils with the potential to contain precontact and contact-era deposits	High (21 GDDb)	Phase I Archaeological Survey
13	27	7-9	3	Partial landowner permission; Lot 7 contains intact natural soils with the potential to contain cultural deposits; Lot 8 exhibited truncated and disturbed profiles	Lot 7: High Lot 8: Low Lot 9: Unknown	Phase I Archaeological Survey of Lots 7 and 9; No further work in Lot 8
14	27	2-4	3	Partial landowner permission; Lots 2 and 3 contained historical-period deposits and structural remains as well as intact natural soils with the potential to contain precontact and contact-era deposits	Lots 2-3: Moderate to High Lot 4: Unknown	Phase I Archaeological Survey
15	22	6, 9 & 10	4	Intact historical-period deposits as well as intact natural soils with the potential to contain precontact and contact-era deposits	High	Phase I Archaeological Survey
16	22	3 & 4	3	Intact historical-period deposits as well as intact natural soils with the potential to contain precontact and contact-era deposits	High	Phase I Archaeological Survey
17	11	6-9	None	No landowner permission	Unknown	Phase I Archaeological Survey
18	26	10	1	No intact cultural deposits or soils present	Low	No further archaeological work

TABLE 5. DOWNTOWN COMMERCIAL SUB-AREA SUMMARY OF RESULTS AND RECOMMENDATIONS

Test Area	Block(s)	Lot(s)	Number of Cores	Results	Archaeological Potential	Recommendation
19	26	6-9	2	Partial landowner permission; Lot 6 demonstrated past disturbance and was shallow to bedrock, but conditions are similar to Block 26, where a feature containing dense artifact deposits was found.	Lot 6: Low to Moderate Lots 7-9: Unknown	Phase I Archaeological Survey of Lots 7-9; Grading of Lot 6 to identify features excavated into bedrock
20	26	1 & 2	4	No intact cultural deposits or soils present; shallow to bedrock	Low	No further archaeological work
21	26	4 & 5	5	Generally intact cultural deposits or soils present, shallow to bedrock; one intact subsurface feature documented	High (21GDbk)	Grading of test area to identify features excavated into bedrock; Excavation of feature documented in Core 21-E
22	23 24	1-10 1-2, 9-10	6	Partial landowner permission; tested lots contained intact historical-period deposits as well as intact natural soils with the potential to contain precontact and contact-era deposits	B 23, Lots 1-3, 5, 6, 8-10: Unknown B 23, Lots 4 and 7: Moderate to High B 24, Lots 1-2, 9: Unknown B 24, Lot 10: Moderate to High	Phase I Archaeological Survey
23	10	7-9	None	No landowner permission	Unknown	Phase I Archaeological Survey
24	Located within the East Red Wing Residential sub-area;			landowner permission was not received for testing.		Phase I Archaeological Survey
25	25	6-10	None	No landowner permission	Unknown	Phase I Archaeological Survey
26	39	1-2	None	No landowner permission	Unknown	Phase I Archaeological Survey

TABLE 5. DOWNTOWN COMMERCIAL SUB-AREA SUMMARY OF RESULTS AND RECOMMENDATIONS

Test Area	Block(s)	Lot(s)	Number of Cores	Results	Archaeological Potential	Recommendation
27	28 29	7-10 3-4	3	Partial landowner permission; with the exception of Lot 4 of Block 29, tested lots contained intact historical-period deposits as well as intact natural soils with the potential to contain precontact and contact-era deposits	Lot 7: Low Lot 8: High Lot 9: Unknown Lot 10: Moderate Lot 3: Unknown Lot 4: Low	Phase I Archaeological Survey

EAST RED WING RESIDENTIAL SUB-AREA

The East Red Wing Residential sub-area is that portion of the APE east from Bluff Street and south of TH 61, which was historically occupied primarily by residential housing (Figure 45). The field assessment of the East Red Wing Residential sub-area was conducted on February 28 and March 4, 2011, directed by the Foth Principal Investigator for geomorphology, and on October 20, 2011, directed by the Two Pines Principal Investigator for archaeology, Michelle Terrell, who conducted the fieldwork with Alexis Thorpe and Marie Kerwin.

PRECONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

The East Red Wing Residential sub-area is located within an abandoned channel of the Mississippi River, which is now largely separated from the river by Barn Bluff. A radiocarbon date from a geologic core in this area indicates that sediments began to accumulate in this area approximately 600 B.C. (Hudak 2011:19). Although approximately 650 feet from the present river channel, the northwestern-most portion of the sub-area is at the edge of the natural terrace closest to the river. In addition, the north edge of the sub-area at the base of Barn Bluff is the terrace of the abandoned river channel. The sub-area, therefore, being situated close to riverine resources, was likely

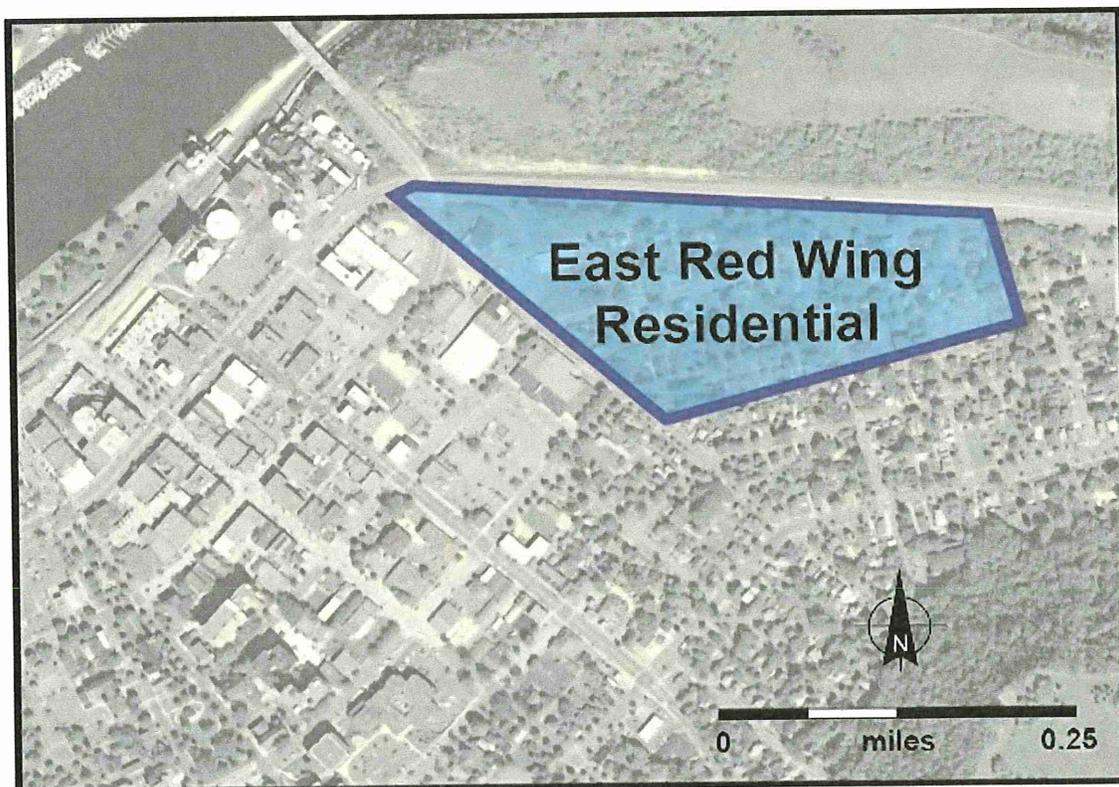


FIGURE 45. EAST RED WING RESIDENTIAL SUB-AREA

well-suited to habitation during the precontact period. Whether resources from the precontact period are intact is dependent on the amount and forms of deposition that occurred prior to residential or other development and the extent of earth-moving impacts during or after residential construction, for example, the subsequent addition of underground utility lines.

Geologic core locations were limited to public property and easements. Within the East Red Wing Residential sub-area, two geologic cores were taken, 11GD-04 and 11GD-05, near the intersections of Arkin Street with 4th Street E. and 5th Street E., respectively. These cores identified a bedrock valley at depths of five feet (11GD-05) and eight feet (11GD-04) with overlying colluvial deposits that have relatively strong potential to contain precontact archaeological deposits. The potential of specific locations varies based on the severity of more recent impacts (Hudak 2011:19-20). Because bedrock is fairly shallow in this sub-area, it is less likely that intact precontact resources survive in areas that have undergone development, including the construction of roads, houses, outbuildings, the former gasification plant, and the public works/PBF (People Behind the Flower Baskets) building, located on the east side of Bluff Street between 3rd and 4th Streets, and of the light industrial building (Laune's Alignment), located on the east side of Bluff Street between 3rd and Main streets.

Based on its proximity and topographic relationship to the Mississippi River, combined with the results of the geologic and archaeological testing, undisturbed portions of the East Red Wing Residential sub-area are considered to have moderate to high potential for containing precontact archaeological deposits. In the locations, however, of historical or modern construction, while the potential for such precontact deposits would have been high, no potential precontact archaeological sites are likely to remain intact.

CONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

The East Red Wing Residential sub-area is located proximate to the Dakota village at Red Wing. Joseph Hancock, who came to Red Wing in 1849 as a missionary, indicates that Dakota lodges "stood along the river bank near where Main street now occupies, between Bush and Potter streets" (Hancock 1893:50), which would have been just one block southwest of the northwestern corner of the East Red Wing Residential sub-area (see Figure 6). While no contact-period features are documented within the East Red Wing Residential sub-area, the proximity of this location to the Dakota village indicates the potential for archeological resources from this period to be present. Whether intact resources from the contact period are present within the sub-area, however, is dependent on the amount and forms of deposition that occurred prior to residential or other development, and the extent of earth-moving impacts during or after that construction, for example, the subsequent addition of underground utility lines.

Based on the fieldwork conducted by Foth and Two Pines in the East Red Wing Residential sub-area, as previously described, combined with the known Dakota occupation proximate to the sub-area, the East Red Wing Residential sub-area is considered to have moderate to high potential for containing contact-period

archaeological resources. In the locations, however of historical or modern construction, while the potential for such contact-period deposits would have been moderate to high, no potential contact archaeological sites are likely to remain intact.

HISTORICAL-ARCHAEOLOGICAL POTENTIAL

The village of East Red Wing initially sought separate incorporation on March 4, 1857, but instead was merged with the city of Red Wing on March 19, 1857 (Upham 2001:212). Nonetheless, that part of Red Wing east of Bluff Street has retained the identity of East Red Wing. The portion of East Red Wing within the project APE has been occupied primarily by residential properties since the mid nineteenth century, and it remains largely residential today. Historically, the main exception within the APE to its residential character was a cooperage and gas works (Figure 46), to which was later added an electrical sub-station, located on the east side of Bluff Street between 3rd Street E. and 4th Street E. Lumber storage for the Red Wing Furniture Factory also spilled over into that portion of the APE north of 3rd Street E. and east of Bluff Street. The gas works were present from circa 1872 until at least 1943, while the cooperage was removed sometime between 1885 and 1891, its former location eventually being subsumed into the gas works (Sanborn 1884-1943; Hancock 1893:215). Today, the former location of the gas works and cooperage is occupied the public works/PBF (People Behind the Flower Baskets) building, an associated parking lot, and adjacent greenspace, while the area formerly occupied by lumber storage and a dwelling is the site of a light industrial building and parking lot. To the east of the light industrial building and north of 3rd Street E. is an open greenspace, which was formerly occupied by homes. When Highway 61, which forms the north boundary of the sub-area, was constructed through a portion of this residential neighborhood, the creation of the roadway necessitated the removal of houses along both sides of 3rd Street E., with only those on the south side of 3rd Street E. and to the west of Sanderson Street remaining.

As East Red Wing is largely residential, permission to conduct subsurface archaeological testing within residential parcels was not sought; rather, the historical-period archaeological potential of the neighborhood was characterized as a whole using historical maps, tax assessment data, and census records. These documents indicate that the development of East Red Wing began during the 1850s, and by the 1890s almost all of the lots in the neighborhood had been built upon. According to 1874 tax assessment records, landowners in East Red Wing were largely Swedish-born (40%), although New England (New York [12%] and Vermont [10%]) was also well-represented, as were Norway (10%), and England (8%). Census records from 1880 demonstrate that the heads of household in East Red Wing were largely foreign-born (85%). The predominance of Swedish (46%) and Norwegian (22%) immigrants in East Red Wing reflects the significant role of these Scandinavian groups in the growth of Red Wing during the late nineteenth century (Angell 1977:150) (Figure 47). The ethnic make-up of the East Red Wing neighborhood changed very little between 1880 and 1900, with the exception of an increase in Minnesota-born heads of household (Figure 48).

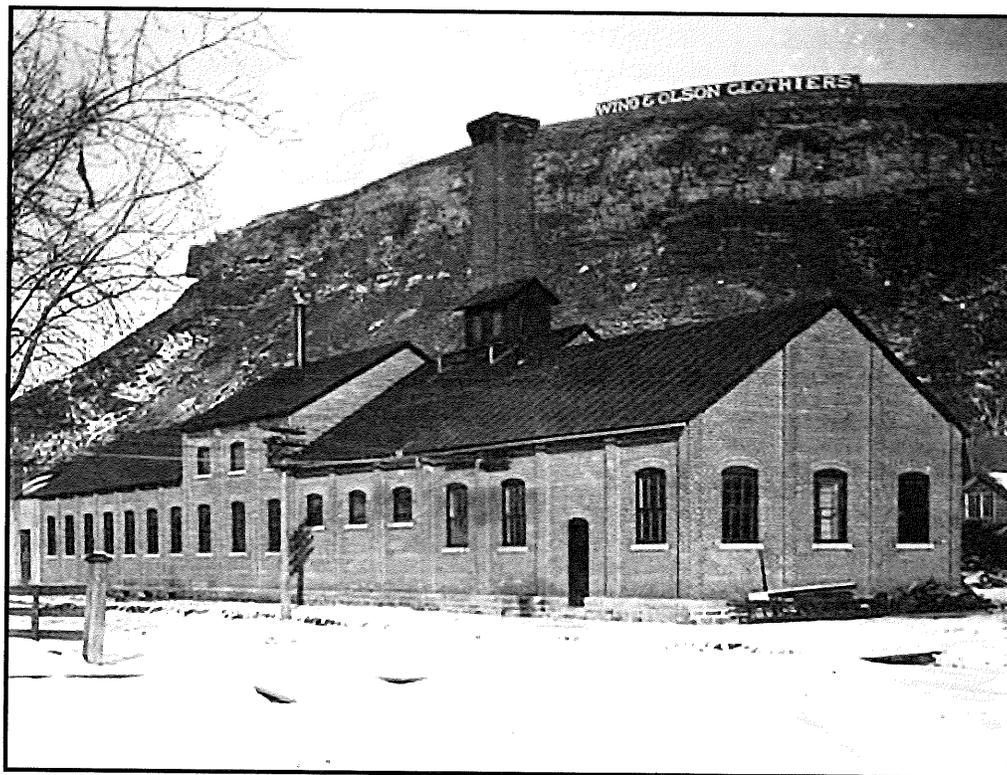


FIGURE 46. RED WING GAS AND ELECTRIC LIGHT PLANT, 1897 (MHS NEG. NO. 18815)

Homes within East Red Wing are generally modest. In 1900, about 60% of the residences in the neighborhood were owner-occupied and the remainder rented. Census records from 1880 and 1900 indicate that heads of households were engaged largely in manual or industrial occupations typical of a working-class neighborhood. While “laborer” was the most common job description in 1880 (28) and 1900 (24), the occupations of the other residents largely reflected skilled work, often for the city’s leading industries. Common occupations held by East Red Wing residents in 1880 included stonemason (12), shoemaker (8), wagonmaker (6), carpenter (6), tailor (6), blacksmith (5), merchant (5), tinsmith (5), joiner (4), painter (4), and ragman (4). In 1900, the variety of occupations held by East Red Wing residents was more diverse, but carpenters (10), shoemakers (7), stonemasons (4), teamsters (4), and tanners (3) were the most common.

The literature search identified two non-residential, open areas within the East Red Wing Residential sub-area that would require archaeological coring instead of shovel testing to assess their potential for containing historical-period archaeological deposits. One of these is the location of the former gas works. The other, designated as Area 24, is the parking lot and open area surrounding the light industrial building, which prior to its development was the location of a dwelling that fronted on E. 3rd, an oil (naptha) tank, and a store located on Bluff Street (Table 4). The area formerly occupied by the gas

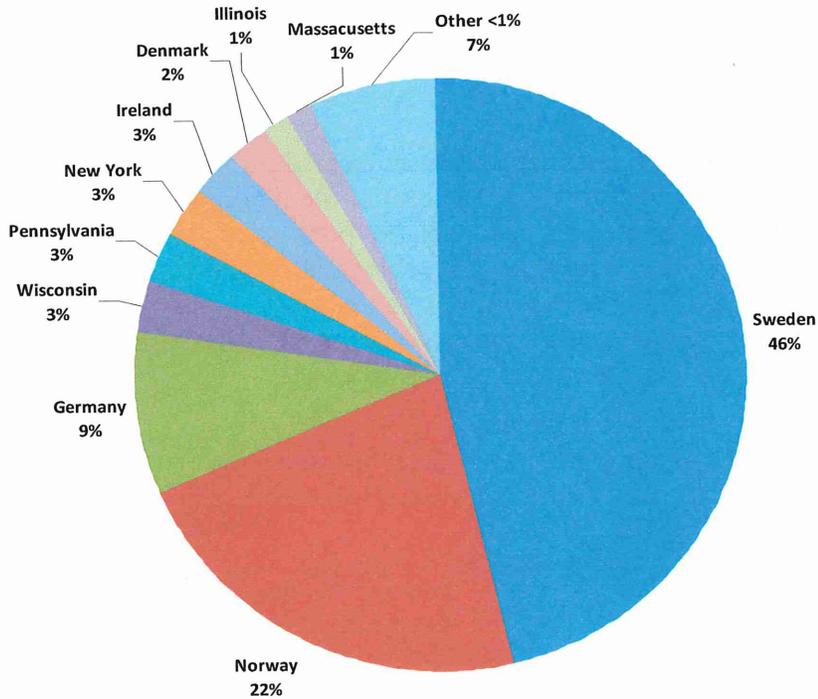


FIGURE 47. PLACE OF BIRTH OF EAST RED WING HEADS OF HOUSEHOLD IN 1880

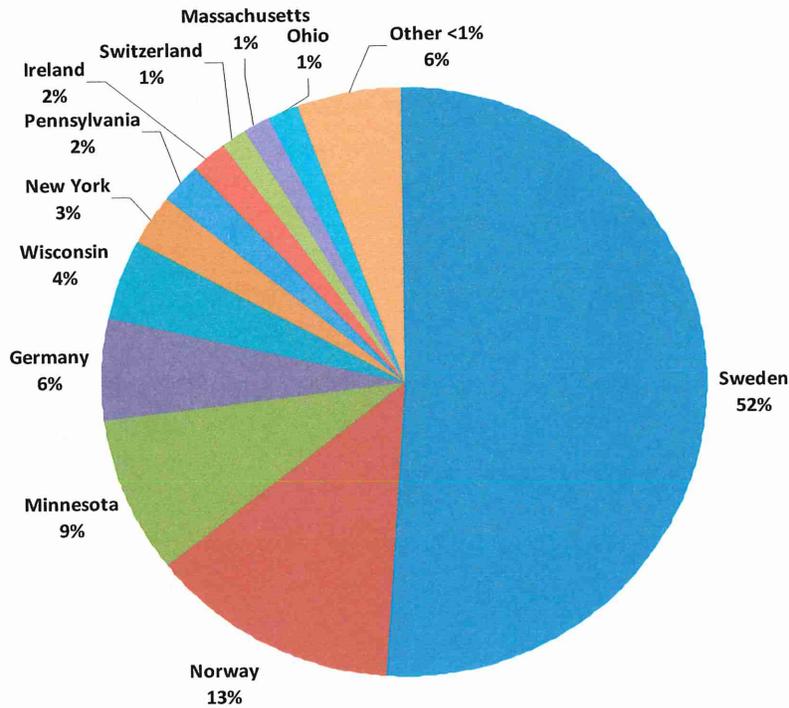


FIGURE 48. PLACE OF BIRTH OF EAST RED WING HEADS OF HOUSEHOLD IN 1900

works is known to hold high levels of soil contamination; therefore, no subsurface testing was conducted in this location. Permission to conduct coring in Area 24 was not received from the property owner, and given the former presence of the gas company's naphtha tank, this parcel may also be contaminated; therefore, no cores were taken in this location.

It was anticipated that a third open area that was located on public property between 3rd Street E., Highway 61, and the frontage road east of the light industrial building could be shovel tested. Several dwellings were formerly present in this area. Shovel testing therefore commenced in this area after archaeological coring for the project had been completed. The shovel test (Shovel Test 1) excavated in this area, however, found extremely compact fill and concrete fragments that prevented hand digging beyond 38 cms but which may cap intact historical-period deposits.

TABLE 6. BLOCK A (116 ½ [106] 3RD STREET E. AND 227 BUSH STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	116 ½ 3rd St. E.	Two-story dwelling and gas company oil (naphtha) tank (location indicated by text "40' to gas company's oil tank")
1891-1895	Same	Same
1902	Same	Addition through coverage of two small, one-story outbuildings to north of dwelling
1910	None	Dwelling is same; coverage does not extend to outbuildings
1917	106 3rd St. E.	Removal of one-story outbuildings; addition of one-and-a-half-story stable
1927	Same	Single outbuilding again shown as a one-story structure, gas company's one-story, octagonal oil tank now in coverage area
1943	Same	Same
1884	None (227 Bush Street)	Two one-and-a-half story lumber sheds
1891-1910	None	Lumber piles
1917	None.	One-story lumber shed and lumber piles
1927	None	Vacant
1943	227 Bush St.	One-story store with attached beer warehouse and automobile garage to rear

RECOMMENDATIONS

The undisturbed portions of the East Red Wing Residential sub-area have moderate to high potential of for containing precontact-period, contact-period, and historical-period archaeological sites. It is therefore recommended that any open portions of this sub-area be subject to a Phase I archaeological survey if they are to be impacted by bridge construction activities (Figure 49). Areas along the northeast edge of the East Red Wing Residential sub-area have been omitted from the area of concern as they have been significantly modified by the construction of Highway 61 and related utility corridors. Likewise, that area along the southeast edge of the sub-area occupied by school buildings is eliminated from the area of archaeological potential. Furthermore, within the East Red Wing Residential sub-area there are lots that have low archaeological potential because they have been extensively disturbed by processes such as house expansion or garage

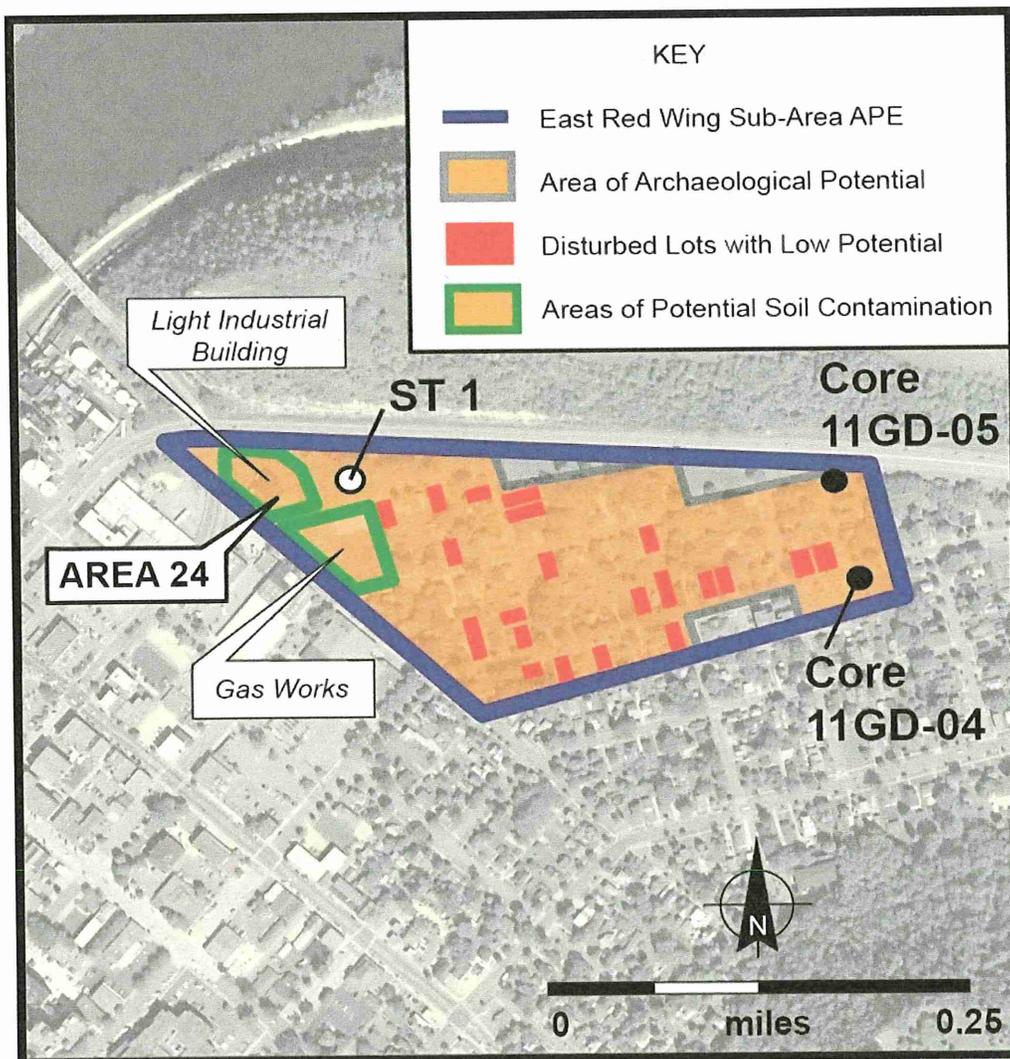


FIGURE 49. EAST RED WING RESIDENTIAL SUB-AREA ARCHAEOLOGICAL POTENTIAL

construction or they were not developed until the first quarter of the twentieth century when historical-period archaeological potential would be mitigated by plumbing and trash pick-up (Table 7). While Area 24 and the former gas works have the potential to contain archaeological features, the potential for soil contamination must be taken into account prior to any archaeological testing.

TABLE 7. LOTS WITH LOW HISTORICAL-PERIOD ARCHAEOLOGICAL POTENTIAL IN EAST RED WING

Property Address	Comments
135 3 rd Street East	Alterations to structure including expansion into rear of lot
153 3 rd Street East	c. 1920 replacement house
134 4 th Street East	Alterations to structure including expansion into rear of lot
207 4 th Street East	c. 1915 replacement house (remainder of lot has potential)
255 4 th Street East	House built c. 1925
112 5 th Street East	Alterations to structure including expansion to rear and large garage
123 5 th Street East	Replacement house
128 5 th Street East	c. 1924 replacement house
205 5 th Street East	1964 replacement house
217 5 th Street East	1968 replacement house
234 5 th Street East	Home removed
241 5 th Street East	House built 1922
242 5 th Street East	Alterations to structure including expansion into rear of lot
252 5 th Street East	House built c. 1950
256 5 th Street East	House built 1961
264 5 th Street East	House moved to location c. 1957, previously undeveloped
268 5 th Street East	House moved to location c. 1957, previously undeveloped
272 5 th Street East	House moved to location c. 1957, previously undeveloped
304 5 th Street East	House built 1930
312 5 th Street East	House built c. 1930
308 Sanderson Street	c. 1915 replacement house
309 Sanderson Street	Addition of large garage and other alterations to lot
315 Sanderson Street	Addition of large garage and other alterations to lot
416 Sanderson Street	Home removed

BARN BLUFF SUB-AREA

The Barn Bluff sub-area is that portion of the APE that encompasses the slopes of this distinctive landform and the corridors of Highways 61 and 63, which are located at the base of the escarpment (Figure 50). During the construction of the highways in 1960, the west end of Barn Bluff, which had previously extended nearly west to Bluff Street, was blasted back to make way for the approach to the current bridge (Figures 51 and 52). Barn Bluff was individually listed on the National Register in 1989 under Criterion A (broad patterns of history) in the areas of Entertainment/Recreation and Exploration/Settlement.

Field assessment of the Barn Bluff sub-area was limited to a visual reconnaissance performed on October 20, 2011, under the direction of the Two Pines Principal Investigator for archaeology, Michelle Terrell, who conducted the fieldwork with Alexis Thorpe and Marie Kerwin.

PRECONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

The distinctive mesa of Barn Bluff is occupied by a group of precontact earthworks (21GD15). As recorded in 1885, the group consisted of three earthworks, with the largest being 52 ft. across by 6.5 ft. in height (Winchell 1911:164). No information on excavations into these mounds has been found (Arzigian and Stevenson 2003:381),

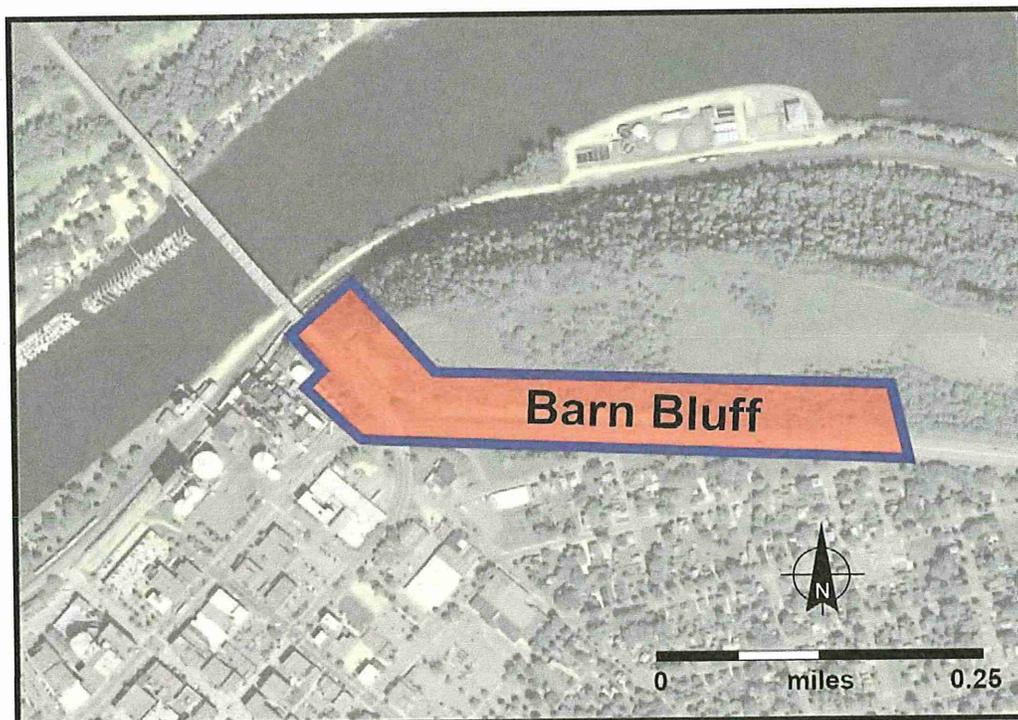
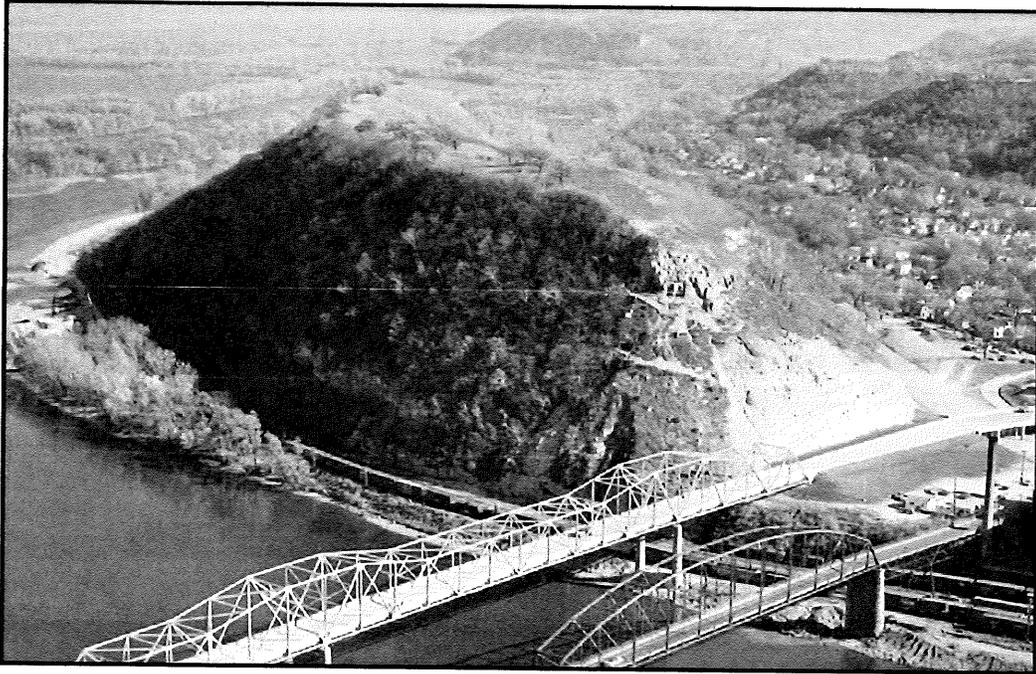


FIGURE 50. BARN BLUFF SUB-AREA



**FIGURE 51. BARN BLUFF DURING CONSTRUCTION OF CURRENT BRIDGE, OCTOBER 1960, VIEW EAST
(MHS NEGATIVE NO. 50846)**



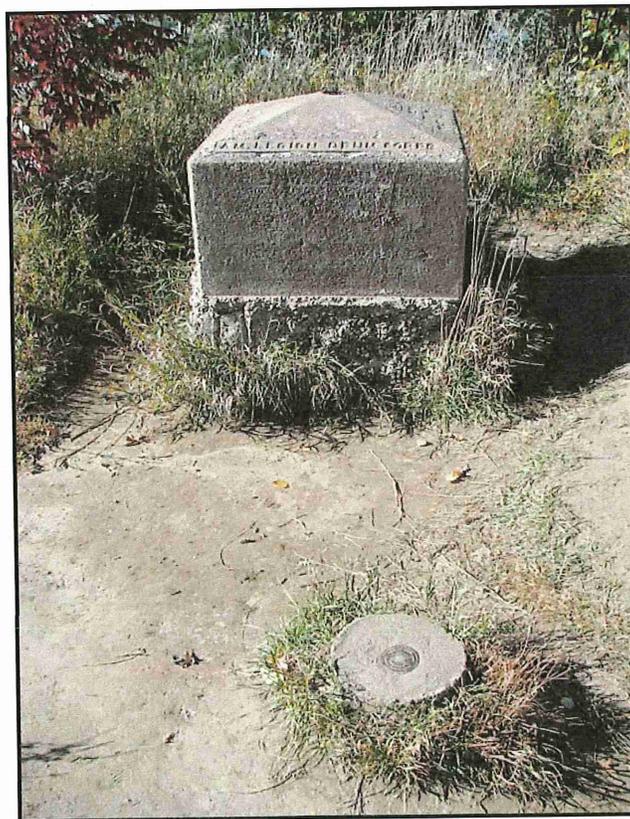
**FIGURE 52. BARN BLUFF DURING CONSTRUCTION OF CURRENT BRIDGE, OCTOBER 1960, VIEW NORTH
(MHS NEGATIVE NO. 50849)**

therefore the date of their construction within either the precontact or contact period is not known. The largest mound within the group is still visible atop the bluff, although it has been impacted by the placement of a USGS marker and a 1929 concrete flag pole base, as well as erosion from footpaths (Office of the State Archaeologist 2012:23-24) (Figure 53).

Given the elevation of Barn Bluff, it is unlikely that the bluff top was used as a habitation site during the precontact period. The earthworks and burial mounds atop the bluff, however, are protected by the Private Cemeteries Act (MS 307.08), which affords all human remains and burials of 50 years of age or older that are located outside of platted, recorded, or identified cemeteries protection from unauthorized disturbance.

CONTACT-PERIOD ARCHAEOLOGICAL POTENTIAL

During the contact period, the bluff top was frequently visited by explorers; however, no resources from this period are reported atop the bluff. While the Mdewakanton Dakota village was located at the foot of the bluff, it is not situated within the Barn Bluff sub-area. It is reported that the large mound atop the bluff is the site of Red Wing's burial, indicating a possible contact-period association with the earthworks atop the bluff (Folsom 1888:596).



**FIGURE 53. USGS MARKER AND 1929 FLAGPOLE BASE
ATOP MOUND IN 21GD0015, VIEW TO NORTH**

HISTORICAL-ARCHAEOLOGICAL POTENTIAL

Because much of the Barn Bluff sub-area consists of steep slopes or the roadbeds of TH 61/63, it generally has low potential for containing historical-period archaeological sites. Two historical-period resources, however, have been documented within this portion of the project APE (Figure 54).

During the second half of the nineteenth century, the limestone of Barn Bluff was intensively quarried for use both as a building material and also as a source of calcium oxide or quick lime. In 1894, there were four lime kilns on Barn Bluff reducing limestone to lime (Foote 1894). One of these kilns, the Linne Lime Kiln, was located on the southwest slope of the bluff and within the Barn Bluff sub-area (Figure 55; see Figure 54). Ruins of portions of this kiln are visible atop the escarpment along TH 61 (Figures 56-57). A quarry located to the north of the kiln is also partially located within the project APE.

The second potential historical-period archaeological resource located within the Barn Bluff sub-area is a cluster of homes formerly located along 3rd Street E. (see Figure 54). When TH 61/63 was constructed in 1960, that portion of 3rd Street E. to the east of Sanderson Street was vacated. A portion of the roadway to the north of the highway is still visible within the APE, as are elements of limestone foundations/retaining walls related to the houses formerly located in this area (Figure 58).

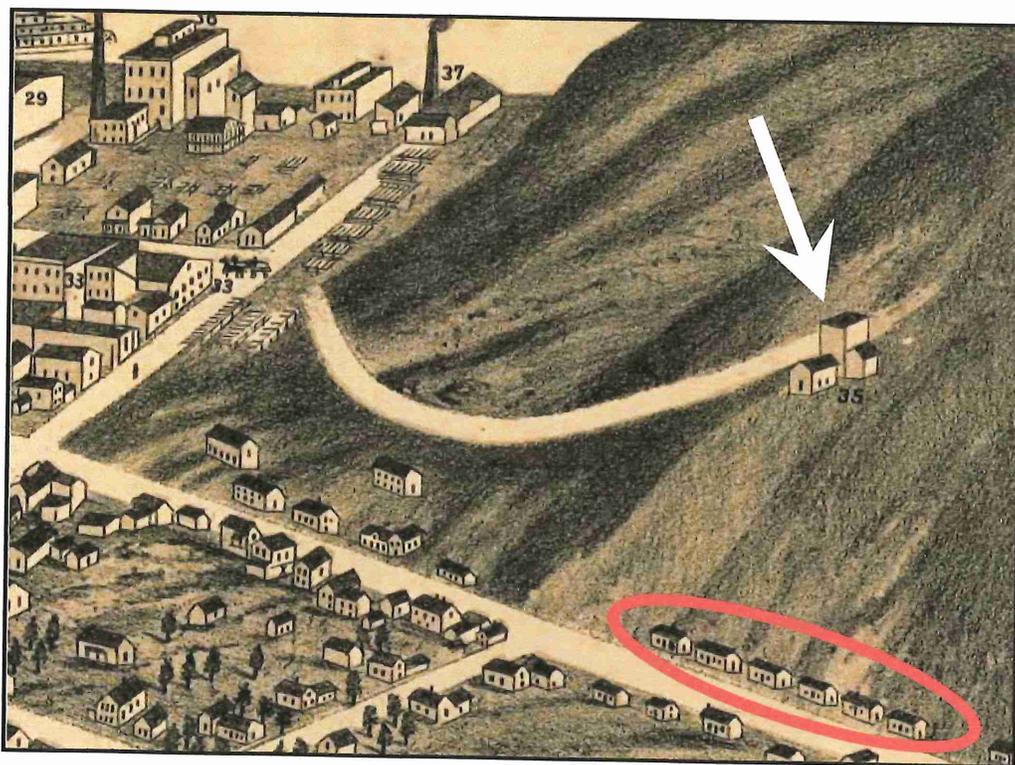


FIGURE 54. DETAIL FROM 1880 PANORAMIC MAP SHOWING LINNE LIME KILN (ARROW) AND CLUSTER OF HOMES AT BASE OF BLUFF ALONG 3RD STREET E. (CIRCLED)

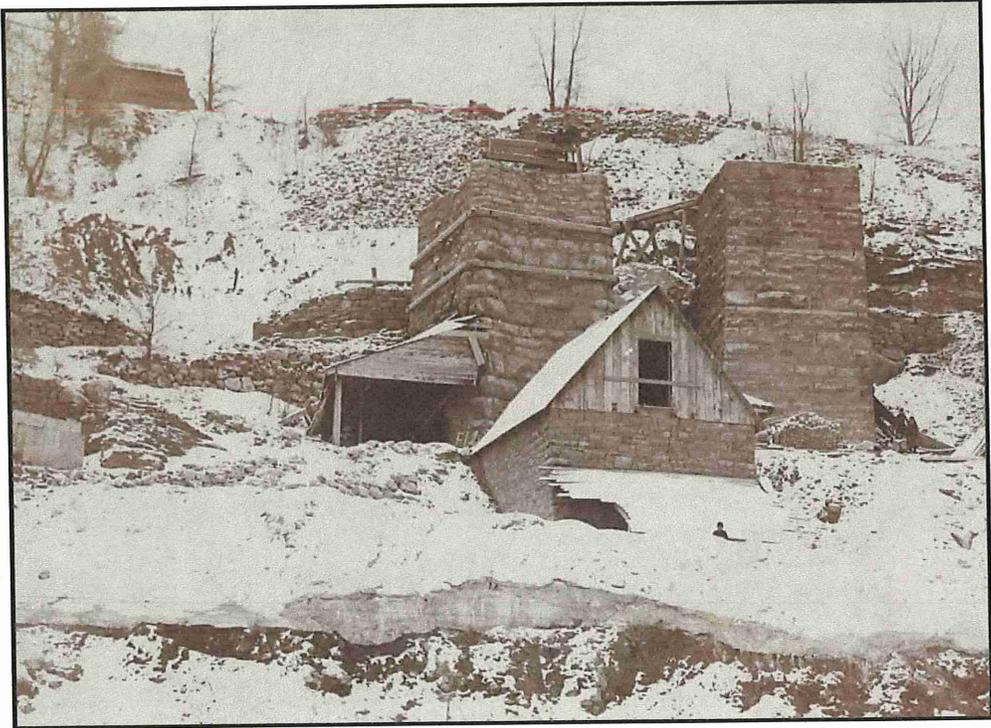


FIGURE 55. LINNE LIME KILN, 1893 (GOODHUE COUNTY HISTORICAL SOCIETY)

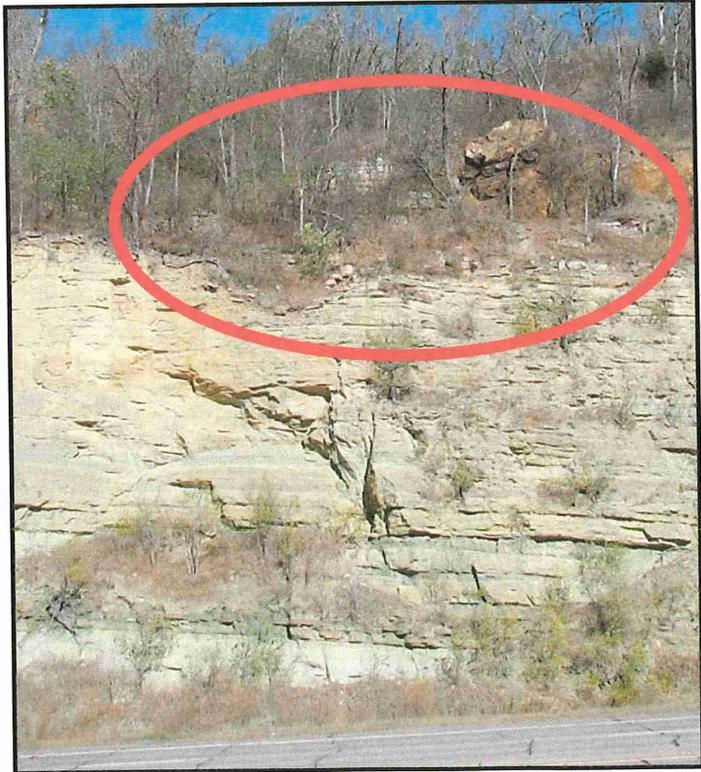


FIGURE 56. OVERVIEW OF LINNE LIME KILN RUINS (CIRCLED), VIEW TO NORTH

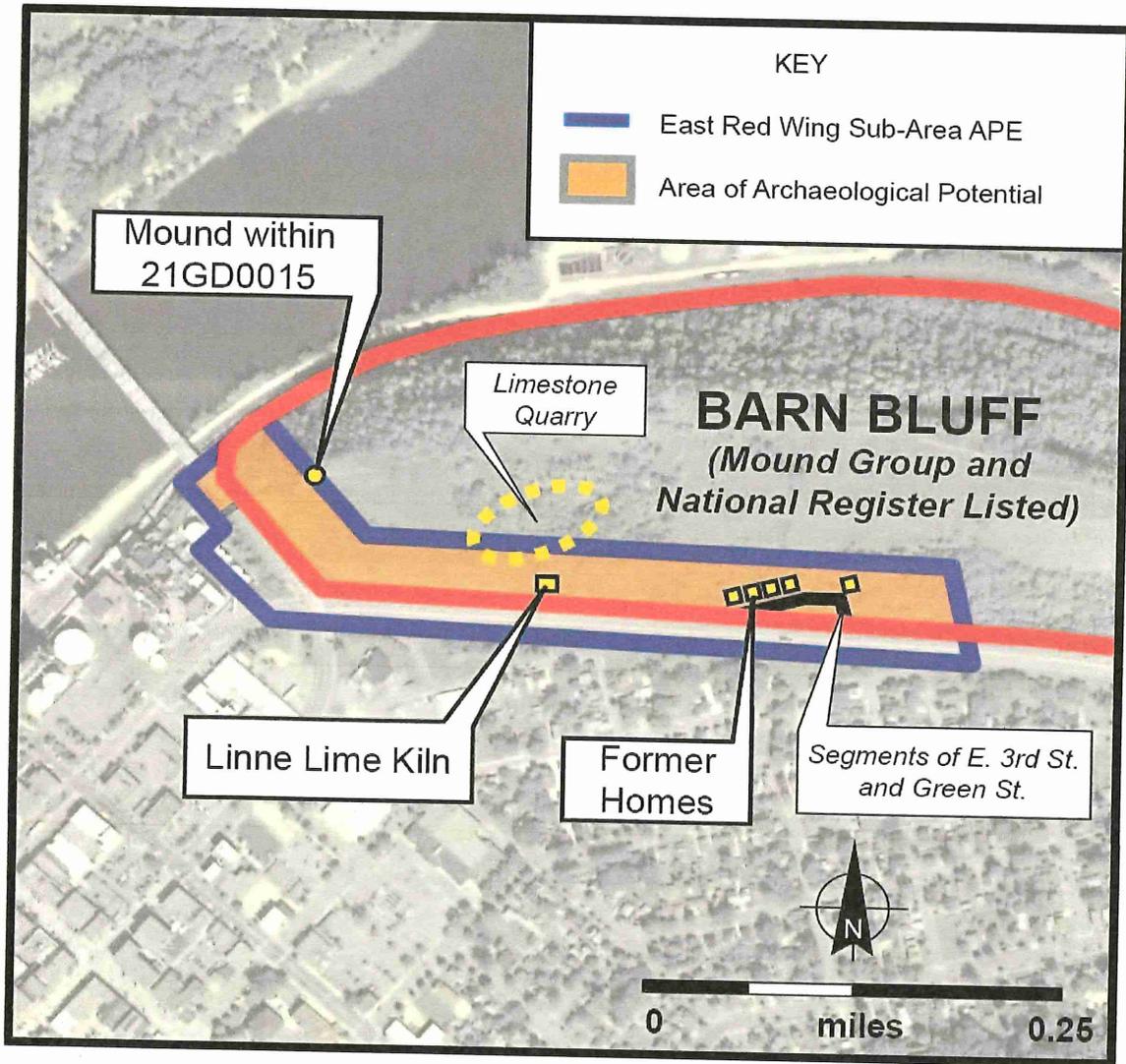


FIGURE 59. BARN BLUFF SUB-AREA ARCHAEOLOGICAL POTENTIAL

SUMMARY

In 2011 and 2012, Two Pines Resource Group, LLC (Two Pines) completed a pre-evaluation study for archaeological potential for the Trunk Highway (TH) 63 Red Wing Bridge Project in Goodhue County, Minnesota, and Pierce County, Wisconsin. The purpose of the study was to identify those portions of the project's area of potential effect (APE) that have the potential to contain intact archaeological resources, in order to provide a guide for future archaeological investigations once the final scope of the bridge project has been determined. The APE was selected by Mn/DOT to encompass direct impacts from the construction of any of the bridge alternatives, as well as ancillary impacts, including pond locations and areas of construction staging. For purposes of this study, the APE was divided into five sub-areas based on its land-use history: North of the River, Levee, Downtown Commercial, East Red Wing Residential, and Barn Bluff.

NORTH OF THE RIVER SUB-AREA

The North of the River sub-area is that largely undeveloped portion of the APE located to the north of the Minnesota-Wisconsin state line. Based on the results of this study, the non-inundated part of the south-central portion of the North of the River sub-area is considered to have moderate to high potential for containing archaeological sites (Figure 60). For this reason, it is recommended that this portion of the sub-area be subject to a Phase I archaeological survey, possibly to include deep testing, if it is to be impacted by bridge construction activities.

The remainder of the sub-area is within water, heavily inundated, or the causeway through Mud Lake, which consists entirely of fill. No further archaeological work is therefore recommended in this remainder.

LEVEE SUB-AREA

The Levee sub-area is that portion of the APE that was historically oriented toward river and railroad transportation. It includes the northern halves of Blocks 41-46, which historically housed industrial concerns, and extends north through the railroad corridor and levee area to the state line. Based on the results of the this study, the southern portion of the Levee sub-area is considered to have moderate to high potential for containing archaeological resources (see Figure 60). For this reason, it is recommended that this portion be subject to a Phase I archaeological survey if it is to be impacted by bridge construction activities. Because, however, of the substantial railroad and industrial construction that has occurred in this location, the survey would need to include intensive, regularly spaced coring to determine whether any deposits potentially dating to the precontact or contact period remain intact.

The remaining, northernmost portion of the Levee sub-area, includes that part occupied by the Mississippi River and the land north of the current railroad corridor, which is entirely artificial, having been created through introduced fill. No further archaeological

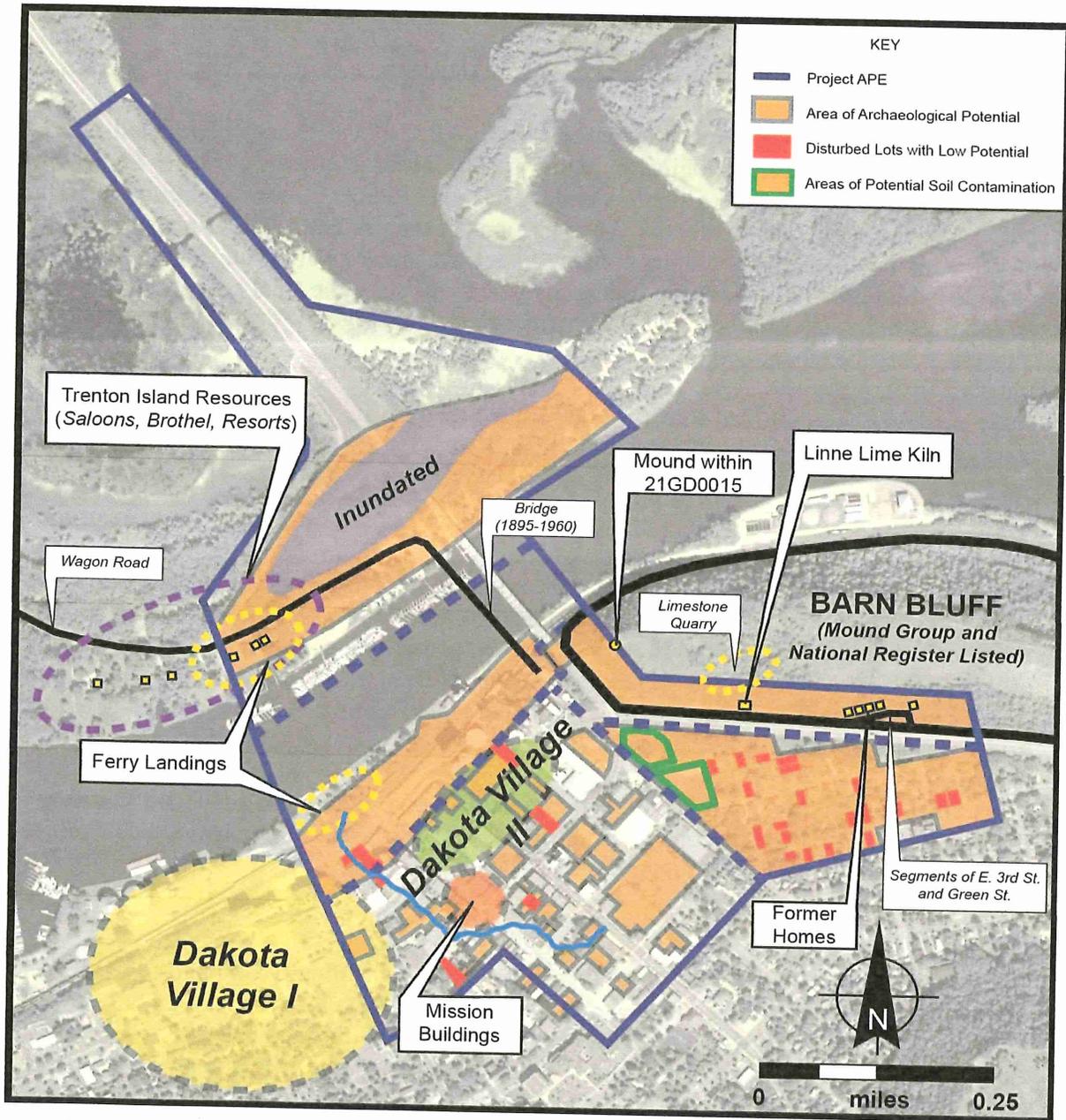


FIGURE 60. CUMULATIVE MAP OF ARCHAEOLOGICAL POTENTIAL WITHIN THE PROJECT APE

work is therefore recommended in that portion of the Levee sub-area north of the current railroad corridor.

DOWNTOWN COMMERCIAL SUB-AREA

The Downtown Commercial sub-area encompasses a portion of Red Wing's historical commercial district. Extending west from Bluff Street and the edge of Barn Bluff, it includes the southern halves of Blocks 41-46 within the APE, which were primarily commercial in nature during the historical period, and extends south to the first tier of properties on the south side of 5th Street W. Although a few areas can be removed from consideration for future study due to substantial disturbance, the Downtown Commercial sub-area largely has moderate to high potential for containing archaeological resources (see Figure 60 and Table 3 [for lot-specific recommendations]). Coring within three test areas produced evidence for subsurface archaeological features that were considered site leads (21GDbi, 21GDbj, and 21GDbk). These sites and areas with moderate to high archaeological potential that will be impacted by the TH 63 Red Wing Bridge project, as well as those of unknown archaeological potential, will therefore require additional archaeological work prior to construction.

EAST RED WING RESIDENTIAL SUB-AREA

The East Red Wing Residential sub-area is that portion of the APE east from Bluff Street and south of TH 61, which was historically occupied primarily by residential housing. Based on the results of the study, the majority of the open portions, i.e., those portions that do not contain historical or modern construction, of the East Red Wing Residential sub-area have moderate to high potential for containing archaeological resources (see Figure 60). It is therefore recommended that any open portions of this sub-area be subject to a Phase I archaeological survey if they are to be impacted by bridge construction activities, with the following exceptions: those along the northeast edge of the East Red Wing Residential sub-area that have been substantially disturbed by the construction of Highway 61 and related utility corridors; those along the southeast edge of the sub-area near school buildings, which would have been disturbed by school building construction; and those associated with lots that either were not developed until the first quarter of the twentieth century or were extensively disturbed by processes such as house expansion or garage construction. It should also be noted that while one open area located on Block A, which once contained a naphtha tank, and another open area, once occupied by the former gas works, have the potential to contain archaeological features, the potential for soil contamination must be taken into account prior to any archaeological testing.

BARN BLUFF SUB-AREA

The Barn Bluff sub-area is that portion of the APE that encompasses the slopes of this distinctive landform and the corridors of Highways 61 and 63, which are located at the base of the escarpment. Based on the results of this study, the north portion and westernmost end of the Barn Bluff sub-area have high potential for containing archaeological resources (see Figure 60). It is recommended that additional

archaeological work be conducted in any portions of these locations that will be impacted by the TH 63 Red Wing Bridge Project.

Additionally, the Barn Bluff sub-area contains earthworks/mounds associated with 21GD0015, which are protected under the Private Cemeteries Act. Due to the presence of this mound group, tribal consultation and project coordination with the OSA to address potential direct and indirect effects are needed. While Barn Bluff is already individually listed on the National Register, based on documentation during the study of a Dakota tradition associated with Barn Bluff identified, it is recommended that tribal consultation include discussion of whether Barn Bluff should also be evaluated as a TCP.

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APPENDIX A
MINNESOTA ANNUAL ARCHAEOLOGICAL
SURVEY LICENSES

**APPLICATION FOR MINNESOTA
ANNUAL ARCHAEOLOGICAL RECONNAISSANCE SURVEY LICENSE**

This license only applies to reconnaissance (Phase I) surveys conducted under Minnesota Statutes 138.31-.42 during calendar year 2011. Separate licenses must be obtained for site evaluation (Phase II) surveys, for major site investigations (Phase III), for burial site authentications under Minnesota statutes 307.08, and for survey work that will continue into another calendar year. Only the below listed individual is licensed as a Principal Investigator, not the institution/agency/company or others who work for that entity. The licensed individual is required to comply with all the conditions attached to this license form. Permission to enter land for the purposes of archaeological investigation must be obtained from the landowner or land manager.

Name: Andrea C. Vermeer

Institution/Agency/Company Affiliation: Two Pines Resource Group, LLC

Title/Position: Senior Archaeologist and Historian

Address: 17711 260th Street, Shafer, MN 55074

Work Phone: 651-257-4766 E-Mail: avermeer@twopinesresource.com

Name of Advanced Degree Institution: The University of Arizona Year: 2006

Name of Department: Anthropology Degree: MA MS PhD

Purpose: (check all that may apply)
CRM Academic Research Institutional Field School

Type of Land: (check all that may apply)
State Owned County Owned Township/City Owned
Other non-federal public List: _____

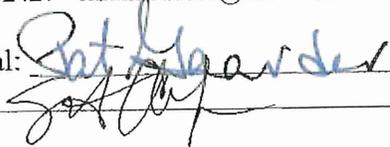
MHS Repository Agreement # 518 Other Approved Curation Facility: _____

Previous License: Year 2010 Type Annual Number 10-05

Signed (applicant):  Date: 4-4-11

Required Attachments: Curriculum Vita and Documentation of Appropriate Experience _____
for previously unlicensed individuals.

Submit one copy of this form and attachments to:
Office of the State Archaeologist, Ft. Snelling History Center, St. Paul, MN 55111
612-725-2411 612-725-2729 FAX 612-725-2427 email: mnoasa@state.mn.us

Minnesota Historical Society Approval:  Date: 4/7/11
State Archaeologist Approval: _____ Date: 4/7/11

License Number: 11-034 Form Date: 2/15/11

**APPLICATION FOR MINNESOTA
ANNUAL ARCHAEOLOGICAL RECONNAISSANCE SURVEY LICENSE**

This license only applies to reconnaissance (Phase I) surveys conducted under Minnesota Statutes 138.31-.42 during calendar year 2011. Separate licenses must be obtained for site evaluation (Phase II) surveys, for major site investigations (Phase III), for burial site authentications under Minnesota statutes 307.08, and for survey work that will continue into another calendar year. Only the below listed individual is licensed as a Principal Investigator, not the institution/agency/company or others who work for that entity. The licensed individual is required to comply with all the conditions attached to this license form. Permission to enter land for the purposes of archaeological investigation must be obtained from the landowner or land manager.

Name: Michelle M. Terrell, Ph.D.

Institution/Agency/Company Affiliation: Two Pines Resource Group, LLC

Title/Position: Principal Archaeologist and Historian

Address: 17711 260th Street, Shafer, MN 55074

Work Phone: 651-257-4766 E-Mail: mterrell@twopinesresource.com

Name of Advanced Degree Institution: Boston University Year: 2000

Name of Department: Archaeology Department Degree: MA MS PhD

Purpose: (check all that may apply)
CRM Academic Research Institutional Field School

Type of Land: (check all that may apply)
State Owned County Owned Township/City Owned
Other List: _____

MHS Repository Agreement # 518 Other Approved Curation Facility: _____

Previous License: Year 2010 Type Annual Number 10-35

Signed (applicant): Michelle M. Terrell Date: 4-4-11

Required Attachments: *Curriculum Vita* and Documentation of Appropriate Experience
for previously unlicensed individuals.

Submit one copy of this form and attachments to:
Office of the State Archaeologist, Ft. Snelling History Center, St. Paul, MN 55111
612-725-2411 612-725-2729 FAX 612-725-2427 email: mnosa@state.mn.us

Minnesota Historical Society Approval: [Signature] Date: 4/7/11
State Archaeologist Approval: [Signature] Date: 4/7/11

License Number: 11-035

Form Date: 2/15/11



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WOLF BRIDGE
 COUNTY GOODHUE
 TEST AREA 1 (ECONO FOODS)
 DATE(S) 6-21-11

Test #: 1-A
 Transect:
 Crew:
 Depth
 20 Asphalt
 25 CLASS 5 A A
 45 FILL (COARSE SAND)
 90 CLEAN SAND (FILL)
 120-130 CINDERS / ~~ROCKS~~
 140 ~~CONCRETE~~ SAND (FILL)
 170 COARSE W/ GRAVELS
 185 SAND
 210 COARSE SAND
 225 ROCK/LIMESTONE
 230 COARSE SAND MOTTLED W/ LIME
 AREA OF STRUCTURES W/ BASEMENTS OR SE COWER
 Final Depth:
 Pos. Neg. Disturbed
 Mtls:

Test #: 1-A2
 Transect:
 Crew:
 Depth
 290 COARSE SAND
 300
 320 CLEAN SAND
 COARSE SAND MTL. MOTTLED W/ ROCK, FR. (FILL/DEBRIS)
 P4 405
 475
 P5 495
 20' LIMESTONE / MOUNTAIN (FLOTTING)
 P6 241
 CONE IS SLOUGH W/ LIME MOUNTAIN + STONE
 P7 201
 DEBRIS
 NAT. SOIL / SAND
 10CM SAND MEDIUM NATURAL
 Final Depth:
 Pos. Neg. Disturbed
 Mtls:

Test #: 1-B
 Transect: (20m east of)
 Crew: 1-A
 Depth
 20 Asphalt
 40 COARSE SAND FILL
 P1(41) 100
 110 CLEAN SAND FILL
 117 MOUNTAIN LENS
 CLAY
 CLEAN SAND FILL
 185 2CM OF ACCUMULATION
 3CM BRICK FRAGMENT (DEBRIS) SOIL RUTLET
 190 P2(10) 175
 200 CLEAN SAND
 MOUNTAIN FLECK
 COARSE W/ GRAVELS MOTTLED
 P3(12) 260
 265
 275 LIMESTONE / MOUNTAIN (FILL)
 SAND
 COARSE SAND W/ GRAVELS
 P4(16) 300
 305 SILTY SAND
 191 stopped
 Final Depth:
 Pos. Neg. Disturbed
 Mtls:

Test #: 1-C
 Transect: (12m south of 1-B)
 Crew: UT 1-B
 Depth
 20 Asphalt
 25 CLASS 5
 COARSE SAND FILL
 65
 70 SOIL ACC
 BRICK & MOUNTAIN (DEBRIS)
 85 COMPACT LOESS Ab
 SANDY LOAM MTL
 SAND LOAM Bb
 115 SAND C
 113 SAND ~ Ab2
 160 LIMESTONE SAND
 190
 P3(12) 220
 COARSE SAND W/ GRAVELS
 P4(16) 290
 295 LIMESTONE / MOUNTAIN
 Final Depth:
 Pos. Neg. Disturbed
 Mtls:

AREA OF STRUCTURES (NO BASEMENTS) ON SLIGHTLY BACKSET /



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING BRIDGE
 COUNTY GOODHUE
 TEST AREA 2 - YMCIA
 DATE(S) 6-21-11

Test #:	Test #:	Test #:	Test #:
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
15	175		
	190		
35	200		
40	215		
45	235		
50	240		
55	250		
60			
70			
75			
90			
115			
150			
175			
Final Depth:	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:	Mtls:	Mtls:	Mtls:

Asphalt

CLASS 5

OLD LOT

CLASS 5

FILL 1 SANDS

FILL 2

FILL 3 SANDS

LIMESTONE / MORTAR

ORGANICS? HISTORIC SOIL?

COARSE SAND / SAND

WEATHERED ROCK

SAND (NATURAL)

WEATHERED ROCK

COARSE SAND (LIGHT)

COARSE SAND (DARK)

PEAT (SANDUST?)

COARSE SAND OK W/ ROUNDED GRAVELS (WET)

STREAM DEPOSITS? SOME REBAR DEPOSITS AS IN OTHER CORE

SANDSTONE BEDROCK





AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT LED WIND
 COUNTY GOODHUE
 TEST AREA 5
 DATE(S) 6-21-11

Test #:	5-A	Test #:	5-B	Test #:	5-C	Test #:	5-D
Transect:		Transect:	195 M EAST	Transect:	35 M NORTH	Transect:	23 M N +
Crew:		Crew:	OPS-A	Crew:	10 M EAST OF	Crew:	3 M EAST OF
Depth		Depth		Depth	5-15	Depth	5-A
10	Asphalt	10	Asphalt	10	Asphalt	5	Asphalt
25	CLASS 5	25	CLASS 5	30	CLASS 5	15	CLASS 5
65	COARSE SAND W/ MOUNTAIN FILL	35	FORMER W/ SURFACE	40	TRACIC BEDROCK W/ CRACKS	20	FORMER W/
75	BROWN LOAM W/ ROOTLETS	80	FILL	43	CLASS 5	23	CLASS 5
75 P1(4)	TOPSOIL W/ ROOTLETS	85	SOIL W/ ROOTS	63	COARSE SAND	33	FILL COARSE SAND
90	BRICK	90 P1(4)	CONCRETE	93	BEDROCK	38	EXP. SOIL
95	MOUNTAIN / CONCRETE	100	SOIL ACFT (EMPTY LOT?)			40	CONCRETE / MOUNTAIN
115	BRICK	105	BRICK				BEDROCK
165 P2(8)	W/ MOUNTAIN IN BETWEEN	125	MOUNTAIN				
185	STONE W/ LIME STONES	175	SAND				
195	BEDROCK	195	BEDROCK				
240	Final Depth:	200					
END OF P3		240	Final Depth: 10'				
	Final Depth:						
	Final Depth: 3'						
	Final Depth: 6'						
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed		<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed		<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed		<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	
Mtis:	Structures	Mtis:	Structures	Mtis:	4 m south of extent bldg.	Mtis:	

P1670'D

NO CULTURAL DEPOSITS - ON SLOPE TO ALLEY



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WINK
 COUNTY GOODHUE
 TEST AREA 6
 DATE(S) 6-22-2011

Test #: 6-A	Test #: 6-B	Test #: 6-C	Test #: 6-D
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
8 ASPHALT	ASPHALT	ASPHALT	ASPHALT
44 COARSE BROWN SAND w/ GRAVEL BITS + GRAVEL (FILL)	27 COARSE SILTY SANDS / CLAY S?	22 COARSE SAND LIGHT GRAVELS	20 MOTTLED CLAY LOAM DK GR + YELLOW w/ GRAVEL (FILL)
61 BLACK CLAY w/ CHARRED WOOD (CARBON MATERIAL)	37 COARSE SANDY LOAM w/ GRAVEL	43 COARSE SAND w/ GRAVEL + CINDERAS	30 DK SILT LOAM
6A GRASS TOP ↓ BEDROCK	47 SANDY SILT w/ GRAVELS	53 LOAMY CLAY (HISTORICAL) BLOCK	74 CLAY LOAM METAL ITEMS @
P1 END	69 SILT LOAM DARK	63 LOAMY CLAY BROWN	87 YELLOW CLAY w/ GRAVEL METAL ITEMS @ P.P.P.
	74 CLAY SILT w/ GRAVELS	74 WEATHERED MATERIAL OVER BEDROCK	93 (P.P.P.) METAL ITEMS @
	82 DARK SILTY CLAY	109 P1 (4') ↓ P2	126 WEATHERED MAT. OVER BEDROCK
	94 MOTTLED	~121 P2	135 BEDROCK
	98-98 WEATHERED MATERIAL (SANDY CLAY OVER BEDROCK)		142 P2 (5.5')
	117 END OF P2		
Final Depth:	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:	Mtls:	Mtls:	Mtls:
	20 S OF 6-A	20 S OF 6-B	20 MS OF 6-C



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING BRIDGE
 COUNTY GOODHUE
 TEST AREA 6-ADM
 DATE(S) 6-22-11

Test #:	Test #:	Test #:	Test #:
6-E			
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
<p>23</p> <p>46</p> <p>70</p> <p>75</p> <p>120</p> <p>125</p> <p>140</p> <p>170</p> <p>195</p> <p>220</p> <p>Final Depth:</p>	<p>Final Depth:</p>	<p>Final Depth:</p>	<p>Final Depth:</p>
<p>Asphalt</p> <p>Fill COARSE SAND WICKING</p> <p>CONCRETE</p> <p>COARSE SAND</p> <p>CONCRETE</p> <p>COARSE SAND</p> <p>CONCRETE</p> <p>COARSE SAND</p> <p>CLAY/WATERMUD</p> <p>Final Depth: ROCK</p>			
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls: <u>12' BEDROCK</u>	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT TH 63- R60 WMA
 COUNTY GOODHUE
 TEST AREA 9
 DATE(S) 8/9/2011

Test #: 9-A	Test #: 9-B	Test #: 9-C	Test #: 9-D
Transect:	Transect:	Transect:	Transect:
Crew: AV	Crew: AV	Crew: AV	Crew: AV
Depth	Depth	Depth	Depth
9 22 25 35 34 48 98 106 116	5 35 53 70 92 106	12 34 54 74 82	7 30 52 72 79 A 80 107 122
Ash/soil coarse limestone Dark coarse fill w/ brick bits Brown silt/clay Rock Brown silt (carbon) Silt/clay + rock (carbon) Clay w/ laminar bedding + rock (carbon) Refusal (Carbon)	Ash/soil Full w/ limestone frags Precipitate 27 Very coarse High? looks melted up Bright yellow silt + limestone Silty clay + rock (degraded to rock) Silt/degraded rock (carbon) Clay w/ laminar bedding + rock (carbon) Refusal (Carbon)	Ash/soil No base Brown sandy loam (natural) Reworked (pebbles); Degraded brown + silt Refusal	Ash/soil No base Very dark gray, coarse sandy loam Dark gray silt Dark gray silt Has silty layer w/ dip Silt loam w/ small pebbles (carbon) Silt w/ rocks Laminar bedding Silt clay w/ laminar bedding + rocks Refusal
Final Depth:	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:	Mtls:	Mtls:	Mtls:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT

TR 03- R60 W/M

COUNTY

GOODRICH

TEST AREA

9

DATE(S)

8/9/2011

Test #:	Transect:	Crew:	Depth	Test #:	Transect:	Crew:	Depth	Test #:	Transect:	Crew:	Depth
9-E		AV	10	9-F		AV	15				
			36				28				
			43				38				
			48				51				
			58				54				
			68				62				
			72				72				
			78				81				
			98				101				
			104				120				
			116				132				
			128				152				
			148								
			Final Depth:				Final Depth:				Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed				<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed				<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed			<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:				Mtls:				Mtls:			Mtls:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT TL 63-R60 Wink
 COUNTY GOODHUE
 TEST AREA 10
 DATE(S) 8/9/2011

Test #: 10-A	Test #: 10-B	Test #: 10-C	Test #: 10-D
Transect:	Transect:	Transect:	Transect:
Crew: AV	Crew: AV	Crew: AV	Crew: AV
Depth	Depth	Depth	Depth
17 31 44 46 49 54 74 78 103 129 159 178	7 11 15 17 45 48 54 58 62 77 79 126 133 164 199 241	7 18 45 53 62 64 74 87 98 130 165 189 196 311 226 246	10 30 37 55 70
class 5 Black coarse sand with fill w/ brick bits BRICK mortar Limestone Cinders - Black crushed limestone Black greenish silt loam limestone transition gray silt Brown detrital + limestone (beams) Refusal	Refusal Brown coarse sand w/ pebbles yellow silt w/ limestone pebbles dark gray to black silt loam Brown coarse sand w/ gravel Limestone Reddish brown coarse silica sand Green fine sand Silt clay w/ green angular rock Dark green to black silt loam w/ green mottling Black silt (wood 133-136) Green mottles w/ dark Green medium brown to greenish yellow bedrock Refusal	Refusal class 5 Black clay to silt loam BRICK crushed limestone Green silt Lighter gray silt w/ yellow mottles Very dark gray silt loam coarse green sandy loam w/ yellow mottles angular rocks Black silt (plant mat. 139-142) Green w/ yellow mottles fine silica sand w/ angular rocks Green w/ reddish brown mottles clay complete transition silt loam w/ rocks (beams) Bedrock Refusal	Refusal class 5 Black silt loam grayish + yellow mottled clay w/ limestone Refusal Bedrock Refusal
Final Depth:	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtis:	Mtis:	Mtis:	Mtis:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WINE BRIDGE
 COUNTY GOODHUE
 TEST AREA 12- KOPLIN'S MARKET
 DATE(S) 6-21-11 + 3

Test #:	Transect:	Crew:	Depth	Soil/Structure Description	Test #:	Transect:	Crew:	Depth	Soil/Structure Description	Test #:	Transect:	Crew:	Depth	Soil/Structure Description
12-A	1.5 M E. OF CURB		10	Asphalt	12-B ₁	5 M EAST OF	12-A	10	Asphalt	12-B ₂			65	CLEAN SAND
			15	CLASS 5 CINDERS FILL				20	CLASS 5 FILL (HISTORICAL ACC?)				145	COARSE SAND
			45	STONE				40	STONE				155	BEDROCK
			55	LARGE SANDY LUM W/ RIVERS				45	BRICK					
			65					60	WET MORTAR (CONCRETE?)					
			70	GRANITE				65	STONE					
				LIMESTONE W/ MATERIAL (FASTN)				65	CLAY LENS					
			155					p. 1	CONCRETE					
								95	VOID N 4 FT.					
								110	CONCRETE					
								12-16'	BRICK M MORTAR					
								65	CLEAN SAND					

Pos. Neg. Disturbed
 Mtls:

Pos. Neg. Disturbed
 Mtls:

Pos. Neg. Disturbed
 Mtls:

Pos. Neg. Disturbed
 Mtls:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING
 COUNTY GOODHUE
 TEST AREA 12 (KUPLINS)
 DATE(S) 6-22-11

Test #: 12-C (1)
 Transect:
 Crew:
 Depth

0	Asphalt
13	CINCRAS
25	CRUSHED LIMESTONE
35	LOAM W/ BRICK MOTTLES
45	LIMESTONE
45	0.5 BRICK
60	SANDY LOAM W/ BRICK MOTTLES
60	BRICK
95	MORTAR
115	LIMESTONE
130	LOAM W/ BRICK FLAKES + CHARCOAL
145	BRICK
155	LIMESTONE
167	SANDY LOAM
175	

Final Depth:
 Pos. Neg. Disturbed
 Mtls: Salmon Area

Test #: 12-C (2)
 Transect:
 Crew:
 Depth

177	MORTAR
182	LIMESTONE
187	BRICK
192	MORTAR SAND
212	BEDROCK

BLACK SAND
 END OF P3 AT 12'
 17M SOUTH OF 12-B AND 1.5M WEST

Final Depth:
 Pos. Neg. Disturbed
 Mtls:

Test #: 12-D
 Transect:
 Crew:
 Depth

CONCRETE REFUSAL @ 15 CM

Final Depth:
 Pos. Neg. Disturbed
 Mtls:

Test #: 12-E
 Transect:
 Crew:
 Depth

10	Asphalt
12	CINCRAS
23	CRUSHED LIMESTONE / CUBES
28	SANDY LOAM + CINCRAS
37	LOAM W/ BRICK FRAGS
41	MORTAR
51	LOAM W/ BRICK FRAGS
58	MORTAR
66	LOAM W/ BRICK FRAGS
71	LIMESTONE
75	LOAM W/ BRICK FRAGS
79	BRICK
83	
90	SANDY LOAM / LOAMY SAND (BRICK)
106	SAND LIGHTER
112	SANDY LOAM / SAND MOTTLES
127	SAND LIGHTER
134	SANDY LOAM / SAND MOTTLES
155	SAND
164	SANDY SILT
166	
178	

Final Depth:
 Pos. Neg. Disturbed
 Mtls:

4m east of curb
5m north of curb

10M E, 2M S OF 12B IN

20M N OF 12B + 7M EAST



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING BRIDGE
 COUNTY GOODHUE
 TEST AREA 12 - (KOPLINS)
 DATE(S) 6-22-11

Test #:	Test #:	Test #:	Test #:
12-F			
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
3 10 14 20 33 39 42 47)			
3 CLAY 10 CLAY LOAM w/ GRAVEL, BRICK FRAGS 14 CRUSHED LIMESTONE 20 4 (DUNE) CLAY LOAM TO LOAM 33 SLIGHTLY LIGHTER LOAM 39 SANDY LOAM 42 POSSIBLE LOAM (SANDY LOAM) 47 SANDY LOAM			
Final Depth:	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls: ICE HOUSE AREA	Mtls:	Mtls:	Mtls:

* 5' 1/2" *
 15' 1/2"



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WINK
 COUNTY WOODHUE
 TEST AREA 13A-13B
 DATE(S) 6-22-2011

Test #: 13A-a	Test #: 13B-a	Test #: 13B-b	Test #:
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
<p>ASPHALT</p> <p>15 coarse fill w/ gravel</p> <p>20 crushed limestone</p> <p>25 dark clay w/ gravel</p> <p>30 dark clay w/ oxidation (H₂O)</p> <p>38 silty clay</p> <p>51 sand silt</p> <p>62 silty clay w/ gravel</p> <p>71 sand</p> <p>74 (KPI-10)</p> <p>132 Filler</p> <p>187 weathered limestone</p> <p>190 sand</p> <p>206 sand silt</p> <p>209 coarse sand w/ gravel</p> <p>213 weathered limestone</p> <p>218 Final Depth:</p>	<p>ASPHALT</p> <p>10 clays</p> <p>17 coarse fill w/ gravel & glass tiles</p> <p>24 silty sand w/ gravel & some oxidation (from casing)</p> <p>89 silty sand w/ gravel & possible clays</p> <p>93 silty sand w/ gravel</p> <p>136 silty w/ bands of oxidation, weathered w/ depth</p> <p>161 silty (changing but less obvious)</p> <p>200 very wet!</p> <p>LOW ALCA POTENTIAL</p> <p>VERY THIN HISTORICAL DEPOSITS</p> <p>BUILD (CURRENT) DIST. EARLIER DEPOSITS - LT IS DEPRESSSED COMPATIVELY TO SURFH LOT.</p> <p>Final Depth:</p>	<p>ASPHALT</p> <p>10 coarse sand</p> <p>15 weathered bedrock mat.</p> <p>(from construction?)</p> <p>105 P1 (1')</p> <p>205 (2')</p> <p>212 oxidation sand silt</p> <p>215 bedrock</p> <p>218 weathered bedrock material</p> <p>242 chunk of limestone</p> <p>252 weathered bedrock mat.</p> <p>277</p> <p>307 (P3 (1'))</p> <p>NATURAL</p> <p>LOW ALCA POTENTIAL (DIST.)</p> <p>Final Depth:</p>	<p>Final Depth:</p>
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING BRIDGE
 COUNTY GOODHUE
 TEST AREA 1MB
 DATE(S) 6-22-11

Test #:	14B-A	Test #:	14B-B	Test #:	14B-C	Test #:	14B-C ₂
Transect:		Transect:	20m from	Transect:		Transect:	
Crew:		Crew:	14B-A	Crew:		Crew:	
Depth		Depth		Depth		Depth	
10	Asphalt	10	Asphalt	10	Asphalt	225	BLACK SOIL (W/ LIME) [WILL PROCESS]
30	CLASS 5	40	CLASS 5	18	CLAYEUS / BRICK / CORUSE	235	GLEYS W/ LIMESTONE (WEATHERED BEDROCK)
45	SILTY LOAM BROWN W/ CLAYEUS BROWN FRAG. LIMESTONE FRAG.	48	312 CORUSE SANDY LOAM W/ BRICK FRAGS	23	SILTY SAND ORANGE	P.3 (12')	
P1(4)	MOTTLED DEBRIS / DEBRIS	76	BRICK + MARBLE	20	BLACK SILTY SAND MOTTLED		possible stream related deposits
70	FLORID CONCRETE + STONE	78	CORUSE SAND BRICK		GREENISH SILT W/ LIMESTONE INCLUSIONS		
80	10YR 5/6 STONE SURFACE SILTY SAND	93	BLACK HISTORICAL DEPOSITS COARSE SAND LOAM	P1(4)	STONES		
85	10YR 3/2 SILTY CLAY LOAM (NATURAL A)	98	COARSE SAND BRICK	78	DK / BROWN SILTY LOAM W/ BRICKS		
120	10YR 5/6 SILTY CLAY LOAM	138	BLACK CRUST OF LIMESTONE OVER CLAYEUS LIMESTONE CRUST - CLAY BASE	80			
135	MOTTLED BAND OF DIC. MAT.	168	SILT	90-95	GREENISH SILT		
140	SAME AS	206	DEGRADED LIMESTONE	P2(10)			
150	GRADING TO GRAY SILT W/ SANDS			100	WOODS (P.C.) BRICKS (CANT W/ PROCESS)		
200	WEATHERED BEDROCK			105	BANDS OF GLEYS		
320	MINE SILT (WET)			215			
325	Final Depth:		Final Depth:		Final Depth:		Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed		<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed		<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed		<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	
Mtls:		Mtls:		Mtls:		Mtls:	

END OF P3(12')



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING BRIDGE
 COUNTY GOODHUE
 TEST AREA 15A
 DATE(S) 6-24-11

NO EVIDENCE OF MISTAKEN IN UPPER PARTS

CIRCUITRY UNIFORMITY
CIRCUITRY UNIFORMITY

CIRCUITRY UNIFORMITY

ST#:	Transect:	Crew:	Depth	ST#:	Transect:	Crew:	Depth	ST#:	Transect:	Crew:	Depth
15A-A			15				15	15A-B			15
			30				45				45
			75				70				105
			85				80				145
			95				85				155
			130				90				165
			145				100				240
			148				105				
			173				115				
			175				120				
			103				130				
			213				135				
			Final Depth:				140				Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed				<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed				<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed			<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:				Mtls:				Mtls:			Mtls:

Similar to 15B-B



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WIND
 COUNTY COCONINO
 TEST AREA 15A + 15B
 DATE(S) 6-23-11

ST#:	ST#:	ST#:	ST#:
15B-A		15B-B	
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
10	132	10	197
20	137	30	217
40	147	45	267
45		50	297
50		100	
55		112	
60	197	122	
70		132	
82		142	
92		152	
112		162	
		167	
		177	
Final Depth:	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:	Mtls:	Mtls: 15MN + 5 M E OF 15B-A	Mtls:

Asphalt
 CLASS 5
 COARSE SAND W/ GRAVEL FILL
 BRICK W/ REDDISH MORTAR
 LIMESTONE
 BRICK, MOTTLED
 CRACKED LIMESTONE
 BRICK MOTTLED
 CINDER
 SILT/WEATHERED STONE
 BROWN SILTY LOAM
 CEMENT, BRICK FILL
 HISTARCH!
 LAGUNA SILT
 Banded SILT
 FINE HALL AREA

LAGUNA SILT
 Banded SILT
 LAYER OF ASH/CHARCOAL COAL
 BROWN SILTY LOAM (A?)
 BRICK
 TO BEDROCK (WEATHERED)
 BANDS OF HISTARCH

Asphalt
 CLASS 5
 COARSE SAND W/ GRAVELS (FILL)
 LAGUNA SILT
 BRICK
 100
 112
 BROWN SILTY LOAM (CLEAN)
 122
 O O O O BROWN SILTY LOAM (CLEAN)
 132
 BRICK PERCHES ASH/BROWN LAYER
 142
 CLASS 5
 LIME/MORTAR
 152
 MOTTLED W/ BRICK COAL/BANDS
 162
 ASH/MORTAR
 O O O O WET GRAVELS
 177
 BIRCH

O O O WET
 GRAY BAND
 DK, BURIED NAT. A HORIZON SILTY CLAY LOAM W/ ROOTS
 BRICK
 BRICK SILT
 Banded
 TO WEATHERED BEDROCK



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WALK
 COUNTY SCOTT
 TEST AREA 16(15C)
 DATE(S) 6-22-11

Test #:	Transect:	Crew:	Depth	Notes
16-A		LICE 14B-C	10	Asphalt
			13	BLACK SAND LAMM
			28	COARSE SAND + GRAVELS FIN
			55	SILTY SANDY LAMM (HISTARCH? FILL?)
				BANDS SILT MTL (GREENISH)
			105	PI(4)
			110	BLACK SILTY LAMM W/ GRAVELS
			120	LIMESTONE UNDEVELOPED / RED COME SAND
			125	BLACK LAMM W/ CHARLSTON + WOOD COAL
			135	SILTY CLAY
			165	BROWNISH BLACK W/ WOOD, ETC.
			265	GRAVEL
				Final Depth: 30'
				Pos. Neg. Disturbed
				Mtis:
16-B				CONTAINS GRADATION TO WET KENNA COM W/ GREENISH INCLUSIONS TO NATIVE BEDROCK (WEATHERED)
			15	Asphalt
			22	COARSE SAND OLIVINE PILL
			27	GREENISH LIMESTONE (GLASS)
			PI 60	SILT MTL W/ BEDROCK INCLUSIONS
			90	rock
			105	MILKED W/ SANDS
			110	GREENISH SILT
			200	GLASS TO LIMESTONE (WEATHERED)
				Final Depth: 15'
				Pos. Neg. Disturbed
				Mtis: APPROX 10M W/ 2M N OF 16-A
16-C				Asphalt
			10	COARSE SAND W/ GRAVELS (SAND)
			55	COARSE SAND W/ GRAVELS (SAND)
			60	POWER CUM (LAMINATED)
			70	rock
			80	GREENISH SILT
			95	COARSE SILT BROWN SILTY LAMM
			135	WEATHERED BEDROCK (GREENISH)
				TEST SHOULD HAVE BEEN WITHIN STRUCTURE WHEN WAS IT REMOVED? HOW?
				Final Depth: 135'
				Pos. Neg. Disturbed
				Mtis: 6' East of SW corner of 16-A

16-A



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WIND
 COUNTY GOODHUE
 TEST AREA 19A + 19B
 DATE(S) 6-22-11

Test #:	Test #:	Test #:	Test #:
09A-A			
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
<p>0 ←</p> <p>10</p> <p>145</p> <p>150</p> <p>PT</p> <p>BS</p> <p>↓</p> <p>↓</p> <p>LOW AREA</p> <p>REMOVED BY</p> <p>REMOVAL OF</p> <p>LOSS STRUCTURE</p> <p>Final Depth: 5.5'</p>			
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls: 5M IN FROM SURFACE 15' FROM STONE WALL OF BLOW	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input checked="" type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT TUG REO WING
 COUNTY GOODRICH
 TEST AREA 19
 DATE(S) 8/9/2011

Test #: 19-A
 Transect: _____
 Crew: AV

Depth	Description
7	Class 5
15	Gravel coarse sand w/ pebbles
20	Reddish brown sand clean
57	Black + brown coarse sand w/ pebbles
70	Yellowish brown silt w/ quartzite incl. (possibly fossils)
75	Greenish gray silty clay (brown) w/ subangular limestone
	Refusal

Final Depth: _____

Test #: 19-B
 Transect: _____
 Crew: AV

Depth	Description
20	Class 5
38	Black coarse sand clean w/ angular limestone & gravel pebbles
58	Reddish brown sand w/ silt pebbles
93 pl	Brownish brown, sandy, clayey, silty + shaly (water bearing)
119	Reddish brown, silty, sandy (shaly) w/ pebbles, nodules
142	Refusal

Final Depth: _____

Test #: _____
 Transect: _____
 Crew: _____

Depth	Description

Final Depth: _____

Test #: _____
 Transect: _____
 Crew: _____

Depth	Description

Final Depth: _____

Pos. Neg. Disturbed
 Mtls: _____



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WIND
 COUNTY GOODHUE
 TEST AREA 20
 DATE(S) 6-23-11

ST#: <u>20-A</u>	ST#: <u>20-B</u>	ST#: <u>20-C</u>	ST#: <u>20-D</u>
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
10 CLASS 5 (GUMMEL LOT) COARSE SAND (CLEAN) 50 SANDY LOAM DK. WI WOOD & BRICK FRAGS 60 BRICK FRAGS COARSE SAND 60 DEGRADED BEDROCK 65 BEDROCK IN BLOW Final Depth:	5 CLASS 5 10 COARSE SAND PLASTIC 20 COARSE SAND WI BRICK FRAGS (FILL) 30 BLACK COARSE SANDY LOAM WI F CINDERS & 60 GREENISH SILT ↓ BEDROCK P11 115 ↓ ↓ BEHIND BLOW Final Depth:	10 CLASS 5 65 COARSE SAND (CLEAN FILL) 60 SANDY LOAM R. OF CLAY/TILE 90 Bedrock LIW MCLT POTENTIAL BLDG. DEMO'D ↓ BACKFILLED W/ CLEAN MTL. MILLER HOTEL Final Depth:	TOPSOIL/ A Horizon 30 SANDY LOAM 10/12 4/3 Blown 35 LIMESTONE 45 GREEN SILTS 75 LIME (SHELL?) 90 BLACK MUD (ART) 90 SILTS (GREEN) ↓ WEATHERED BANDED DEGRADED BEDROCK 205 BEDROCK AREA BEHIND HOTEL IS LEVEL + CAPPED BY CONCRETE. BEHIND CORNER (HOTEL) Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:

CURT WILL USE AT

ART

ART

WEATHERED

BANDED

DEGRADED

BEDROCK

BEDROCK

AREA BEHIND

HOTEL IS

LEVEL +

CAPPED BY CONCRETE.

BEHIND

CORNER (HOTEL)



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING
 COUNTY GOODRICH
 TEST AREA 21
 DATE(S) 6-23-11

ST#: 21-A	ST#: 21-B	ST#: 21-C	ST#: 21-D
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
<p>Depth</p> <p>10 Asphalt</p> <p>10 1042 3/2 SILTY SAND A LAM</p> <p>25 SILTY 1042 4/3 SAND B</p> <p>30 SILTY CLAY C</p> <p>35</p> <p>SILTS W/ WEATHERED SLIME</p> <p>105</p> <p>Final Depth:</p> <p>Very similar to 20-D</p>	<p>Depth</p> <p>10 Asphalt</p> <p>15</p> <p>25 CRUSTED LIMESTONE COARSE SAND & GRAVELS (DISTURBANCE?)</p> <p>32</p> <p>40 LIMESTONE WEATHERED</p> <p>60</p> <p>120 GREENISH SILTS</p> <p>Final Depth:</p>	<p>Depth</p> <p>15 Asphalt</p> <p>10 A</p> <p>10 B</p> <p>23 Rock</p> <p>20 1042 5/6 COARSE SAND W/ GRAVELS</p> <p>42 Bedrock</p> <p>DEGRADED</p> <p>102</p> <p>Final Depth:</p> <p>NO ARCHAEOLOGY REMAINING W THIS LOT - DEMO OF BUILDINGS APPARENTLY CLEAN TO BEDROCK</p>	<p>Depth</p> <p>15 Asphalt</p> <p>20 BLACK COARSE SAND</p> <p>50</p> <p>DEGRADED TO BEDROCK</p> <p>100</p> <p>Final Depth:</p>
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WIND
 COUNTY GOODHUE
 TEST AREA Z1
 DATE(S) 6-23-11

ST#: <u>Z1-E</u>	ST#:	ST#:	ST#:
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
<p>Asphalt</p> <p>50</p> <p>BLACK SAND</p> <p>50</p> <p>SILTY LOYAL SAND</p> <p>62</p> <p>FEATURE DEPOSITS (EGGSHELL, WOODS, BONE)</p> <p>115 ↓</p> <p>120</p> <p>SILTS BEDMADE BEDROCK</p> <p>220</p> <p>Final Depth: <u>75'</u></p>	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed Mtls:



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING
 COUNTY GOODHUE
 TEST AREA 22
 DATE(S) 6-23-11

ST#: <u>22-A</u>	ST#: <u>22-B</u>	ST#: <u>22-B2</u>	ST#: <u>22-B3</u>
Transect:	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
20	20	20	20
50	45	45	30
60	70	70	35
75	75	75	40
H.A.	80	80	50
100	82	82	65
105	90	90	60
	H.A.	100	78
	100	103	83
	115	206	91
	120	266	103
	123	306	115
	126	366	145
	134	391	
	142		
	147		
Final Depth:	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:	Mtls:	Mtls:	Mtls:

WOOD PULPS

SAMPLE FOR CU. 7



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING BRIDGE
 COUNTY GOODHUE
 TEST AREA 22
 DATE(S) 6-24-11

ST#: 22-D	ST#: 22-D	ST#: 22-E	ST#: 22-F
Transect: <u>2</u>	Transect:	Transect:	Transect:
Crew:	Crew:	Crew:	Crew:
Depth	Depth	Depth	Depth
15	P3	10	15
30	249	40	35
40	P4	65	45
42	342	80	50
54		96	55
69		121	60
79		136	65
91			67
99			79
159			94
164			P1
169			109
194			154
204			199
			259
			319
			P3
Final Depth:	Final Depth:	Final Depth: 6'	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:	Mtls:	Mtls:	Mtls: NO MISTANCIT



AUGER TEST FORM

Two Pines Resource Group, LLC

PROJECT RED WING BRIDGE
 COUNTY GOODHUE
 TEST AREA 27A+B
 DATE(S) 6-24-11

~~27A-A~~
~~27A~~

ST#: 27B-A
 Transect:
 Crew:
 Depth

10+	CONCRETE
28	COARSE SAND W/ GRAVELS (FILL)
44	COARSE SAND W/ GRAVELS FILL
64	COARSE SANDY LOAM (CLEAN)
84	BANDED COARSE SAND LOAM + ORANGE/SLT SANDS
89	ORANGE SILT
96	1/4 3/2 SILTY SAND BANDED BRICK FRAG AT MID
129	BLACK SILTY SANDY LOAM (DAMP)
144	BANDED LAYERS OF YELLOW + BROWN SANDS
149	BLACK SLT LOAM W/ GRAVELS + BRICK FLECK
154	GREENISH SILT W/ RUBIC
159	SAND W/ COAL + CINDERS BRICK FLECKS
162	Final Depth:

Pos. Neg. Disturbed
 Mtls:

DK. R. THAN 44 ABOVE

ST#: 27A-A
 Transect:
 Crew:
 Depth

174	BLACK SILTY SAND LOAM + CINDERS AT TOP
180	BROWNER SANDY LOAM
211	GREENISH SILTS
211	SILTY LOAM BLACK
241	sm. small shells at top
282	GRAVELS
312	GRAY SAND W/ EXOTICS (ROUNDED) (RIVER FLOOD?)
352	BLACK SILTY LOAM W/ RUBIC FRAGS
362	BROWN SAND (WET) W/ GRAVELS
372	YELLOW SAND (WET) W/ GRAVELS
377	BROWN SILT
402	BROWN COARSE SAND WET
	Final Depth:

Pos. Neg. Disturbed
 Mtls:

ST#: 27A-A
 Transect:
 Crew:
 Depth

422	CMT. BROWN COARSE SAND
427	BANDED SILTS + SANDS
431	1/4 3/2 SILTY LOAM
441	Yellowish sand
455	Yellowish/Brown Sandy clay w/ rounded gravels (exotic)
461	Yellowish clay
466	BANDED SILTS
496	SILT W/ INCREASING SANDS
546	Bedrock (weathered)
557	end at P7
	Final Depth:

Pos. Neg. Disturbed
 Mtls:

ST#: 27A-A
 Transect:
 Crew:
 Depth

	CONCRETE
10	SAND
15	BROWN COARSE SAND W/ CINDERS
20	BLACK COARSE SAND W/ CINDERS
22	YELLOWISH CS. SAND
25	BROWN CS. SAND
27	COARSE SAND YELLOW/GRANULES
37	STONE POSS. W/ MORTAR
72	BANDED CS. SANDS W/ GRAVELS
78	GRAVELS! (EXOTICS) ANGULAR
80	COARSE SAND
96	BANDED SILTS
109	SANDY SILT
179	SILT
184	END (CALLED)
	Final Depth:

Pos. Neg. Disturbed
 Mtls: LINKED
OPENING

only spot



FRONTS OF BLDG'S APPROX 1 UP
 AUGER TEST FORM TO STREET
 → 1 LEVEL GRADE FOR BACKLOGS
 W THIS AREA STILL REPAIR
 → MODIFIED

PROJECT RED WING BRIDGE
 COUNTY GOODHUE
 TEST AREA 27A
 DATE(S) 6-24-11

Two Pines Resource Group, LLC

ST#:	ST#:	ST#:	ST#:
ST#: <u>27A-B</u>	ST#: <u> </u>	ST#: <u> </u>	ST#: <u> </u>
Transect: <u> </u>	Transect: <u> </u>	Transect: <u> </u>	Transect: <u> </u>
Crew: <u> </u>	Crew: <u> </u>	Crew: <u> </u>	Crew: <u> </u>
Depth	Depth	Depth	Depth
0 CONCRETE	220 BANDIED SILTS		
45 CLEAN SAND	↓ (CORRED)		
P1 50 BANDIED SILT			
↓ 65 BANDIED GREY + BRONX SILTS			
100 ○○○○○ GRAVELS			
110 (ROUNDED GRAVELS)			
P2 130 COARSE SAND (TAN)			
↓ 135 CLEAR			
140 ○○○○○ GRAVELS LAG			
145 OX. SAND			
150 △△△△ ANGULAR LIMESTONE LAG			
155 OX. SAND			
165 GRAVELS EXOTIC ANGULAR			
↓ 210 SORTED SAND			
Final Depth:	Final Depth:	Final Depth:	Final Depth:
<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed	<input type="checkbox"/> Pos. <input type="checkbox"/> Neg. <input type="checkbox"/> Disturbed
Mtls:	Mtls:	Mtls:	Mtls:

NO AREA
 POTENTIAL

APPENDIX C
GEOMORPHOLOGY BORING LOGS FROM DOWNTOWN
COMMERCIAL SUB-AREA

ft.	Probe # 1A	Color	Texture	Notes, Historic/Prehistoric Boundary
0.6		asphalt		
1.5	10YR 5/4		Sa. L w/ pebbles	subbase fill
2.8	10YR 5/4		alt. f. L. Sa + c. Si. L.	bedded
3.2	10YR 3/4 - 3/2		f. L. Sa.	disturbed bedding
3.3	10YR 5/4 - 6/3		c. Si. L.	
4.0	NR			
4.1	10YR 5/4		f. Sa. L	disturbed / fill
4.5	asphalt			
5.4	10YR 4/4		pebbles & c. Sa.	subbase fill
8.0	NR			
8.5	10YR 5/4		f. Sa. L	fill
9.0	10YR 5/4		alt. asphalt & Sa. L	fills / driveways - coarse clasts at lower boundary
9.2	10YR 5/4		pebbles & cobbles	coarse angular CO ₃ pebbles - subbase?
11.4	10YR 4/4		v. c. Sa. w/ pebbles	
12.0	NR			
12.4		Same as above		
13.1	10YR 5/4 - 6/4		v. f. L. Sa.	fill, violent effervescence
16.0		Same as above except		non-effervescent
20.0		Same as above with various		exotic & local pebbles / gravel; sandstone cobble floor at 19.5 feet
20.6	NR			
24.0	10YR 5/4		cobbles	coarser than core barrel

ft.	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
24.0		Sandstone "floor"		
24.1				
25.7	10YR 6/3		m. Sa.	occasional clay loam lens w/ silt loam pebble-sized clasts; subbase for "floor" above to facilitate drainage.
25.8	10YR 3/2		Sa. c. L.	Possible AC horizon; clear lower boundary
26.2	7.5YR 4/6		m. Sa.	natural horizon.

ft.	Probe # <u>1B</u>	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0				
0.4		asphalt		
1.3		10YR 4/4	Sa.L. w/pebbles	subbase for driveway
3.5		10YR 5/4	f. Sa.L. to L.Sa.	fill; disturbed "bedding"
4.0	NR			
6.7		10YR 5/4	alt. f.L.Sa. and Sa.L.	fill; " " ; abrupt lower boundary
7.0		7.5 YR 3/2	f. Sa.L. w/pebbles	CA-horizon; brick fragments; roots
8.0	NR			
8.3		10YR 5/3	f.L.Sa.	fill
10.2		7.5 YR 3/4	Sa.C.L. w/pebbles	
12.0	NR			
17.2		same as above		
17.5		Sandstone	bedrock (basement floor?)	
13.3		10YR 5/3	alt. gravel and Sa.C.L. w/pebbles	
16.0	NR			
16.5		10YR 4/4 + 5/3	alt. f.Sa.L. & C.Sa.L.	fill
19.0	NR		probe refused at 19.0 ft.	

	Probe # <u>1C</u>	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.6		asphalt		
2.1		assorted colors & textures		fill
2.4		asphalt		
2.8		assorted colors & textures		fill; red brick cobble
3.4		10YR 3/1	Sa.L.	Ab-horizon
4.0	NR			
5.0		10YR 3/2	f.L.Sa.	C-horizon; gradual lower boundary
6.1		10YR 3/2 - 2/1	f.L.Sa.	CA-horizon
8.0	NR			
9.1		10YR 4/4	f.L.Sa.	
10.1		10YR 4/4	c. pebbly Sa.	possible fill
12.0	NR			
14.3	NR		same as above; looks like fill because of disturbed "bedding"	
16.0				
17.9	NR		same as above	
20.0				
20.5		same as above		
21.6		Sandstone	bedrock wall and foundation w/mortar	
22.8		10YR 5/4	c.L.Sa. w/pebbles; pebbles are rounded and exotic.	
24.0	NR			
24.6		10YR 3/2	f.Sa.L. w/pebbles	
24.7		10YR 2/1 - 2/2	f.Sa.L.	compacted CA-horizon w/brick fragments
24.8		metamorphic	cobble	
25.9		10YR 4/3	m.Sa.	
26.1		7.5 YR 5/6	Sa.L.	contained weathered SS pebble with glauconite green colors

A.	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.0		10YR 5/3	Sa.L. w/pebbles	1 brick fragment
1.0		10YR 4/3	Sa.L. w/pebbles	wood at 1.7 ft.; brick fragment at 2.7 ft.
2.8		10YR 6/3	pebbly L.Sa.	
3.1	NR			
4.0		Stone & mortar		
4.5		10YR 3/1	Sa.C.L. w/pebbles	fill
5.3		10YR 3/1	alt. Si.L. & Sa.L.	fill
5.7		10YR 4 1/2 - 4/1	f. L. Sa.	many various mottle colors; fill
6.9		10YR 2/1	f. Sa.L - L.	with thinly bedded plat's (low fiber)
7.0		10YR 4/6	f. Sa.	with Sandstone cobbles; stratified
7.4	NR			
8.0		10YR 4 1/3 - 5/3	f. L. Sa.	strata
10.4		7.5YR 4/4	L. - c. Si.L.	
11.6		7.5YR 4/4	Sa.C.L. diamicton	
11.8	NR			
12.0		7.5YR 4/4	pebbly Sa.C.L.	diamicton
13.5	NR			
16.0		10YR 4 1/3 - 4/4	pebbly Sa.L.	common, rounded, local & exotic pebbles
17.8				
20.0	NR			

	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.5		10YR 6/3	Sa.L.	fill
1.1		assorted colors & textures		fill with cinders and charcoal
1.9		Mortar & stone		
2.3		10YR - 7.5YR 4/3	f. Sa.L.	fill w/ cinders and charcoal
3.1	NR			
4.0		Same as above	with Sandstone (SS) clasts	
4.9		7.5YR 4/4 - 4/3	f. Sa.	
5.9		greens, browns, & reds weathered	SS bedrock clasts	
6.9	NR			
8.0		10YR 4/3	c.-v.c. Sa.	oxidized
8.4		N 4/6	c.-v.c. Sa.	gleyed
8.8		10YR 2 1/2	plat	fabric, matted, moderately dense w/ ^{man-made} wood chips
9.5	NR			
12.0		N 4/6	v.c. gravel	well-rounded exotics
12.7	NR			
16.0		Same as above		
16.2		SS bedrock	; in situ	; soft.
20.0				

ft.	Probe # <u>5A</u>	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.3		asphalt		
0.7		7.5YR 7/6	weathered	Sandstone cobble or boulder
2.5		10YR 4/3	pebbly Sa.L	common roots at lower boundary
3.1		10YR 2/1, -2/2	L.	common roots; possible "made" soil.
4.0	NR			
		Red brick & mortar		
6.6				
8.0	NR			
9.0		Same as above		
10.7		Sandstone bedrock;	in situ; weathered.	

ft.	Probe # <u>5B</u>	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.3		asphalt		
0.8		Sandstone, weathered		
1.1		asphalt		
2.4		10YR 5/3	Sa.L w/ pebbles	
2.8		10YR 3/2	L.	
3.1		Mortar		
4.0	NR			
4.5		10YR 2/2	Sa.L.L.	
		brick & mortar		
7.8				
8.0	NR			
		mortar		
9.0				
		Sandstone		
10.5				weathered; in situ

ft. Probe # 5C Color Texture Notes, Historic/Prehistoric Boundary

0		asphalt		
0.4		weathered sandstone	soil	
1.0		asphalt		
1.3				
2.1		10YR 4/3-3/3	pebbly Sa.L	fill
3.2		10YR 5/3-5/4	SS cobbles	weathered CR-horizon
		Refused at 3.2 ft.		

Probe # 5D Color Texture Notes, Historic/Prehistoric Boundary

0		asphalt		
0.2		weathered SS		
0.5		asphalt		
0.8				
1.4		10YR 4/3-4/4	pebbly Sa.L	fill
1.7				limestone cobbles or possible floor or foundation or well
3.2		10YR 4/4	pebbly Sa.L	
4.0	NR			
4.9		10YR 6/3-7/3	c. pebbles	weathered SS bedrock
5.9				sandstone bedrock foundation(?) or boulder
8.0	NR			
8.4		10YR 2/1-2/2	v.f. Sa.L	Apo horizon w/ historic debris (brick, cinders, etc)
11.0		10YR-7.5YR 4/4	v.f. Sa.L	9.0-9.1 & 10.6-10.9 ft. had slightly darker stained (10YR 3/3) organics or older groundwater fronts
12.0	NR			
12.2				granite cobble or boulder blocked better recovery
16.0	NR			

ft.	Probe # <u>6A</u>	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0		asphalt		
0.3				
1.4		10YR 3/3	pebbly L. Sa.	fill; brick fragments
2.1		N/O	L. - Si.C. L. w/pebbles	A horizon; subrounded to rounded 4x3x2 cm ^{igneous} pebbles; wood fragment collected at 1.9 ft.
2.4		7.5YR 5/6 - 5G 4/1	weathered cobbles/boulders	CR-horizon; flaggy, bedded, carbonates
2.5		bedrock		R-horizon; carbonate bedrock, insitu

Probe#	Color	Texture	Notes, Historic/Prehistoric Boundary

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0	Asphalt		
0.9	L.S. aggregate		
1.2	10YR 3/1	pebbly L.Sa	
1.6	10YR 4/1	pebbly c.SiL	poor side cap over industrial soil.
2.3	10YR 2 1/2 - 2/2	v.f. Sa, L	
2.4	10YR 4/1	c.SiL Sa, C, L	weathered bedrock clast?
2.7	Ab	L, Si, C, L	Topsoil
3.1	NR		
4.0	as above	Si, L	
4.1			weathered bedrock or clay from mining floods
4.6	Bedrock - weathered		

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0	asphalt		
0.7	10YR 3/1	pebbly L.Sa	fill
1.7	10YR 3/2	L	possible weakly developed soil or detrital C-rich horizon
2.1	7.5YR 4/4.5		
2.4	alt. colors of weathered bedrock	alt bedded textures	possible SiL lenses were introduced within reworked bedrock
3.7	NR		
4.0	same as above		
4.4	R		

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0			
0.8	Asphalt		
1.1	LS aggregate		
2.2	10YR 2/1	L-SiCL	w/ common mottles of 10YR 6/3 weathered LS.
2.7	10YR 4/2	L-SiCL w/ pebbles	fill.
3.0	10YR-2.5Y 5/3	L-Sa.C.L w/ pebbles	many mottles (clods) of 10YR 3/1; many mottles of 7.5Y 5/2
4.0	NR		
5.0	same as above		— copper frag @ 4.1 ft (modern) dragged down to bedrock by bit
5.2	CR	weathered bedrock	
5.5	R	bedrock	

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0			
0.8	asphalt		
1.5	10YR 2/1-2/2	pebbly Sa.	fill
3.0	concrete slab		
3.2	10YR 3/4	m-c pebbly Sa.	
4.0	NR		
4.9	concrete slab		
5.6	10YR 5/3	M.Sa w/ pebbles	fill
8.0	NR		
9.2	weathered concrete		
10.0	10YR 5/4	M.Sa.	
10.6	Green (off munsell charts)	SS.	glaucousitic sandstone

8/9/2011

ft.	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.3	9-A	asphalt		
0.7		10YR 7/6	Sa. flagstone (weathered), violent eff.	
0.8		10YR 2/1	Sa. L	Historic layer w/ coal slag; violent eff. ^{concretion}
1.7		10YR 4/4	CR	regolith, non-effervescent; iron oxide concretion
		10YR 5/3-5/4	RC	weathered siltstone and CO ₃ ^{bed} rock (in situ) laminar & thin bedding
3.8		NR		
4.0		Same as above		
6.0				

ft.	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0	9-B	asphalt		
0.2		10YR 2/1-2/2	sandy pebbles	historic debris; brick fragment, many multicolored
1.3		10YR 5/8	CR	weathered bedrock; regolith ; strong eff.; in situ
1.9		10YR 5/3-5/4	RC	weathered siltstone bedrock, thin to laminar bedding
4.0				

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.3	asphalt		
1.0	10YR 3/2	pebbly silt	Historic horizon; violent eff
1.7	10YR 2/2	f. Sa. L	possible CA horizon; non-eff.
2.4	10YR 5/3 - 5/4	pebbly silt Loam to loam	reworked bedrock w/ exotic pebbles & many
2.9	10YR 6/3 - 5/3	CR	CO ₂ flagstone weathered siltstone

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.3	asphalt		
1.1	10YR 3/2	pebbly silt	Historic; abrupt lower boundary
2.5	10YR 2/1 - 2.5/3 - 1/1	Loam	thin pebbly lens at 2.8 ft.; gradual lower boundary; gleyed near bottom [collected]
3.1	10YR 3/1 - 3/2	loam w/ few pebbles	exotic well rounded pebbles; thin v.c. sand lenses.
4.0	MR		
4.4	10YR 5/3 - 5/4	C-horiz. li-Sa. C.L.	reworked bedrock w/ few exotic well rounded pebbles
6.3	10YR 5/3 - 5/4	CR-horizon	many sand nodules, indurated siltstone lateritic (missing regolith)
	FOG		

Probe # 9-E Color Texture Notes, Historic/Prehistoric Boundary

0.3	asphalt	sandy pebbles	Historic
1.1	10YR 3/4		
1.8	alt. 10YR 3/4 + 5/4	alt. L + fsa w/pebbles	fills (Hist.)
2.1	10YR 2/1	Clay L.	faint laminae bedding; wetland cumulative horizon (collected)
	NR		
4.0	2.5YB 1/2	Clay L	many 7.5YR 4/8 nodules; clear lower
4.5			
5.0	same as above	except L to sil and few nodules	; abrupt lower
5.4	2.5Y-5Y 5/2	C.L. diamicton	; many thin flagstone pebbles; possible weathered clay from bedrock; abrupt lower
5.9	2.5Y 5/2	CR-	weathered + slightly reworked bedrock; few rounded pebbles; many flaggy pebbles in
6.3	4.5Y 5/2-5/3	RC	bedrock, different (non-horiz.) orientations, weathered in situ/siltstone

Probe # 9-F Color Texture Notes, Historic/Prehistoric Boundary

0.3	asphalt	pebbly silt	Historic fill viol. effervescence
0.8	10YR 3/3		
1.8	alt. colors of 10YR 2/2 + 5/6	L + silt w/pebbles	few ss clasts (pebbles) above at lower str. eff.
2.3	10YR 3/4	Sandy L pebbles	clast supported grading down to matrix support non-eff. (possibly natural)
	NR		
4.0	10YR 3/4	same as above	
4.5			
6.8	alt. 10YR 5/3, 2.5Y 5/2 and 7.5YR 5/6	RC	weathered in situ bedrock/siltstone
	NR		
7.0			

Probe #	10-A	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0				
0.6				
1.0				
1.5				
1.7				
4.0	NR			
4.5				
4.6				
5.5				
6.4				
8.0	NR			
10.0				

Probe #	10-B	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0				
0.2				
1.5				
1.6				
1.8				
1.9				
2.7				
4.0	NR			
5.7				
6.2				
6.9				
7.4				
8.0	NR			
8.9				
9.4				
10.9				

→ 110 + 2014R ... 2D / Ams data in hand (Rota - 304415) - possible mottlet

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0			
0.2	asphalt lot		
0.5	gravel lot		
1.4	10YR2/1	Loam w/ pebbles	fill material
1.7	5R5/6	brick	
2.0	10YR5/6-5/8 alt. 10YR2/2 + 2.5Y3/2-4/2	pebbly Sa.	fill of local bedrock
3.2		f. Sa. + pebbly Sa.	possible fills or floods or slumps; many angular local pebbles + cobbles
4.0	NR		
4.7	same as above		except dark color is 10YR2/1; abrupt lower
5.9	N/O	fibric plat	; wetland <u>subaerial</u> grasses common; clear lower;
6.1	alt. 5/2-2.5Y5/3-4/3	SaL	many 10YR2/1 mottles;
8.0	NR		
8.6	5Y5/2-5/3	SCL+Cl	many ^{coarse} 5YR-5YR5/4 mottles
10.3	5Y5/2-5/3	CR	siltstone weathered bedrock

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.3	asphalt		
1.0	gravel lot		
1.3	10YR2/1	SaL	black fill
2.0	5Y5/2-5/3	pebbly SaL	coarse pebbles (angular, local); many mottles
4.0	NR		
8.0	NR	blocked by cobble	
9.1	5Y5/2-5/3	CR	siltstone weathered bedrock

— Close to water pipe trench and ^{elevated} US 23 bridge approach

Probe # 10-E	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0			
0.1	asphalt		
0.2	gravel lot		
0.4	10YR2/1	pebbly SsL	fill; viol. eff.
0.7	10YR 4/3-4/4 alt. 5G4-5G6/1 & 10YR2/1	Pebbly SsL all. SsL + pebbly L	fill; viol. eff. fill or mixing zone with bedrock slump (glaucanite) Spotty effere
3.2	NR		
4.0			
6.0			same as above except brown glass shards at 5.8-6.0 ft.
8.0	NR		
8.2			same as above except no glass; abrupt lower
8.7	10YR2/1-2/2	Lw/pebbles	few laminar 5G6/1 mottles; might be fill; abrupt lower
10.4	2.5Y-5Y 5/2	CR	reworked bedrock (partially in situ)

Probe # 10-F	Color	Texture	Notes, Historic/Prehistoric Boundary
0.2	asphalt		
3.2 4.3			
4.0	NR		
5.3			assorted fills of various colors and with variable clast size mostly
6.0 5.8	as above		
	10YR2/3	f. SsL	few pebbles; abrupt lower; strong effere
6.5	N/O	plat	w/ few shells; gradual lower
7.1	N/O	SsL to C	few ^{sub} angular to sub rounded fine pebbles
8.0	NR		
8.45	2.5Y 2/6-3/0	ABh Sic-Sic	very fine weak subang blocky;
9.1	2.5Y 3/1 alt.	C	Mucky SsL - abrupt, angular lower
9.7	5G4 5/1 + 10YR2/1	SsL + Sic	"mixing zone" - pediment(?); clear lower
10.5	5Y 5/2-5/3	CR	weathered in situ bedrock (siltstone)

NR

	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0				
0.1				
0.3				
2.9				
4.0	NR			
5.2	5.2			
5.5				
5.7				
6.1				
6.35				
8.0	NR			
9.2				
9.6				
11.0				
	Probe#	Color	Texture	Notes, Historic/Prehistoric Boundary

asphalt

gravel road

assorted fills and textures; SS cobble at 2.8-2.9 ft.

NR

as above

Co₂ cobble or foundation

10YR3/2 f. Sa. L

N/O Peat

N/O CL

} collected

NR

10YR2/-2/2

Sa. C. L few medium 5G6/2 mottles; abrupt lower

5G6/2

CL to clay many medium prominent 10YR5/6 mottles; few thin or patchy v. f. Sa lenses;

5Y5/3-5/2

CR

possible clay from weathered bedrock and/or lake clays before organics developed in local ecosystem

weathered

laminar to thinly bedded siltstones

Probe #	12-A	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0			Asphalt	
0.3			Asphalt	
0.6			weathered bedrock base	
1.7			10YR 2/1-2/2	pebbly f. silt fill
1.8			void lined rock	
2.2			10YR 4/3-3/3	pebbly silt fill
4.0	NR			
4.5			Same as above	
7.8			10YR 8/4	limestone mortar foundation (?)
8.0	NR			
9.0			10YR 8/1-8/2	mortar weathered

Probe #	12-B	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0			asphalt	
0.3			asphalt	
0.6			bedrock base	
2.0			multi colored fill	mostly silt w/ pebbles rare cinders, brick fragments
4.0	NR			
5.0			void lined mortar	
8.0	NR			
12.0	VOID		open hole	possible basement; cellars ^{SUMP} or other structure.
12.5			limestone mortar	
12.7			Brick floor (?)	
14.4			10YR 5/6	m. Sa well sorted
16.0	NR			
19.0			10YR 5/6-4/6	m. Sa.
19.2	CR		10YR 5/4	pebbly c. silt weathered bedrock - probably just above bedrock

Wednesday (10/22/11)

Probe #	12-C	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.5		asphalt		
0.8		10YR 4/3		LS fragments (base for asphalt?)
1.2		7.5YR 3/2	f. L.	brick fragments
1.5		Stone + Mortar		
2.1		7.5YR 3/2	f. L.	" "
2.6		Red brick		
3.0		Red brick + mortar		
4.0	NR			
4.7		Red brick + mortar		
5.2		L.S.		
5.7		Red brick		
5.9		L.S.		
8.0	NR			
8.3		Red brick		
8.8		L.S.		
9.0		7.5YR 3/2	f. Sa L.	
9.6		NR 4/4	m. Sa. w/ pebbles and brick fragments	
9.65		chinders/black weathered sandstone (CR-horizon)	fluviually or colluvially reworked sand & silt	

Probe #	12-D	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0				
0.4		Asphalt		
0.7		L.S. aggregate		
1.2		7.5YR 3/2	L.	fill w/ brick frags
1.5		Mortar		
1.7		7.5YR 3/2	"	" " "
1.9		Mortar		
2.2		7.5YR 3/2	"	" " "
2.4		Stone + Mortar		
2.7		7.5YR 3/2	"	" " "
4.8	NR	---		

ft.	Probe #12E	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.5		asphalt		
0.8		gravel limestone	roadbed	
2.7		N/O	L.-Sa.L.	A-horizon
3.3		10YR 2/2 - 2/3	f. Sa.L. w/few pebbles	pebble lag at 2.9 ft.; CA-horizon

ft.	Probe #13A-a	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.7		asphalt		
1.0		L.S. aggregate	roadbed	
1.8		10YR 2/2	Sa.C.L.	historic debris down to at least 1.2 ft.
2.2		10YR 3/4	Si.C.L.	common coarse 7.5YR 4/6 mottles.
2.6		10YR 4/3 & 6/4	Si.C.L. & f.Sa.	alt. beds
4.0	NR			
6.0		10YR 6/3	m.Sa.	few well rounded pebbles
8.0	NR			
9.6		10YR 6/3	m.-c. Sa.	part of fining-upward sequence
10.2		2.5Y 5/2 & 7.5YR 5/6	sandy pebbles	reworked bedrock clasts
10.9		alt. colors of rip-up clasts	alt. textures but mostly v.f. Sa. w/rip-up pebbles	

ft.	Probe # <u>13B-a</u>	Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.3		limestone aggregate		
0.4		10YR 2/2	L, Sa, L.	fill; glass & brick fragments
0.8		10YR 4/1 & 5/6	pebbly f. Sa, L.	alluvially reworked bedrock from gullies(?)
2.9		10YR 6/4	Si, L	faintly bedded; non-effervescent.
3.2				
4.0	NR			
		Same as above		
5.0				
6.0		Same as above except no apparent bedding; gradual lower boundary; many 7.5YR 4/6 mottle banding; slight effervescence.		
8.0		2.5Y 5/2	Si, L.	deoxidized colors; loess or alluvium(?); many 7.5YR 4/6 mottles; wet at 8.0 ft.; strong effervescence.

	Probe # <u>13B-b</u>	Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.3		10YR 3/4 - 3/3	pebbly Sa, L	fill
0.6		Variable colors	pebbly Sa, L	assorted fill; multiple colors; bedrock cobbles/gravel
3.5				
4.0	NR			
		Same as above		fill or gully-washer deposits.
7.2				
8.0	NR			
		Same as above		strong effervescence
8.5				
		reworked SS & LS bedrock including flaggy LS cobbles; non-effervescent!		Matrix mostly
11.6				

Probe # 14B-a		Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.3		LS aggregate		
1.2		10YR 2/1	Sa.L.	assorted fill; multiple mottle colors; cinder & brick fragm
2.2	NR	Stone		possible foundation
4.0	NR	10YR 2/1		Ab-horizon
4.3	Ab	10YR 2/1 - 2/2	SiL - SiCL	grading from AC- to CA-horizon; some bedding; gradual
4.8	AC-CA	10YR 5/4 - 5/6	SiL - SiCL	lower boundary.
5.6	C		SiL	mostly massive; single 0.2ft thick CA-horizon (bedded); non-e
6.5	NR	same as above		
8.0		2.5Y 5/2	SiL	common coarse 7.5YR 5/6 mottles
10.0	NR	same as above; abrupt lower boundary		
10.8		5GY 7/1	pebbly Sa.L	common 7.5YR 4/3 mottles (clasts of both SS + LS)
12.0		2.5Y 5/4	SiL	many v.f. sand laminae of 5GY 7/1, color-heavy mineral sorting.
12.6				
13.8				
14.5				

Probe # 14B-b		Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.3		aggregate (LS)		
1.3		10YR 2/1	pebbly Sa.L	Ap-horizon
1.5		brick + mortar		
2.4		10YR 2/1	Sa.L	Ab-horizon
3.1	NR	10YR 3/3		fill
4.0		flaggy L.S.	pebbly Sa.L	
4.2		10YR 3/3	pebbly Sa.L	fill; glass shard at 5.4 ft.
5.2			boulder	
5.4	NR			
8.0		10YR 2/1	SiCL	Abp-horizon; disturbed topsoil; clear lower boundary
8.3		multicolored gray, greens, oranges, + browns	Sa.C.L	possible natural "gully washer" deposit; reworked local bedrock types; single, well rounded
10.6				

ft.	Probe #14C-a	Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.4		10YR 5/6	m. Sa.	
0.8		10YR 2/2	L.	
0.9		5Y 5/2	v.f. Sa. L	disturbed bedding; many mottles
2.5		10YR 2/1 - 2/2	w/ pebbles	
2.6			v.f. Sa. - L.	disturbed soil (?)
4.0	NR			
4.5		Variable colors	L. - Sa. C. L.	brick fragments; abrupt lower boundary; non-effective
7.2		5Y 5/2	L. - v.f. Sa. L.	
8.0	NR			
8.2		10YR 2/1	peat	many wood fragments
		10YR 2/2	L.	many 5Y 5/2 mottles; wood at 8.9 ft.
9.2		10YR 2/1	muck	few fibers (collected)
9.6		5Y 4/1		reworked local bedrock angular pebbles; almost clast-supported. [collected 8.0 - 10.5 ft.]
10.5			CO ₂ pebbles w/ f. Sa. L matrix	

ft.	Probe #15A-a	Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.6		aggregate road	bed	
1.7		10YR 2/1 - 2/2	pebbly Sa. L - L.	fill materials
3.4	NR			
4.0		2.5Y 5/2	Sandy pebbles	angular
5.0		10YR 2/1	pebbly Sa. L.	rounded exotics; angular local pebbles
5.9		10YR 5/6 + many mottles	pebbly v.f. Sa.	reworked bedrock w/ local pebbles
6.7		cinders		
6.8	NR			
8.0		alt. 7.5YR 4/6 & 2.5Y 3/2	alt. peat & SiL lamina	decayed (oxidized) fibers
9.2		5Y 3/1	SiL - L.	ash/bone @ 9.3'; bark @ 9.5'; wood @ 10.3-10.5'; ash & cinders @ bottom
10.5	NR			
12.0		5Y 3/1	SiL - L.	
12.4		5G - 5GY 5/1	Sa. pebbles	angular reworked local SS pebbles
13.1		alt. 10YR 2/1 & 3/1	alt. SiL & f. Sa.	
13.5	NR			
16.0		10YR 2/1	SiL - L.	few minor peat lamina and common rootlets
17.7		alt. 10YR 2/1 & 5GY 5/1	alt. SiL & f. Sa.	laminar bedding bedded; common rounded exotics; pebble lag at top boundary
18.7		5G 5/1	pebbly f. Sa. L	
18.9	NR			
20.0		5G 5/1	f. Sa. pebbles	
20.2		10YR 2/1	SiL - Si. C. L.	lower 0.2 ft have reworked pebbles from below [collected]
21.0		5G 5/1 - 5GY 5/1	v.f. Sa. L - L	many multicolored mottles; reworked SS sand grains
21.8		10YR 5/6	Sa. pebbles	well rounded exotics; abrupt lower boundary
22.5		5GY 5/1 - 5G 5/1	SS bedrock	weathered; in situ although slightly reworked at top boundary.
27.8				

→ 5,240 ± 30 ¹⁴C yrs B.P. (AMS date on plant matter [leafy wetland plants])

ft.	Probe #15A-b	Color	Texture	Notes, Historic/Prehistoric Boundary
0			asphalt	
0.5			aggregate base	or old pavement
1.6			10YR 3/3-4/3	m. Sa. fill
1.7			10YR 6/4	f. m. Sa. fill
2.4			10YR 5/6	pebbles angular; local bedrock
2.7			10YR 6/4	f. m. Sa. fill
2.8				
4.0	NR			
4.2			Same as above	
5.1			10YR 2/2	pebbly Sa. L - Sa. C. L. many mottles are clods of sediment of other textures.
5.7			10YR 4/4	pebbly Sa. L. abrupt lower boundary
5.9			10YR 2/1	L. shell fragments; many oxidized roots
8.0	NR			
8.2			10YR 2/1	pebbles angular
8.6			10YR 2/2-2/3	peat (fabric) matted; wood at bottom
8.9			10YR 2/1	SIL
9.2			10YR 2/1	peat (fabric) w/ wood
9.5			10YR 2/1	SIL - L wood fragments
12.0	NR			
12.3			5G 5/1	reworked m. Sand from sandstone bedrock
13.0			10YR 5/6 & 5G 5/1	weathered SS in situ bedrock

ft.	Probe #15B-a	Color	Texture	Notes, Historic/Prehistoric Boundary
0			asphalt	
0.3			aggregate (CO ₃)	
0.6			10YR 3/4	pebbly Sa. L. fill
1.2			10YR 2/1	alt. CO ₃ pebbles & pebbly Sa. L. fill; cinders; similar pattern to that found in Probe 10B
2.1			weathered SS	bedrock block or boulder
2.5			10YR 3/4	pebbly Sa. L. ceramic fragment @ 2.8 ft.
3.15			weathered SS	bedrock block or cobble
3.7	NR			
4.0			reworked SS, CO ₃ , & Siltstone	bedrock gravel
4.7			ash lens w/ fired rock	fragments
4.85			10YR 3/3-3/2	S: C. L.
5.2			10YR 5/6	v. f. Sa. sand is from reworked SS bedrock
6.2			weathered bedrock	in situ; fine-grained laminae CO ₃ lenses (strongly effervescent) interbedded w/ sandstone (non-effervescent).
6.6				

ft.	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.3		agg regeste		
0.9		10YR 7/4	pebbly Sa.L	
1.7		2.5Y-5Y 4/1	f. Sa	many mottles; few SS cobbles (placed or reworked?)
3.2		10YR 2/1	pebbly f. Sa.L	fill; very friable SS pebbles (10YR 7/3)
3.5				
4.0	NR			
4.3		5GY 4/1	SiL	
5.0		2.5Y 3/2	pebbly, SiL-L	few CO ₃ pebbles
6.1		Cinders & Mortar		
6.2		2.5Y 4/2	pebbly Sa.L	w/ cinders
6.2	NR			
8.0		Same as above	except w/ mortar	
8.2		2.5Y 4/2	pebbles	clast-supported; angular CO ₃ ; ceramic fragment at 8.5 ft.
9.3				
12.0	NR			
		10YR 2/1	Si.C.L.	lacustrine(?) organic s.lts & clays w/ plant matter; non-effervescent.
13.6		alt. 5GY 5/1 & 10YR 2/1	v.f. Sa.-L.	reduced & unoxidized
14.7				
16.0	NR			
18.9		weathered and	slightly reworked SS bedrock	

ft.	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0		asphalt		
0.4		aggregate base		
0.9		10YR 4/4	pebbly Sa.L.	fill
1.8		10YR 3/3	pebbly Sa.C.L.	disturbed
3.5		10YR 2/1-3/1	L.	appeared undisturbed soil but no ped development
3.7				
4.0	NR			
4.0		10YR 2/1 & 7.5YR 4/6	alt. L. & L. Sa.	angular & rounded gravel in h. Sa. strata.
5.0		10YR 2/1	L w/ pebbles	exotic rounded pebbles; cinders at 5.5 ft. ^{chance coal &}
6.2				
6.2	NR			
8.0		10YR-2.5Y 3/2	SiL	many 7.5YR 4/6 & 2.5Y 4/6 mottles; Post-Settlement Alluvium
9.2		10YR 3/3	SiL-L	" " " " " " "
11.3				
12.0	NR			
12.0		reworked local bedrock		
12.3		weathered bedrock	(in situ)	
15.0				

ft.	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.5		asphalt		
0.9		aggregate		
2.2		5GY 5/1	f. Sa. L	reworked cobbles of SS bedrock that are calcareous (strong effervescence)
4.0		NR		
5.0		10YR 3/4	f. Sa. L w/ pebbles;	could be fill or flood deposits
5.2		10YR 2/1	clnders	
5.7		multi colored	pebbly Sa. L.	fill or disturbed strata
8.0		NR		
10.8		weathered SS bedrock;		non-effervescent; in situ.

ft.	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.3		asphalt		
1.8		10YR 3/4	pebbly Sa. L	coarse pebbles; rounded exotics including red granites
2.1		10YR 3/4		
2.4		10YR-2.5Y 3/1	Sa. C. L.	dense; extremely firm.
2.5		Granite cobble		
4.0		NR		
4.8		reworked SS & CO ₃	bedrock;	bedded
6.1		weathered SS & Siltstone	bedrock;	in situ; strong effervescence

ft.

0

0.3

0.6

3.3

4.0

5.8

6.0

Probe # 18-A Color

Texture

Notes, Historic/Prehistoric Boundary

0
0.3
0.6
3.3
4.0
5.8
6.0

concrete

10YR3/4

10YR5/2 & 5/6

NR

Same as above;

5Y5/3

m. Sa.

alt. SiL &
v.f. Sa.

C.L.

Subgrade for concrete

laminar bedding; strong effervescence at 3.0 ft.

abrupt lower boundary w/ stone lag

extremely firm; strong effervescence; regolith(?)
[collected]

Probe# _____

Color

Texture

Notes, Historic/Prehistoric Boundary

--

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.3	gravel lot		
2.2	7.5YR 5/4	Sa. L w/ pebbles	abrupt lower; Historic fill on bedrock large exotic cobble on top of bedrock
2.5	10YR 5/6 - 5/4	CR	weathered bedrock; few pebbles (exotic)
2.8	2.5Y - 5Y 3/2	CR(?)	weathered bedrock; clay diamicton w/ few rounded pebbles refusal at 3.0 ft.

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.5	gravel lot		
1.1	10YR 3/3 - 2/4	L. - Sa. L	Hist fill; many mottles; common pebbles
1.8	10YR 4/4	m. Sa.	no bedding; possibly disturbed natural
3.1	10YR 3/2 - 3/3	f. Sa. - S. L	natural bedding; common ^{thin} mottles ^{horizon} _{10YR 4/6} along beds
4.0	NR		
5.0	10YR 3/4 - 4/4	possibly Sa. L - L	almost clast supported; few ^{rounded} exotics; many rounded local pebbles
5.9	10YR 5/2 - 5/3	CR	weathered bedrock (in situ) s. H ₂ O + CO ₂

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0			
0.2	aggregate		
2.1	10YR2/1 10YR2/1	reworked S.a.c.L	historic, clean fill historic, tile frag.
3.1	reworked L.S. flagstone		
3.2	multicolored bedrock rejection	pebbly Sail	reworked 3.1

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0			
0.9	10YR2/1	pebbly Sail	historic Ap-horizon;
1.2	10YR3/3	pebbly S.a.c.L	historic fill; multiple mottle colors
1.5	Limestone cobble		
3.2	reworked bedrock		2.5-2.7' looked like nodules (read microscope)
4.0			
8.0	weathered bedrock, bedded, multicolored		

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0	asphalt		
0.4	10YR 2/2	pebbly silt	
1.0	reworked	siltstone	well rounded pebbles in bedding
2.5	weathered	siltstone; in situ	
3.4	EOB @ 4ft.		

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0	asphalt		
0.4	10YR 2/3	pebbly silt	
0.7	aggregate + sand - historic		well rounded pebbles, irregular siltstone
1.2	7.5YR 5/6	silt	reworked weathered siltstone
2.1	2.5Y 5/1	siltstone	weathered, in situ
3.9	EOB @ 4'		

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0			
0.5	asphalt		
0.7	pebbly 10YR 3/3 Metamorphic granite	pebbly Sa, L	
0.9		stones / flag	
2.4			reworked bedrock with SS pebbles in thin sandy layer E boundary
3.5			weathered bedrock (siltstone)

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0			
0.7	asphalt		
1.1	10YR 4/6	pebbly Sa, L	Capping layer?
1.9	10YR 4/4 1/6	pebbly v.f. Sa, L loam	(high silt content); SS pebbles Very thin med. sandy lense at lower boundary angular
3.3			weathered bedrock (siltstone); Carbon fleck at 2.4ft. maybe root remnant.

Probe # 21-E Color Texture Notes, Historic/Prehistoric Boundary

1.9	asphalt		filled in dirt
2.0	10YR 3/3	pebbly Sa.L	
	10YR 2/1	pebbly Sa.L	bone, glass, cinders, egg shell
3.7	NR		
4.0			

Probe # 22-A Color Texture Notes, Historic/Prehistoric Boundary

0.7	asphalt		
1.6	aggregate pavement		
1.7	7.5YR 4/3	pebbly Sa.L	fill
	10YR 5/4 + 2/1	Sa.L w/ pebbles	fill cap
2.1			
	10YR 2/1	pebbly Sa.L	historic; glass
3.3			
3.6	reworked/weathered		bedrock in bit

Depth (ft)	Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0	22-B			
0.7				asphalt
2.5				aggregate
3.0			SIL + Limestone layer	alt. 10YR 2/1 5Y 5/1
3.3			C. Sa with clay	10YR 2/1
3.8			Sa, C.L.	10YR 2/1 - 2/2
4.0			v.f. Sa	5Y 5/1 - 4/1
4.1				same as above
4.5			alt. L pebbly f. Sa	alt. 10YR 2/1 5Y 4/1
5.2			L-SiCL	same as above
8.0		NR		roots
10.5			SiCL	10YR 2/1 - 2/2
12.0		NR		2/1 at top
13.2			except 2/2	and rootlets
13.9			SiCL	rootlets; angular lower boundary marked by organics
14.2			v.f. Sa	reworked bedrock
14.2	22-C			reworked bedrock
0.6				Asphalt
1.0				aggregate
1.3				
7.3			alt. L + pebbly f. Sa	10YR 2/1 + 10YR 5/6
2.8			bedded	10YR 2/1 + 2.5Y 3/2
3.4			L. loam	10YR 2/1
4.0		NR	w/low co.	
5.5				10YR 2/1
6.6				reworked bedrock
7.6				weathered bedrock

collected 12.7-14.0ft.

2 complete firing up
weathered, local angular

fine 10YR 6/3 sand at lower boundary

caliche lens at 3.7-3.8ft. w/ charcoal

uppermost 0.5 ft is slightly lighter and more
"disturbed" than lower horizon

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0			
0.6	asphalt		
1.1	aggregate		
1.3	10YR2/1	pebbly SaL	
1.7	7.5YR 10YR 6/4	M. Sa	fill
2.1	10YR3/3	pebbly SaL	
2.4	10YR5/4	pebbly SaL	
2.9	Ab 10YR2/1	Loam	
3.4	10YR6/3-6/4	M. Sa	fill
4.1	NR		
6.3	Same as above		
6.5	10YR2/2	SIL	bedded w/ pebble or tws
6.7	LS aggregates		clast supported, irregular
8.0	NR		
8.8	Carbonate	rock	possible wall or floor
9.2	10YR2/1-2/2	SIL	mottled; disturbed
10.9	2.5Y3/2	SIL	
12.0	NR		

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
12.0			
13.1	reworked bedrock		- multi colored; mottled; local bedrock clods or clasts.
15.0	weathered bedrock		5G4/1 + 5YR5/8.

	Probe # 22-E	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
6.4		asphalt		
1.4		aggrégat		
		10YR 3/3	pebbly s.s.	
2.2		10YR 4/3 - 6/3	alt. pebbly and m.s.s.	
3.2		NR		
4.0				
4.7		10YR 4/4	m. s.s.	fill
		10YR 4/4	sandy pebbles	well rounded exotics
5.5		bedrock @ 6.0'		

	Probe # 22-F	Color	Texture	Notes, Historic/Prehistoric Boundary
0				
0.6		asphalt		
1.1		aggrégat		
		alt. 10YR 2/4 10YR 7/2	pebbly s.s. + L.S. pebbles s.s.	wood in darker ^{horizons} zones; few s.s. pebbles in darker horizon
3.0				
3.2		10YR 5/4 - 7/4	reworked sediment	
3.7		10YR 2/1	L-fs.s.s.	
4.0		NR		
5.5				Same as above except increasing 10YR 4/3 - 3/3 mottles; abrupt and plastic
7.3				reworked bedrock of various sed. rocks / c.s. / ss.
8.0		NR		
10.1				Same as above except coarsening down & introduction of small rounded pebbles
				weathered ss bedrock
12.0				

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0			
0.3	concrete		
0.6	10YR 5/4	m-c, sa	
0.8	2.5Y 8/2	sa, l.w/pbbles	
1.0	10YR 7/1	pbbles	clast supported
1.2	10YR 3/3 & 4/2	m. & c. sands	fills
4.0	NR		
5.4	10YR 5/6 w/mottles	sandy pbbles	both exotic + local; angular local rounded exotic
8.0	NR		
11.0	10YR 5/6 - 5/2	alt. laminar sil & f.w. sands	many 7.5YR 5/6 - 5/8 mottles

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0			
0.3	concrete		
1.8	10YR 4/4	m. sa	2.1
2.2	10YR 4/4 + 4/2	m. sa	bedded(?)
4.0	NR		
5.7	alt. 10YR 4/4 + 4/2	sil + sil	abrupt lower
6.6	10YR 5/3	m-c, sa w/pbbles	lag at top
8.0	NR		
8.4	same as above		
9.1	5YR 5/8	sandy pbbles	pebble clast supported
9.3	10YR 5/4	"	" " " ; abrupt lower
10.2	10YR 6/3	f. sa. - h. sa.	
10.6	10YR 5/3	m-c. sa, l.w.	few pbbles; bedded
10.9	10YR 5/3	sil	few coarse 7.5YR 5/6 mottles along joints [collected]

6/23/11

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
0.0			
0.3	concrete		
0.9	10YR 4/4	pebbly s.a.L	
1.4	10YR 3/3	pebbly s.a.L	
1.7	10YR 2/1	f.s.a.L-L	
2.7	10YR 2 1/2 - 3 1/2	s.a.L w/ few pebbles	(individual?) bedded
3.0	alt. 10YR 2 1/2 + 5/6	f.s.a.L + f.s.a	bedded
3.2			
4.0	NR 10YR 3/3	m. s.a.	
4.6	same as above	w/ brick frag.	
5.1	10YR 2/1	s.a.L w/ pebbles	mortar frag.
5.7	alt. 10YR 3 1/2 + 4/4	alt. f.s.a.L + m.s.a.	
5.9	10YR 2/1	f.s.a.L w/ pebbles + cinders	
6.2	10YR 2 1/4	pebbly f.s.a	
6.3	10YR 2 1/2	c.s.a. w/ cinders/coal	
8.0	NR		
8.8	same as above	- pebble lag at bottom	
9.8	2.5Y 5/6 - 5/2	f.s.a.L w/ few pebbles	coarse angular local pebbles; irregular
10.8	10YR 2 1/2	S:cl	9.8-10.2 weak groundwater (abrupt lower); ^{they} heave line
12.0	NR		
13.4	same as above	- getting lighter downward	(natural)

Probe #	Color	Texture	Notes, Historic/Prehistoric Boundary
13.4			
14.2	2.5Y 4/0	pebbly f.s.a	many coarse ^{4 local} exotic pebbles (all rounded)
14.0	NR		
17.7	10YR 2/1	platy loam	wood root at 17.1; firing up sequence; abrupt lower boundary
18.0	2.5Y 4/2		
18.2	2.5Y 4/2	S:cl	
18.9	2.5Y 3/2	m-c s.a.	
20.0	NR		
20.7	10YR 5/3	f.s.a w/ coarse sand lenses	
21.1	alt. 10YR 4/1 + 2/1	alt. s:cl + v.f.s.a - shells	(collected)
21.5	10YR 6/2	pebbly f.s.a.L	exotic pebble lag at top boundary; many 7.5YR 5/6 pebbles
21.9	10YR 4/2	pebbly s.a.c.l	many well rounded sedimentary + exotic pebbles
24.0	NR		
24.3	pebbly 10YR 2.5Y 4/2	pebbly s:cl	
25.3	2.5Y 4/2	S:cl	collected for screening
26.3	2.5Y 4/2	pebbly s:cl	
27.2		reworked bedrock	

APPENDIX D

**TABLES OF SANBORN FIRE INSURANCE MAP INFORMATION
FOR TEST AREAS WITHIN DOWNTOWN COMMERCIAL SUB-AREA**

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TH 63 Red Wing Bridge Project
Pre-Evaluation Study for Archaeological Potential

AREA 1 (BLOCK 35, LOTS 7-9)

BLOCK 35, LOT 7 (210 [212] AND 212 [214] BROAD STREET [WEST AVENUE])

Sanborn Map	Property Address	Notes on Land Use
1884	210 Broad St.	Two-story rowhouse and vacant space behind
1891	Same	Same
1895	212 Broad St. (reassigned from 210)	Addition of one-story section on rear of rowhouse
1902	Same	Same
1910	212 West Ave. (reassigned from Broad St.)	Removal of one-story section from rear of rowhouse
1917	Same	Addition of one-story structure between 212 and 214
1927-1943	Same	Same
1884	212 Broad St.	Two-story rowhouse with two adjacent one-story structures off the back corner and vacant space behind
1891	Same	Same
1895	214 Broad St. (reassigned from 212)	Same
1902	Same	Same
1910	214 West Ave. (reassigned from Broad St.)	Replacement of one-story structures behind rowhouse with a single one-story square structure
1917	Same	Addition of one-story structure between 212 and 214
1927	Same	Same
1943	Same	Removal of one-story structure from behind rowhouse

BLOCK 35, LOT 8 (206 [208] AND 208 [210] BROAD STREET [WEST AVENUE], 507 [609] MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	206 Broad St.	Two-and-a-half-story veneered rowhouse with basement and vacant space behind
1891	Same	Same
1895	208 Broad St. (reassigned from 206)	Same
1902	Same	Same
1910	208 West Ave. (reassigned from Broad St.)	Same
1917-1943	Same	Same
1884	208 Broad St.	Two-story rowhouse and vacant space behind
1891	Same	Same

1895	210 Broad St. (reassigned from 208)	Same
1902	Same	Addition of one-story structure on rear of rowhouse
1910	210 West Ave. (reassigned from Broad St.)	Same
1917	Same	Same
1927	Same	One-story garage built adjacent to the rear of one-story structure and to the rear of auto washing and greasing facility at 507 Main
1943	Same	Removal of one-story section from rear of rowhouse and removal of garage
1884	507 Main St.	One-story rear (south) end of a one-to- two-story dwelling and vacant space behind
1891	Same	Dwelling removed; back (south) end of a one-story shingle shed constructed; owner noted as Charles Betcher
1895-1902	Same	Same
1910	Same	Shingle shed becomes a lumber shed
1917	Same	Lumber shed owner noted as Charles Betcher Lumber Co.
1927	609 Main St. (reassigned from 507)	Lumber shed converted to auto washing and greasing facility; one-story garage built adjacent to the rear of facility and to the rear of structure attached to 210 Broad
1943	Same	Removal of garage

BLOCK 35, LOT 9 (200 [202], 202 [204], AND 204 [206] BROAD STREET [WEST AVENUE])

Sanborn Map	Property Address	Notes on Land Use
1884	200 Broad St.	Two-and-a-half-story veneered rowhouse with basement and vacant space behind
1891	Same	Same
1895	202 Broad St. (reassigned from 200)	Same
1902	Same	Same
1910	202 West Ave. (reassigned from Broad St.)	Same
1917-1943	Same	Same
1884	202 Broad St.	Two-and-a-half-story veneered rowhouse with basement and vacant space behind; half of one story- structure connecting rear of 202 with 204
1891	Same	Same
1895	204 Broad St. (reassigned from 202)	Same
1902	Same	Same

1910	204 West Ave. (reassigned from Broad St.)	Same
1917	Same	Removal of one-story structure connecting rear of 202 [204] with 204 [206]
1927-1943	Same	Same
1884	204 Broad St.	Two-and-a-half-story veneered rowhouse with basement and vacant space behind; half of one story- structure connecting rear of 204 with 202
1891	Same	Same
1895	206 Broad St. (reassigned from 204)	Same
1902	Same	Same
1910	206 West Ave. (reassigned from Broad St.)	Same
1917	Same	Removal of one-story structure connecting rear of 204 [206] with 202 [204]
1927-1943	Same	Same

AREA 2 (BLOCK 44, LOTS 1-2 AND 9-10)

BLOCK 44, LOT 1 (426 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Low-ground vacant area to the south and east sides of an unidentified, one-story building, possibly a dwelling
1891	None	Addition of three small, one-story structures in a generally northwest-southeast line; previous building adjacent to relevant portion of lot removed
1895	None	Replacement of northwest and center one-story structure with two adjoining, small, one-story structures; addition of two adjoining one-story structures southeast of southeast structure
1902	None	Removal of both sets of adjoining structures; addition of small, one-story structure in northeast of lot
1910	None	Replacement of one-story structure in northeast of lot with east end of larger one-story structure; removal of original southeast one-story structure
1917	426 Main St.	Addition of rear (north) portion of one-story with basement and sub-basement auto supplies shop; northeast corner of new YMCA adjacent to relevant portion of lot
1927	Same	Removal of one-story structure in northeast of lot
1943	Same	Same

BLOCK 44, LOT 2 (420-424 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	420-424 Main St.	Low-ground vacant space to rear (north) of a wagon stock storage building
1891	Same	Same; wagon stock storage now a livery and dairy barn
1895-1902	Same	Same
1910	None	Same; livery and dairy barn removed
1917	420-424 Main St.	Same; 125-car garage now adjacent to relevant portion of lot
1927-1943	Same	Same

BLOCK 44, LOT 9 (NO STREET ADDRESS)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Vacant
1891	None	Addition of one-story wood shed, likely associated with Red Wing Iron Works to the north
1895	None	Removal of wood shed
1902	None	Addition of a lumber pile and a slab pile

1910	None	Removal of lumber pile and slab pile
1917-1943	None	Vacant

BLOCK 44, LOT 10 (101 BROAD STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	101 Broad St.	Two-story saloon associated with the Exchange Hotel, north half of a one-and-a-half-story stable, and vacant space between
1891	Same	Small, uncoded addition to rear (east) of saloon; saloon noted to have basement; hotel now called Hotel McCue
1895	Same	Same
1902	Same	Removal of saloon (and hotel); foundations remain
1910	None	Removal of stable; vacant
1917-1943	None	Vacant

AREA 3 (BLOCK 36, LOTS 1-4; BLOCK 37, LOTS 1-4 AND 7-10)

BLOCK 36, LOT 1 (433 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	433 Main Street	Vacant space to side (east) of meat shop at 433 Main
1891-1917	Same	Same
1927	Same	Same; meat shop replaced by battery station
1943	Same	Same; battery station replaced by tin shop

BLOCK 36, LOT 2 (432-435 [433-435], 437, AND 430 [439] MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	432-435 Main St.	One-story structure to rear of 432-435 Main and surrounding vacant space; 432-435 Main houses a meat shop and secondhand store with tenements in the back
1891	Same	Same
1895	Same	Same; secondhand store now a restaurant and lodgings
1902	Same	Removal of one-story structure
1910	433-435 [reassigned from 432-435]	Addition of two-story section on rear of 433-435 Main; restaurant and lodgings now an undertaker shop
1917	Same	Removal of two-story section; undertaker shares space with piano shop
1927	Same	Same; 433-435 Main now houses a battery station and a store
1943	Same	Same; battery station now a tin shop
1884	437 Main St.	Two-story structure and surrounding vacant space to rear of 437 Main; 437 Main houses iron and wood pumps
1891	Same	Same; 437 Main is vacant
1895	Same	Same
1902	Same	Same; 437 Main is now a secondhand stoves and furniture store and paint shop
1910	Same	Removal of small, two-story structure; addition of one-story structure on side of transfer building (Lot 3); 437 Main now a wholesale produce shop and a machine shop
1917	Same	Same
1927	Same	Expansion of one-story structure on side of former transfer building (now an auto sales and service shop); machine shop now a garage

1943	Same	Expansion of garage and one-story structure on side of auto sales and service shop; no vacant space
1884	430 Main St.	Vacant space to rear of 430 Main, a grocery store
1891	Same	Same; 430 Main is vacant
1895	Same	Same
1902	Same	Same; 430 Main now houses paints and wallpaper
1910	439 Main St. (reassigned from 430)	Addition of one-story structure on side of transfer building (Lot 3)
1917	Same	Same; machine shop housed in rear of 439 Main
1927	Same	Same; transfer building now an auto sales and service shop
1943	Same	Expansion of garage; no vacant space

BLOCK 36, LOT 3 (111-113 [211-213] BROAD STREET [EAST AVENUE])

Sanborn Map	Property Address	Notes on Land Use
1884	None	Lumber pile and surrounding vacant space behind commercial buildings in Lots 1 and 2 (433-435, 437, and 439 Main)
1891	None	Removal of lumber pile; vacant
1895	111-113 Broad St.	Addition of a two-story stable, Watson's Livery, in western two-thirds of lot; eastern third vacant
1902	Same	Addition of one-story with basement section to rear (east) of stable; stable vacated
1910	111-113 East Ave. (reassigned from Broad St.)	Same; former livery labeled "transfer"
1917	Same	Same
1927	211-213 East Ave. (reassigned from 111-113)	Replacement of one-story addition with a wood platform; former livery now an auto sales and service building
1943	Same	Replacement of wood platform with concrete-block addition, one story with basement; eliminates nearly all vacant space

BLOCK 36, LOT 4 (NO STREET ADDRESS)

Sanborn Map	Property Address	Notes on Land Use
1884	None	One-and-a-half-story iron-clad shed and surrounding vacant space
1891	None	Same; stable and attached sheds to south of relevant portion of lot
1895	None	Shed converted to stable
1902	None	Same
1910	None	Removal of stables in and adjacent to relevant portion of lot
1917-1943	None	Vacant

BLOCK 37, LOT 1 (422-428 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Whole one-story corn crib and northern portion of another on east side of Webster and Owens Livery (Block 36, Lot 7) and surrounding low ground vacant space
1891	None	Same
1895	None	Same; Webster and Owens Livery now the Perkins Brother Livery
1902	None	Replacement of southern corn crib with one-story structure
1910	None	Same
1917	422-428 3rd St. W.	Removal of northern corn crib and structure; addition of western half of one-story rear (north) section of Goodhue County Co-operative Co. building and vacant space to north
1927	422-430 3rd St. W. (reassigned from 422-428)	Same; Goodhue County Co-operative Co. now Farmers Store Co.
1943	Same	Same

BLOCK 37, LOT 2 (418 [420] 420-422, AND 422 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	418 3rd St. W.	One-story shed and surrounding vacant space to the rear (north) of building at 418 W. 3 rd , which houses a merchant tailor shop
1891	Same	Removal of shed; addition of northern end of new one-story shed
1895	420 3rd St. W. (reassigned from 418)	Same
1902	Same	Removal of shed; tailor replaced by tin shop
1910	Same	Addition of stored cord wood; tin shop replaced by sporting goods store
1917	420-422 3rd St. W.	Removal of stored cord wood; addition of eastern end of one-story structure on rear (north) of Goodhue County Co-operative Co. building (420-422), which eliminates previous building
1927	Same	Same; Goodhue County Co-operative Co. now Farmers Store Co.
1943	Same	Same
1884	422 3rd St. W.	Vacant space to the rear (north) of building at 422 W. 3 rd , function of building illegible
1891	Same	Same; building is an agricultural implements store or warehouse
1895	Same	Same

1902-1910	Same	Same; 422 W. 3 rd labeled "hack bus and baggage"
1917	420-422 3rd St. W.	Addition of near-eastern-end portion of one-story structure on rear (north) of Goodhue County Co-operative Co. building (420-422), which eliminates previous building
1927	Same	Same; Goodhue County Co-operative Co. now Farmers Store Co.
1943	Same	Same

BLOCK 37, LOT 3 (412 -414 [414-416] AND 416 [418] 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	412-414 3rd St. W.	One-story shed and eastern half of attached one-and-a-half-story stable for the Newton Hotel and surrounding vacant space to the rear (north) of 412-414 W. 3rd; 412-414 W. 3 rd houses Goodhue Bank and a vacant store on the 1 st floor, offices on the 2 nd , and a public hall on the 3 rd
1891	Same	Same; bank now an endowment association, vacant store now a law office
1895	414-416 3rd St. W. (reassigned from 412-414)	Removal of stable and shed; addition of small, one-story structure behind 414-416 W. 3 rd ; law office now a bicycle shop
1902	Same	Removal of small structure; bicycle shop now a confectionary
1910-1943	Same	Vacant
1884	416 3rd St. W.	Western half of one-and-a-half-story stable for the Newton Hotel and surrounding vacant space to the rear (north) of 416 W. 3 rd , which houses a gas-fitting shop
1891	Same	Same; gas-fitting shop houses a plumber shop
1895	418 3rd St. W. (reassigned from 416)	Removal of stable
1902	Same	Vacant
1910	Same	Addition of one-story-with-basement structure on rear of 418 W. 3 rd ; plumber shop now a clothing store
1917	Same	Same
1927	Same	Addition of one-story structure on side (east) of Farmers Store Co. building (Lot 2)
1943	Same	Same

BLOCK 37, LOT 4 (216-218 AND 218 ½ BUSH STREET, 406 [408] AND 408-410 [410-412] 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	216-218 and 218 ½ Bush St.	Three-story stable (carriage house) labeled 218 ½ Bush with vacant third floor, nearly adjacent one-story structure, and surrounding vacant space; likely associated with the Newton Hotel, the rear (west) of which is located adjacent to the relevant portion of the lot
1891	Same	Addition of one-story structures, one each on the north and south sides of the stable, and one just east of the stable
1895	Same	Stable labeled as two stories in height and iron clad; removal of one-story structures on the north and to the east; Newton Hotel now Hickman Hotel
1902	Same	Addition of rear (west) of Hickman Hotel, expanded from 1895; Hickman Hotel now a dry goods store; removal of one-story structure nearly adjacent to stable
1910	Same	Stable labeled as one-and-a-half stories; removal of one-story structure on south side of carriage house
1917	Same	Stable (218 ½ Bush) removed
1927-1943	Same	Same
1884	406 3rd St. W.	Vacant space to rear of 406 3rd St. W., a stove shop
1891	Same	Same; stove shop now grocery and feed store
1895	408 3rd St. W. (reassigned from 406)	Same
1902	Same	Same; grocery and feed store now a millinery
1910	Same	Same; millinery now an office
1917	Same	Same; office now a telephone exchange
1927-1943	Same	Same
1884	408-410 3rd St. W.	Circular, one-story smoke house and surrounding vacant space to rear of 408-410 W. 3 rd ; 408 houses meat shop and dressmaker shop, 410 houses offices; smoke house likely associated with meat shop, but possibly with Newton Hotel (see 216-218 and 218 ½ Bush)
1891	Same	Addition of square, one-story smoke house north of 408 W. 3 rd , still a meat shop, dressmaker gone
1895	410-412 3rd St. W. (reassigned from 408-410)	Addition of one-story structure on back (north) of building
1902	Same	Same
1910	Same	Removal of circular smokehouse; basement noted on one-story structure on back of building; office space now a books, stationary, and drug store

1917	Same	Removal of square smokehouse; basement not noted on one-story structure on back of building
1927	Same	Same; structure on back of building noted as two stories with basement
1943	Same	Same

BLOCK 37, LOT 7 (407-409 MAIN STREET AND 204-208, 210, AND 212-214 BUSH STREET

Sanborn Map	Property Address	Notes on Land Use
1884	407-409 Main St.	Vacant space to rear (south) of 407-409 Main; 407-409 Main houses offices
1891	Same	Same
1895	Same	Addition of two-story section on rear of 204-208 Bush eliminates vacant space to the rear of 407 Main
1902	Same	Same; office at 409 Main divided into tailor shop and insurance office
1910	Same	Same
1917	Same	Removal of two-story section from 204-208 Bush
1927	Same	Same; tailor shop and insurance office now a bank
1943	Same	Same; bank reverts to office
1884	204-208 Bush St.	Rear (west) end of two-story-plus-basement portion of the section of building at 206 Bush, two one-story structures attached to the north end of a stable to the rear (west) of section at 208 Bush and surrounding vacant space behind 204-208 Bush; 204-208 Bush houses grocery store on 1 st floor, storage and dwelling on the 2 nd (204), jewelry store and books and stationary shop (206), meat shop with club room on the 2 nd floor (208), and vacant hall on the 3 rd floor (204-208)
1891	Same	Same; storage and dwelling not labeled at 204 Bush, now labeled as "fancy grocery"; jewelry store vacated 206; meat shop/club room now an American Express office; 3 rd floor of 204 houses business college
1895	Same	Expansion of two-story rear portion of 206 Bush to rear (west) of 204 Bush; one of the one-story structures, now identified as "old shanties" removed; American Express office now a fruit and confectionary shop
1902	Same	Addition of one-story-with-basement section to rear (west) of 208 Main; removal of second old shanty; fancy grocery now confectionary and cigar shop; fruit and confectionary shop now a clothing store
1910	Same	Same; 206 labeled as housing "jewelry and news"; no indication of business college
1917	Same	Removal of section behind 204 Bush
1927	Same	Same; 204-208 labeled as "stores"; lodge hall on 2 nd floor of 204; business college on 3 rd floor of 204-208
1943	Same	Same; lodge hall removed from 204 Bush
1884	210 Bush St.	Vacant space to behind (west of) stable behind (west of) 210 Bush; function of 210 Bush illegible
1891	Same	Same; 210 Bush houses hardware store on 1 st floor, tin shop on 2 nd

1895-1902	Same	Same
1910	Same	Same; hardware store and tin shop now an "electric theater"
1917	Same	Same; electric theater now a five and dime store
1927	Same	Same; 210 Bluff labeled as "store"
1943	Same	Same
1884	212-214 Bush St.	West half of one-story shed and vacant space to north; these are behind (west) of stable and two adjacent one-story structures behind (west of) 212-214 Bush; 212-214 Bush houses a saloon (212) and meat shop (214); 3 rd floor labeled "Wallauers Hall"
1891	Same	Removal of shed; meat shop now grocery and confectionary
1895	Same	Same; saloon expands to replace grocery and confectionary
1902-1910	Same	Same
1917	Same	Same; lodge hall on 3 rd floor of 212-214 Bush
1927	Same	Same; former saloon identified as "stores"
1943	Same	Same; lodge hall on 2 nd floor of 212-214 Bush

BLOCK 37, LOT 8 (411-413 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Vacant
1891	411-413 Main St.	Vacant space to rear (south) of 411-413 Main, which houses a dry goods store (411) and grocery store (413)
1895	Same	Same
1902	Same	Same; entirety of 411-413 Main houses a dry goods store
1910	Same	Additions to rear (south) of 411-413 Main consisting of a one-story section, a two-story-with-basement section, and a subterranean section; 411-413 Main is a department store
1917	Same	Same; one-story section is a garage, two-story section contains and office, subterranean section unidentified; 411-413 Main is dry goods store on 1 st floor, carpet store on 2 nd
1927-1943	Same	Same

BLOCK 37, LOT 9 (415-417 [417-419] AND 421 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Low-ground vacant space behind (south of) a small one-story structure and a smoke house
1891	None	Vacant; structure and smoke house removed
1895	None	Vacant
1902	415-417 Main St.	Addition of one-story shed, located on rear of 415-417 Main (crockery and grocery store)

1910	417-419 Main St. [reassigned from 415-417]	Same; 417-419 Main labeled as department store
1917	Same	Same; 417-419 Main labeled as grocery and crockery store
1927	Same	Same; shed converted to garage; 417-419 Main labeled as a store
1943	Same	Replacement of garage with longer and narrower one-story structure
1884	None	Low-ground vacant space west of a small one-story structure and a smoke house
1891	None	Vacant; structure and smoke house removed
1895	None	Vacant
1902	None	Vacant space to side and off rear corner of 415-417 Main (crockery and grocery store)
1910	None	Same
1917	421 Main St.	Addition of east end of a 100-car garage
1927-1943	Same	Same

BLOCK 37, LOT 10 (435 ½ AND 429 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	435 ½ Main St.	One-and-a-half-story stable and surrounding low-ground vacant space
1891	Same	Same
1895	None	Removal of stable; vacant
1902-1910	None	Vacant
1917	429 Main St.	Addition of one-story-with-basement, 100-car garage; small amount of vacant space to rear (south)
1927-1943	Same	Same

BLOCK 35, LOT 8 (206 [208] AND 208 [210] BROAD STREET [WEST AVENUE], 507 [609] MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	206 Broad St.	Two-and-a-half-story veneered rowhouse with basement and vacant space behind
1891	Same	Same
1895	208 Broad St. (reassigned from 206)	Same
1902	Same	Same
1910	208 West Ave. (reassigned from Broad St.)	Same
1917-1943	Same	Same
1884	208 Broad St.	Two-story rowhouse and vacant space behind
1891	Same	Same

1895	210 Broad St. (reassigned from 208)	Same
1902	Same	Addition of one-story structure on rear of rowhouse
1910	210 West Ave. (reassigned from Broad St.)	Same
1917	Same	Same
1927	Same	One-story garage built adjacent to the rear of one-story structure and to the rear of auto washing and greasing facility at 507 Main
1943	Same	Removal of one-story section from rear of rowhouse and removal of garage
1884	507 Main St.	One-story rear (south) end of a one-to- two-story dwelling and vacant space behind
1891	Same	Dwelling removed; back (south) end of a one-story shingle shed constructed; owner noted as Charles Betcher
1895-1902	Same	Same
1910	Same	Shingle shed becomes a lumber shed
1917	Same	Lumber shed owner noted as Charles Betcher Lumber Co.
1927	609 Main St. (reassigned from 507)	Lumber shed converted to auto washing and greasing facility; one-story garage built adjacent to the rear of facility and to the rear of structure attached to 210 Broad
1943	Same	Removal of garage

BLOCK 35, LOT 9 (200 [202], 202 [204], AND 204 [206] BROAD STREET [WEST AVENUE])

Sanborn Map	Property Address	Notes on Land Use
1884	200 Broad St.	Two-and-a-half-story veneered rowhouse with basement and vacant space behind
1891	Same	Same
1895	202 Broad St. (reassigned from 200)	Same
1902	Same	Same
1910	202 West Ave. (reassigned from Broad St.)	Same
1917-1943	Same	Same
1884	202 Broad St.	Two-and-a-half-story veneered rowhouse with basement and vacant space behind; half of one story- structure connecting rear of 202 with 204
1891	Same	Same
1895	204 Broad St. (reassigned from 202)	Same
1902	Same	Same

1910	204 West Ave. (reassigned from Broad St.)	Same
1917	Same	Removal of one-story structure connecting rear of 202 [204] with 204 [206]
1927-1943	Same	Same
1884	204 Broad St.	Two-and-a-half-story veneered rowhouse with basement and vacant space behind; half of one story- structure connecting rear of 204 with 202
1891	Same	Same
1895	206 Broad St. (reassigned from 204)	Same
1902	Same	Same
1910	206 West Ave. (reassigned from Broad St.)	Same
1917	Same	Removal of one-story structure connecting rear of 204 [206] with 202 [204]
1927-1943	Same	Same

AREA 4 (BLOCK 43, LOTS 2-5)

BLOCK 43, LOT 2 (320-322 AND 324 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	320-322 Main St.	Two-story building and vacant space to the rear (north); building houses a dry goods store, carpet store, millinery, and grocery store
1891-1902	Same	Same
1910	Same	Same; building now a hardware store
1917-1943	Same	Same
1884	324 Main St.	West half of two-story building (324-326 Main), one-and-a-half-story stable and nearly adjacent one-story structure behind (north of) it, and surrounding vacant space; building houses saloon and billiards parlor on 1 st floor and doctor's office on the 2 nd
1891	Same	Same
1895	Same	Replacement of stable and one-story structure with one-story storage shed
1902-1910	Same	Same
1917	Same	Removal of storage shed; addition of small, one-story, iron-clad structure
1927	Same	Removal of one-story structure; saloon now a store
1943	Same	Same

BLOCK 43, LOT 3 (314 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	314 Main St.	North and northwest ends of a four-story building, west half of one-story iron room, and small vacant area in between; building houses wagon storage and woodworking, 1 st floor of fireproof construction and remaining stories iron clad; likely associated with building at 312-314 Main (312 portion in Lot 4), which houses a hardware store and tinwork shop (314), agricultural implements and stoves (312), and a tin shop on the 3 rd floor (312-314)
1891	Same	Same; building and iron room now vacant; guns added to goods sold at 314 Main
1895	Same	Same; four-story building now a furniture warehouse and iron room now a wareroom, labeled as brick veneered
1902	Same	Addition of one-story workshop onto the back (south) of the four-story building; wareroom now a stable
1910	Same	Same; buggies added to goods sold at 312 Main
1917	Same	Same; stable converted to hardware warehouse; 312 Main now a stove shop

1927	Same	Removal of hardware warehouse; addition of one-story office onto rear (north) of 314 Main, eliminates vacant space; 312-314 labeled as stores
1943	Same	Same

BLOCK 43, LOT 4 (308, 310, AND 312 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	308 and 310 Main St.	Courtyard to rear (north) of 308 Main and side (east) of 310 Main, containing two small adjacent structures, and north portion of three-story L-shaped building at 310 Main; 308 Main is a dry goods and grocery store; 310 Main houses hardware and agricultural implements on the 1 st and 2 nd floors and wagon wood stock on the 3 rd
1891	Same	Removal of structures from courtyard; 308 Main is vacant; 310 Main is only labeled as a hardware store
1895	Same	Same; 308 Main now a clothing store
1902	Same	Same; 308 Main is vacant
1910	Same	Same; 308 Main is a furniture store; 310 Main is vacant
1917	Same	Same; 308 Main is an undertaker shop; 310 Main houses agricultural implements
1927-1943	Same	Same; 308 and 310 Main both labeled as stores
1884	312 Main St.	East half of one-story iron room and adjacent small one-story structure, and small vacant area at junction; likely associated with building at 312-314 Main (312 portion in Lot 4), which houses a hardware store and tinwork shop (314), agricultural implements and stoves (312), and a tin shop on the 3 rd floor (312-314)
1891	Same	Removal of one-story structure; iron room now vacant; guns added to goods sold at 314 Main
1895	Same	Same; iron room now a wareroom, labeled as brick veneered
1902	Same	Same; wareroom now a stable
1910	Same	Same; buggies added to goods sold at 312 Main
1917	Same	Same; stable converted to hardware warehouse; 312 Main now a stove shop
1927	Same	Removal of hardware warehouse; addition of one-story office onto rear (north) of 314 Main, eliminates vacant space; 312-314 labeled as stores
1943	Same	Same

BLOCK 43, LOT 5 (116 AND 118-120 PLUM STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	116 Plum St.	Three-story building, housing an iron room on the 1 st floor, tin shop on the 2 nd , and wagon wood stock on the 3 rd
1891-1895	Same	Same
1902	Same	Same; function of building illegible
1910	Same	Same; building houses a painter shop
1917	Same	Same; building vacant
1927	Same	Same; building now the L. D. Stickles Shoe Co. warehouse
1943	Same	Same; shoe warehouse now a store
1884	118-120 Plum St.	Three-story building, housing wagon hardware on the 1 st floor and wagon stock on the 2 nd and 3 rd
1891-1895	Same	Same
1902	Same	Same; building now a hat factory for the Red Wing Hat Manufacturing Co.
1910	Same	Same
1917	Same	Same; building vacant
1927-1943	Same	Same; building a poultry warehouse or shop

AREA 5 (BLOCK 38, LOTS 3-5)

BLOCK 38, LOT 3 (318 ¼-318 ½ [314-316 {312-314}] 3RD STREET W., 216 ½ PLUM STREET

Sanborn Map	Property Address	Notes on Land Use
1884	318 ¼-318 ½ 3rd St. W.	Two-story, iron-clad building, one-story shed behind it, and vacant space to the north; building houses a photo gallery
1891	314-316 3rd St. W. (reassigned from 318 ¼-318 ½)	Addition of one-story section to north side of shed; building houses a barber shop and a shoe store on the 1 st floor, retaining photo gallery on the 2 nd
1895	Same	Same
1902	Same	Same; shoe store now a confectionary and cigar shop
1910	Same	Replacement of shed and attached one-story structure with new one-story structure
1917	Same	Same; barber shop now a hat shop; confectionary and cigar shop now a boot black and cobbler shop
1927	Same	Removal of one-story structure; addition of one-story drycleaners wash house behind (north of) 316 portion; 314-316 labeled as stores
1943	312-314 3rd St. W. (reassigned from 314-316)	Removal of drycleaners wash house; sometime between 1927 and 1943, a building was put up behind 314 (previously 312) and removed; addition of four-car garage behind 312-314 at rear of lot
1884	216 ½ Plum Street	Two-story stable with attached one-story structure and adjacent very small one-story structure
1891	Same	Removal of adjacent one-story structure; stable converted to store lime cement
1895	Same	Removal of attached one-story structure
1902	Same	Same
1910	None	Removal of lime cement storage building; vacant
1917-1943	None	Vacant

BLOCK 38, LOT 4 (216, 216 ½ [218], 218 [218 ½], 216-218, 220, 222, 224, 226, AND 228 PLUM STREET

Sanborn Map	Property Address	Notes on Land Use
1884	216 Plum St.	One-story ice house and attached one-story structure behind building at 216 Plum and vacant space between attached structures and building; building houses grocery store
1891	Same	Same; ice house converted to stable; grocery store vacant
1895	Same	Same; former grocery store now delicatessen

1902	216-218 Plum St.	Removal of stable and attached structure; addition of back end of new four-story-with-basement S. B. Foot & Co. Shoe Factory building, which replaces previous building at 216 Plum; hides and leather are in basement, packing and shipping 1 st floor, bottoming room 2 nd floor, stitching 3 rd floor, stock 4 th floor
1910	Same	Addition of small one-story section to rear of building
1917	Same	Same; S. B. Foot & Co. Shoe factory now L. D. Stickles Shoe Co. shoe factory
1927	Same	Addition of one of two one-story structures to rear (west) of factory building
1943	Same	Same; L. D. Stickles Shoe Co. shoe factory now La Grange Shoe Corporation shoe factory
1884	216 ½ Plum St.	Vacant space to rear (west) of building at 216 ½ Plum; building houses candy store
1891	Same	Same; candy store now a barber shop
1895	218 Plum St. (reassigned from 216 ½)	Same; barber shop now a shoe repair shop
1902	216-218 Plum St.	Addition of back end of new four-story-with-basement S. B. Foot & Co. Shoe Factory building, which replaces previous building at 218 Plum; hides and leather are in basement, packing and shipping 1 st floor, bottoming room 2 nd floor, stitching 3 rd floor, stock 4 th floor; one-story section on back houses gasoline engine
1910	Same	Same
1917	Same	Addition of section to rear of building housing another gasoline engine; S. B. Foot & Co. Shoe factory now L. D. Stickles Shoe Co. shoe factory
1927	Same	Addition of one of two one-story structures to rear (west) of factory building; original gas engine area now a warehouse
1943	Same	Same; L. D. Stickles Shoe Co. shoe factory now La Grange Shoe Corporation shoe factory
1884	218 Plum St.	Vacant space to rear (west) of building at 218 Plum; building houses boots and shoes shop
1891	Same	Same; boots and shoes shop replaced with violin shop
1895	218 ½ Plum St. (reassigned from 218)	Same; violin shop replaced with upholstery shop
1902	216-218 Plum St.	Addition of back end of new four-story-with-basement S. B. Foot & Co. Shoe Factory building, which replaces previous building at 218 Plum; hides and leather are in basement, packing and shipping 1 st floor, bottoming room 2 nd floor, stitching 3 rd floor, stock 4 th floor; one-story section on back houses gasoline engine

1910	Same	Same
1917	Same	Same; S. B. Foot & Co. Shoe factory now L. D. Stickles Shoe Co. shoe factory
1927	Same	Same; original gas engine area now a warehouse
1943	Same	Same; L. D. Stickles Shoe Co. shoe factory now La Grange Shoe Corporation shoe factory
1884	220 Plum St.	Small, one-story structure behind 220 Plum and vacant space in between; 220 Plum houses jewelry store
1891	Same	Same; jewelry store now a confectionary
1895	Same	Same; confectionary now a barber shop
1902	Same	Removal of one-story structure; barber shop now a pipe fitting operation
1910	Same	Addition of one-to-two-story section on rear of building at 220 Plum, one-story section housing a kettle; pipe fitting operation now a meat shop
1917	Same	Removal of one-to-two-story section and expansion of back (west) of building at 220 Plum; building now houses a restaurant and billiards hall
1927	Same	Same; 220 Plum integrated into L. D. Stickles Shoe Co. shoe factory
1943	Same	Same; L. D. Stickles Shoe Co. shoe factory now La Grange Shoe Corporation shoe factory
1884	222 Plum St.	Back (west) end of two-story building at 222 Plum and vacant space behind it; building houses a saloon and billiards hall
1891	Same	Same
1895	Same	Same; saloon now a general store
1902	Same	Addition of small one-story structure behind (west of) building at west edge of lot; general store now a confectionary and cigar shop
1910	Same	Same; confectionary and cigar shop now a tin shop
1917	Same	Removal of one-story structure; addition of two-story structure on rear of 222 Plum; tin shop now a tin shop and sheet metal works
1927-1943	Same	Same
1884	None	Two-story structure behind vacant lot, connects back ends of 222 and 226 Plum; one-story small structure to west; walkway or other connector between two structures; surrounding vacant space

1891	224 Plum St.	Removal of one-story small structure and connector; two-story structure integrated into/becomes back (west) end of building at 224 Plum; addition of one-story shed behind building and a very small structure behind shed; building at 224 Plum is a dry goods store
1895	Same	Removal of very small structure; shed removed and similar size one-story structure added or shed shifted to north
1902	Same	Same; dry goods store now a grocery store
1910	Same	Removal of shed
1917	Same	Addition of two-story structure on rear (west) of 224 Plum
1927	Same	Same; building labeled as store
1943	Same	Same
1884	226 Plum St.	Back (west) end of two-story building, attached one-story structure, and vacant space behind; building houses a dry goods and carpet store
1891	Same	Addition of very small structure behind building at west edge of lot
1895	Same	Same
1902	Same	Removal of very small structure and addition of another very small structure, or a shift of structure to the south; dry goods store now a saloon
1910	Same	Removal of very small structure
1917	Same	Addition of very small, one-story section on rear (west of building); cigar factory on 2 nd floor of saloon building
1927	Same	Same; saloon now a store
1943	Same	Same
1884	228 Plum St.	Shed and adjacent small one-story structure behind building at 228 Plum and vacant space between shed/structure and building; building houses a grocery store
1891	Same	Removal of shed and one-story structure; addition of expanded rear (west) section of two-story building at 228 Plum
1895	Same	Same
1902	Same	Same; photo gallery now added to 2 nd floor
1910	Same	Same; photo gallery gone
1917	Same	Same; barber shop in rear (west) section of building
1927	Same	Same; 228 Plum labeled as store
1943	Same	Same

BLOCK 38, LOT 5 (216, 216 ½ [218], 218 [218 ½], 216-218, 220, 222, 224, 226, AND 228 [228-230] PLUM STREET

Sanborn Map	Property Address	Notes on Land Use
1884	216 Plum St.	One-and-a-half-story building housing grocery store
1891	Same	Same; grocery store vacant
1895	Same	Same; grocery store now delicatessen
1902	216-218 Plum St.	Addition of front (east) majority of new four-story-with-basement S. B. Foot & Co. Shoe Factory building, which replaces previous building at 216 Plum; hides and leather are in basement, packing and shipping 1 st floor, bottoming room 2 nd floor, stitching 3 rd floor, stock 4 th floor
1910	Same	Same
1917	Same	Same; S. B. Foot & Co. Shoe factory now L. D. Stickles Shoe Co. shoe factory
1927	Same	Same
1943	Same	Same; L. D. Stickles Shoe Co. shoe factory now La Grange Shoe Corporation shoe factory
1884	216 ½ Plum St.	One-story building housing candy store
1891	Same	Same; candy store now a barber shop
1895	218 Plum St. (reassigned from 216 ½)	Same; barber shop now a shoe repair shop
1902	216-218 Plum St.	Addition of front (east) majority of new four-story-with-basement S. B. Foot & Co. Shoe Factory building, which replaces previous building at 218 Plum; hides and leather are in basement, packing and shipping 1 st floor, bottoming room 2 nd floor, stitching 3 rd floor, stock 4 th floor
1910	Same	Same
1917	Same	Same; S. B. Foot & Co. Shoe factory now L. D. Stickles Shoe Co. shoe factory
1927	Same	Same
1943	Same	Same; L. D. Stickles Shoe Co. shoe factory now La Grange Shoe Corporation shoe factory
1884	218 Plum St.	One-story building housing boots and shoes shop and vacant space to rear (west)
1891	Same	Same; boots and shoes shop replaced with violin shop
1895	218 ½ Plum St. (reassigned from 218)	Same; violin shop replaced with upholstery shop

1902	216-218 Plum St.	Addition of front (east) majority of new four-story-with-basement S. B. Foot & Co. Shoe Factory building, which replaces previous building at 218 Plum; hides and leather are in basement, packing and shipping 1 st floor, bottoming room 2 nd floor, stitching 3 rd floor, stock 4 th floor
1910	Same	Same
1917	Same	Same; S. B. Foot & Co. Shoe factory now L. D. Stickles Shoe Co. shoe factory
1927	Same	Same
1943	Same	Same; L. D. Stickles Shoe Co. shoe factory now La Grange Shoe Corporation shoe factory
1884	220 Plum St.	One-story building housing jewelry store
1891	Same	Same; jewelry store now a confectionary
1895	Same	Same; confectionary now a barber shop
1902	Same	One-story structure either replaced with or added onto to create two-story building; building houses pipe fitting operation
1910	Same	Same, although back of building now extends into Lot 4; pipe fitting operation now a meat shop
1917	Same	Removal of one-to-two-story section and expansion of back (west) of building at 220 Plum; building now houses a restaurant and billiards hall
1927	Same	Same; 220 Plum integrated into L. D. Stickles Shoe Co. shoe factory
1943	Same	Same; L. D. Stickles Shoe Co. shoe factory now La Grange Shoe Corporation shoe factory
1884	222 Plum St.	Front (east) majority of a two-story building housing a saloon and billiards hall
1891	Same	Same
1895	Same	Same; saloon now a general store
1902	Same	Same; general store now a confectionary and cigar shop
1910	Same	Same; confectionary and cigar shop now a tin shop
1917	Same	Same; tin shop now a tin shop and sheet metal works
1927-1943	Same	Same
1884	None	Vacant lot
1891	224 Plum St.	Addition of the front (east) majority of two-story building, which houses a dry goods store
1895	Same	Same

1902	Same	Same; dry goods store now a grocery store
1910-1917	Same	Same
1927	Same	Same; building labeled as store
1943	Same	Same
1884	226 Plum St.	Front (east) majority of a two-story building housing a dry goods and carpeting store
1891-1895	Same	Same
1902	Same	Same; dry goods store now a saloon
1910	Same	Same
1917	Same	Same; cigar factory on 2 nd floor of saloon building
1927	Same	Same; saloon now a store
1943	Same	Same
1884	228 Plum St.	Front (east) majority of a two-story building housing a grocery store
1891-1895	Same	Same
1902	Same	Same; photo gallery now added to 2 nd floor
1910	Same	Same; photo gallery gone
1917	Same	Same; barber shop in rear (west) section of building
1927	228-230 Plum St. (reassigned from 228)	Same; labeled as store
1943	Same	Same

AREA 6 (BLOCK 42, LOTS 1-5)

BLOCK 42, LOT 1 (226-230, 230 ¼, AND 230 ½ MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	226-230, 230 ¼, and 230 ½ Main St.	Three-story building (226-230), one-story storage warehouse (230 ½) and south portion of adjacent one-story storage building and wood shed (230 ¼) (extends into current alley and Lot 10), and vacant space between building and warehouse; building houses 1 st National Bank on 1 st floor and Western Union telegraph office on 2 nd (230), a wholesale grocery on at least the 1 st floor and a public hall and stage being used as a grocery warehouse on the 3 rd floor (226-228); brick walls divided the building sections on the 1 st floor
1891	230 ¼ and 230 ½ not designated	Same; grocery warehouse/wholesale grocery now vacant
1895	Same	Same; telegraph office has vacated building, former grocery operations now warerooms; storage warehouse labeled as being used for "cement, etc."
1902	Same	Addition of one-story section to rear (north) of 226-230 Main eliminates vacant space, houses a kettle; warerooms now identified as being occupied by the Butter & Egg Commission; storage warehouse now used for poultry and commission goods
1910	Same	Removal of one-story storage building and wood shed (formerly 230 ¼); addition of one-story structure on side (west) of 226-230 Main in Plum St. right-of-way; 1 st National Bank now a tea and coffee shop; public hall now a business college; 1 st floor of building labeled "Commn. Ho"; storage warehouse used for produce and crate making
1917	Same	Same; tea and coffee shop replaced by Western Union telegraph office; business college and "Commn. Ho" gone; 3 rd floor vacant; remainder of building labeled "Poultry and Eggs"; rear one-story section labeled "poultry crates"; storage warehouse vacant
1927	Same	Entirety of lot owned by Red Wing Feed & Seed Corporation; removal of rear one-story section of 226-230 Main, of one-story addition in Plum St. right-of-way, and of storage warehouse; building houses and office, feed grinding, and shoe storage; wood truss roof noted

1943	Same	Addition of one-to-two-story section on back (north) end of building for loading; addition of one-story corn crib behind addition; 230 labeled as a telegraph office; 226-228 labeled as feed grinding and shoe storage
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BLOCK 42, LOT 2 (220, 220 ½, 222, 222 ½, 224 [224A-224B], 222-224, 224 ¼, AND 224 ½ MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	220 and 220 ½ Main St.	Two-story building with one-story section on the back (north) (220), one-story building (220 ½) with adjacent, very small one-story structure and vacant space between; two-story building used for offices and one-story section for storage; one-story building also for storage
1891	Same	Same
1895	Same	Same; offices replaced with implement storage
1902	220 Main St.	Removal of building at 220 ½; implement storage building now a wagon house
1910	Same	Same; wagon house now a glove factory
1917-1943	Same	Same
1884	222 Main St.	One-story building and vacant space behind (north); building houses a clothing and boots and shoes store
1891	Same	Same; building is vacant
1895	Same	Same; building houses a wareroom
1902	Same	Same; wareroom now a telegraph office
1910	Same	Same
1917	Same	Same; telegraph office now a supply house for telephone company
1927	222 and 222 ½ Main St.	Addition of one-story building at back (north) end of lot (222 ½); building at 222 labeled as store, building at 222 ½ as hay warehouse
1943	222-224 Main St. and 222 ½ Main St.	Replacement of buildings at 222 and 224 Main with a single, one-story tile building with concrete floor and pilastered walls, labeled "feed and produce"
1884	224, 224 ¼, and 224 ½ Main St.	Two-story building (224), side (east) of one-story section of building at 226-230 Main, one-and-a-half-story warehouse (224 ¼), adjacent one-and-a-half-story stable (224 ½), and adjacent one-story structure, and vacant space between; two-story building is a clothing and grocery store
1891	Same	Same; two-story building is vacant
1895	Same	Same; two-story building now a bottling works

1902	224 Main St.	Removal of warehouse and stable at 224 ¼ and 224 ½; bottling works now a paints and wallpaper store
1910	Same	Removal of one-story section of building at 226-230 Main
1917	Same	Same; paints and wallpaper store now a furniture and upholstering store
1927	224A-224B Main St. (reassigned from 224)	Same; both parts of building labeled as stores
1943	222-224 Main St.	Replacement of buildings at 222 and 224 Main with a single, one-story tile building with concrete floor and pilastered walls, labeled "feed and produce"

BLOCK 42, LOT 3 (216 AND 218 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	216 Main St.	One-story building and vacant space to rear (north) and side (west); front section of building is office, middle section is an agricultural implements shed, rear section is small, one-story
1891	Same	Reduction to front (south) approximately half of building or replacement of larger building with smaller; one-story building houses an office in the front and lumber in the back; behind building is a lumber yard, behind which is a small, one-story structure in approximate location of former rear section of building
1895	Same	Extension of north end of lumber building; removal of lumber yard and small one-story structure; office is vacant
1902	Same	Same; lumber building labeled "shed"
1910	Same	Removal of previous building; addition of one-story, iron-clad building in three sections; front (south) section houses agricultural implements, middle section is shed, rear section is a warehouse
1917	Same	Same; addition of partial second story to transition between front (south) and middle sections; front section a farm implement warehouse, other two sections vacant
1927	Same	Removal of previous building; addition of one-story building, the front of which is brick-faced concrete block; building used for auto painting
1943	Same	Expansion of building to north edge of lot using tile construction; building used for tire service
1884	None	Two-adjacent one-story sheds and vacant space to rear (north) and side (east)
1891	None	Removal of sheds; addition of lumber yard
1895	None	Removal of lumber yard; vacant
1902	None	Same; lumber building now a shed; northwest portion of lot used to store "slabs"

1910	218 Main St.	Addition of one-story, iron-clad building in three sections; front (south) section houses agricultural implements, middle section is shed, rear section is a warehouse
1917	Same	Same; building labeled as "farm implement warehouses"
1927	Same	Removal of previous building; addition of one-story, concrete-block building with tile and brick façade and one-story garage behind (north of) it
1943	Same	Same

BLOCK 42, LOT 4 (206, 208, AND 210 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	206 Main St.	One-story dwelling, small one-story structure off rear (northeast) corner, and surrounding vacant space
1891	Same	Addition of lumber yard behind (north of) house; some vacant space between
1895	Same	Removal of one-story structure and lumber yard
1902	Same	Removal of dwelling; addition of one- to one-and-a-half-story, iron-clad building extending from south to north edge of lot; building houses farm implements in the front (south) and lumber in the back
1910	None	Addition of west majority of two-story office section of Red Wing Advertising Co. building (Lot 5)
1917	208 Main St.	Same
1927-1943	Same	Same
1884	None	Two connected one-story structures and surrounding vacant space
1891	None	Removal of one-story structures; addition of lumber yard and driveway
1895	None	Removal of lumber yard; addition of small, one-story structure
1902	None	Removal of one-story structure; addition of a one-story iron-clad building in three sections; north section contains wagon wood stock, middle section is a lumber shed, south section is used for "buggies and cutters"
1910	None	Removal of one-story building; vacant
1917	None	Vacant
1927	None	Vacant
1943	210 Main St.	Addition of one-story, concrete-block auto painting shop, extending from north to south edge of lot

BLOCK 42, LOT 5 (202-208 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Vacant
1891	202 Main St.	Addition of one-story iron clad building; front (south) section is warehouse, back section is lumber storage
1895	Same	Same
1902	None	Removal of building; vacant
1910	None	Addition of four-story Red Wing Advertising Co. building (202-204)
1917	202-208 Main St.	Same
1927	Same	Addition of subterranean space surrounding engine room on north
1943	Same	Same
1884	None	Vacant
1891	204 Main St.	Addition of one-story iron-clad building; building contains hardwood lumber
1895	Same	Same
1902	None	Removal of building; vacant
1910	None	Addition of four-story Red Wing Advertising Co. building (202-204) and east portion of two-story office section (208)
1917	202-208 Main St.	Addition of underground coal storage to west side of building
1927	Same	Addition of subterranean space surrounding engine room on north
1943	Same	Same

AREA 7 (BLOCK 39, LOTS 9 AND 10)

BLOCK 39, LOT 9 (217, 217 ½, 219, 221, AND 217-221 [219-223] MAIN STREET), 209-211 PLUM STREET

Sanborn Map	Property Address	Notes on Land Use
1884	217 and 217 ½ Main St.	Two-and-a-half story building with one-story section on the back (217), one-story shed (217 ½), and vacant space between; building is a saloon
1891	217-221 Main St.	Removal of previous buildings; addition of Kemp Block, a two-story building with three sections; entire building houses a saloon or saloons
1895	Same	Addition of one-story, iron-clad hitching shed behind east section (217) of building in southeast corner of lot; east and middle sections (217-219) house dry goods store
1902	Same	Addition of one-story section to rear (south) of east section (217); east section now a printing shop, new section to rear houses printing press
1910	Same	Same; printing operations now a fur shop
1917	Same	Addition of one-story, iron-clad garage between building and hitching shed; fur shop now a sporting goods store
1927	Same	Same; east section (217) labeled as store
1943	219-223 Main St. (reassigned from 217-221)	Same
1884	219 Main St.	One-story building and vacant space behind it; front (north) section of building is candy store, back is restaurant
1891	217-221 Main St.	Removal of previous buildings; addition of Kemp Block, a two-story building with three sections; entire building houses a saloon or saloons, western two sections (219-221) include a wholesale liquor shop; addition of small one-story structure onto rear side (south and east) of middle section (219)
1895	Same	Removal of small one-story structure; alteration (reduction) to remove rear (south) portion of middle section (219); addition of small structure with two-story northern section and one-story southern section on west portion of south end of 219; east and middle sections (217-219) house dry goods store
1902	Same	Same; middle and west sections (219-221) house wholesale liquors store
1910	Same	Removal of one-to-two-story structure at rear (south) of middle section (219); addition of one-story structure behind (south of) middle section; middle section a wareroom

1917	Same	Removal of one-story structure; addition of one-story room to east end of south side of middle section (219); addition of one-story garage behind (south) of middle section; addition of one-story structure behind one-story garage; middle and west sections (219-221) house wholesale liquors store
1927	Same	Removal of one-story room from south side of middle section (219); middle section now a sheet metal works
1943	219-223 Main St. (reassigned from 217-221)	Removal of garage; addition of east portion of one-story, concrete-block garage behind (south) of middle section of Kemp Block (221); middle section labeled as store
1884	221 Main St.	Vacant space to rear of building, which houses a fish market, as well as back (east) end of 209-211 Plum, occupied by a 99-cent store, a grocery store, and a club room and offices
1891	217-221 Main St.	Same; previous building replaced by Kemp Block, a two-story building with three sections; entire building houses a saloon or saloons, western two sections (219-221) include a wholesale liquor shop; 209-211 Plum is vacant
1895	Same	Same; west section of building (221) houses a saloon; 209-211 Plum houses a paint and wallpaper store (209), a grocer (211), and a mattress factory (211)
1902	Same	Same; middle and west sections of building (219-221) house wholesale liquors store; function of 209-211 Plum illegible
1910	Same	Same; west section (221) a wholesale liquors store; 209-211 Plum is a printing operation
1917	Same	Same; middle and west sections (219-221) house wholesale liquors store; paint and wallpaper store and millinery added to printing operation at 209-211 Plum
1927	Same	Same; west section (221) labeled as store; millinery removed from 209-211 Plum
1943	219-223 Main St. (reassigned from 217-221)	Addition of west half of one-story concrete block garage in previously vacant space adjacent to rear of west section (223) of Kemp Block and to rear of 209-211 Plum
1884	209-211 Plum St.	Rear (east) of two-story building and vacant space behind; building houses 99-cent store, grocery store, club room, and offices
1891	Same	Same; building is vacant
1895	Same	Same; building houses paints and wallpaper store and a mattress factory
1902	Same	Same; building function illegible

1910	Same	Same; building houses a paint store, an office, and a printing operation
1917	Same	Same; office replace by a millinery
1927	Same	Same; building houses paint and wallpaper store only
1943	Same	Same

BLOCK 39, LOT 10 (209-211 PLUM STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	209-211 Plum St.	Front (west) majority of two-story building; north half (209) contains a 99-cent store, south half (211) a grocery on the 1 st floor and club room and offices on the 2 nd
1891	Same	Same; entire building vacant
1895	Same	Same; 99-cent store now a paint and wallpaper shop; club room and offices now a mattress factory
1902	Same	Same; building functions illegible
1910	Same	Same; entire building houses printing operation
1917	Same	Same; north half (209) houses paint and wallpaper store in front (west) section and print shop in rear section; south half (211) houses millinery
1927-1943	Same	Same; entire building now houses paint (209) and wallpaper (211) store

AREA 8 (BLOCK 39, LOT 6)

BLOCK 39, LOT 6 (201-203 AND 205 MAIN STREET, 214 [212-214] POTTER STREET

Sanborn Map	Property Address	Notes on Land Use
1884	201 Main St.	Three-story building, Hotel Svea, includes saloon and billiards hall
1891	Same	Same; interior passageway now exists between 201 and 203; building is vacant
1895	Same	Same; building is east half of Hotel Svea, includes dining room and office
1902	Same	Same; Hotel Svea now Heiserman Hotel, includes parlor and dining room
1910-1927	Same	Same
1943	Same	Same; hotel name not provided, just labeled "hotel"
1884	203 Main St.	Three-story building, vacant space behind (south), two adjacent one-story structures and east end of adjacent one-story shed behind vacant space; building is china, crockery, and glassware store
1891	Same	Same; interior passageway now exists between 203 and 201; building is vacant
1895	Same	Removal of shed; addition of east end of larger, narrower shed not adjacent to other one-story structures; building is west half of Hotel Svea, includes storage
1902	Same	Removal of adjacent one-story structures; addition of one-story section on rear side (west) of 201 Main is adjacent to rear (south) of 203 Main, houses kitchen; addition of small one-story structure joining kitchen with shed; building is now Heiserman Hotel, west section (203) includes office and stock room
1910	Same	Same; small one-story structure integrated into shed
1917	Same	Addition of east half of one-story structure onto north side of shed
1927	Same	Same
1943	Same	Same; hotel name not provided, just labeled "hotel"
1884	205 Main St.	East half of three-story building with one-section on back (south), middle portion of one-story shed behind (south of) building, and vacant space between; building houses crockery storage on the 1 st floor and is vacant above
1891	Same	Same; building is vacant

1895	Same	Replacement of shed with longer, narrower shed, of which middle section is behind (south of) building; building houses an office or offices
1902	Same	Removal of east end of one-story rear (south) section of building; addition of east end of detached one-story structure behind building
1910	Same	Same
1917	Same	Removal of one-story structure; addition of west half of one-story structure onto north side of shed; building is vacant
1927	Same	Same; building contains offices and a lodge hall on the 3 rd floor
1943	Same	Same
1884	None	Two-story building with one-story rear (west) section, Scandinavian Hotel, and vacant space to side (north)
1891-1902	214 Potter St.	Same
1910	Same	Same; building labeled as boarding house
1917	Same	Addition of one-story section onto north side of one-story rear section of building, again labeled as Scandinavian Hotel
1927	212-214 Potter St. (reassigned from 214)	Same; north section (212) of building labeled as a store, south section (214) vacant
1943	Same	Addition of one-story sections on rear (west) of both north and south sections; north and south sections both labeled as stores

AREA 9 (BLOCK 39, LOTS 3-5)

BLOCK 39, LOT 3 (210 [216], 210 ¼, 214 [218], AND 218 ½ 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	210 and 210 ¼ 3rd St. W.	One-story dwelling (210), one-story shed (210 ¼), and vacant space between and around both
1891	Same	Addition of very small structure to south of shed
1895	Same	Removal of very small structure; addition of lumber yard in northeast corner of lot; shed used for lumber storage
1902	Same	Same
1910	216 3rd St. W. (reassigned from 210); 210 ¼ not designated	Lumber storage shed labeled more generally as "shed"
1917	Same	Removal of shed; addition of one-story structure on rear (north) of dwelling
1927	Same	Same
1943	Same	Removal of dwelling
1884	214 3rd St. W.	Two-story dwelling with one-story rear (north) section, small one-story structure off the rear (northeast) corner, two adjacent small one-story structures behind dwelling in northwest corner of lot, and vacant space between and around all
1891	Same	Removal of adjacent one-story structures; addition of one-story stable and detached very small structure near northwest corner of lot
1895	218 (reassigned from 214) and 218 ½ 3rd St. W.	Addition to or replacement of dwelling; 1895 dwelling is two stories with larger one-story rear (north) section and a one-story side (east) section; addition of one-story stable (218 ½)
1902	Same	Removal of small one-story structure
1910	218 3rd St. W.; 218 ½ not designated	Stable now a corn crib
1917	Same	Corn crib now a shed
1927	Same	Removal of shed; addition of one-story tile garage near northwest corner of lot
1943	Same	Same

BLOCK 39, LOT 4 (210 ½ AND 206-208 [214] 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	210 ½ 3rd St. W.	One-story shed and surrounding vacant space
1891	206-208 3rd St. W.	Removal of shed; entire lot used as lumber yard for Northwestern Lumber Co.
1895	Same	Same

1902	Same	Addition of part of L-shaped, one-and-a-half-story lumber shed (extends into Lot 5) at north end of lot; lumber yard now for Thompson Lumber Co.
1910	None	Same; no lumber company name indicated
1917	214 3rd St. W.	Addition of one-and-a-half-story lumber shed (214) and a one-and-a-half-story stable; lumber yard now for McCoy Lumber Co.
1927	Same	Same; stable no longer designated as such
1943	Same	Same

BLOCK 39, LOT 5 (202 AND 204 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Vacant
1891	202 and 204 3rd St. W.	Addition of one-story building (202) and lumber yard (204); building houses an office in the front (south) section and a lumber shed in the back section along east end of lot; yard operated by Northwestern Lumber Co.
1895	Same	Same
1902	Same	Extension of lumber shed to run along north portion of lot (into Lot 4); lumber yard operated by Thompson Lumber Co.
1910	202 3rd St. W.; 204 not designated	Same; no lumber company name indicated
1917	Same	Same; addition of one-half to full story onto lumber shed, portions dedicated to lime, sash and door, and roofing material storage; lumber yard operated by McCoy Lumber Co.
1927-1943	Same	Same

AREA 10 (BLOCK 40, LOTS 4-7)

BLOCK 40, LOT 4 (108 AND 114 ½ 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	108 3rd St. W.	Two-story dwelling, two adjacent one-story structures behind (north of) dwelling, and surrounding vacant space
1891	Same	Addition of very small structure to north of adjacent one-story structures; addition of rear (west) edge of four-story iron-clad warehouse for Red Wing Manufacturing Company in northeast corner of lot
1895	Same	Same
1902	Same	Removal of all three small structures north of dwelling; addition on of small one-story structure onto rear (north and west side of north end) of dwelling
1910-1917	Same	Same
1927	Same	Same; warehouse is vacant
1943	Same	Removal of rear (west) end of warehouse
1884	114 ½ 3rd St. W.	One-and-a-half-story stable owned by Scandinavian Hotel, and vacant space to south
1891	Same	Same; stable owner not indicated
1895	Same	Same
1902	Same	Same; stable labeled as "private"
1910	108 ½ 3rd St. W. (reassigned from 114 ½)	Same
1917	None	Removal of stable; vacant
1927-1943	None	Vacant

BLOCK 40, LOT 5 (106, 106 ½, 106 ½ [420 BLUFF STREET], 106 ½ [424 {224 <222>} BLUFF STREET], 106 ¼ 3RD STREET W. [422 {222 <218>} BLUFF STREET] AND 226 [426 {226 }BLUFF STREET])

Sanborn Map	Property Address	Notes on Land Use
1884	106 3rd St. W.	One-and-a-half-story dwelling with one story sections on rear (north) and side (west), and surrounding vacant space
1891	Same	Addition of one-story stable to rear (north) of dwelling
1895	Same	Same
1902	106 and 106 ½ 3rd St. W.	Addition of structure to west side of dwelling; stable assigned as 106 ½ W. 3 rd

1910	106 3rd St. W.; 106 ½ not designated	Shift in rear (north) one-story section of dwelling to the west; now abuts rear of dwelling in Lot 4; stable no longer coded as such
1917	Same	Addition of small one-story structure on rear (north) of dwelling; former stable shown to be one-and-a-half stories
1927	Same	Apparent joining of former stable with one-story structure behind 224 Bluff
1943	Same	Same
1884	None	One-story dwelling and surrounding vacant space
1891	226 Bluff St.	Same; possible expansion of north section of dwelling
1895	426 Bluff St. (reassigned from 226)	Same
1902	226 Bluff St. (reassigned from 426)	Same
1910	None	Dwelling no longer labeled as such
1917	226 Bluff St.	Addition of two consecutive one-story sections on rear (north) of dwelling, once again labeled as such
1927	Same	Removal of consecutive one-story sections
1943	Same	Dwelling removed; vacant
1884	106 ½ 3rd St. W.	Two-story dwelling with one-story rear (west) section fronting on Bluff, small one-story structure behind dwelling, and vacant space between and around both
1891	424 Bluff St. (reassigned from 106 ½ W. 3 rd)	Same
1895	Same	Same
1902	224 Bluff St. (reassigned from 424)	Same
1910	None	Addition of one-story structure to side (south) of dwelling)
1917	Same	Addition of one-story sections on side (south) and rear (west) of dwelling; addition of one-story structure behind dwelling
1927	Same	Apparent joining of one-story structure with former stable behind 106 W. 3 rd
1943	222 Bluff St. (reassigned from 224)	Removal of one-story structure south of dwelling
1884	106 ¼ 3rd St. W.	One-story dwelling fronting on Bluff
1891	422 Bluff St. (reassigned from 106 ¼ W. 3 rd)	Same
1895	Same	Same
1902	222 Bluff St. (reassigned from 422)	Same
1910-1927	Same	Same
1943	218 Bluff St. (reassigned from 222)	Same

1884	106 ½ 3rd St. W.	One-story, iron-clad storehouse and adjacent one-story stable
1891	420 Bluff St. (reassigned from 106 ½ W. 3 rd)	Addition to or replacement of one-story storehouse resulting in front (east) majority of south section of four-story iron clad building, owned by Red Wing Manufacturing Co.; one-story structure added onto east side of stable, now labeled "shed"
1895	Same	Same; building indicated as furniture warehouse
1902	Same	Removal of one-story structure on east of stable; stable no longer coded as such
1910	Same	Removal of stable
1917	220 Bluff St. (reassigned from 420)	Addition of one-story iron clad structure in location of former stable
1927	Same	Same; warehouse is vacant
1943	None	Removal of four-story warehouse; addition of smaller, one-story oil warehouse

BLOCK 40, LOT 6 (101 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	101 Main St.	East portion of Red Wing Manufacturing Co. complex, including east end of three-story building with southern one- to one-and-a-half-story section in north and east end of four-story iron-clad building in the south; three-story building houses cutting and planning on 1 st floor, setting-up room on 2 nd , and sash, door and blind work on 3 rd , southern section houses shavings room and boiler room; four-story building houses furniture warehouse and steaming and varnishing operations
1891	Same	Addition of one-story shed adjacent to east side of shavings vault
1895-1917	Same	Same
1927	Same	Same; Red Wing Manufacturing vacated complex; only occupant auto sales and repair on 1 st floor of three-story building
1943	Same	Removal of four-story building; three-story building houses filling station and secondhand auto parts store on 1 st floor; south section (former shavings room, etc) converted to feed warehouse

BLOCK 40, LOT 7 (109 MAIN STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	109 Main St.	West portion of Red Wing Manufacturing Co. complex, including west end of three-story building in north, west end of four-story iron-clad building in the south, bridge between buildings, and a one-story lumber shed on north side of four-story building; three-story building houses cutting and planning on 1 st floor, setting-up room on 2 nd , and painting and glazing on the third on 3 rd , southern section houses shavings room and boiler room; four-story building is furniture warehouse

1891	Same	Same
1895	Same	Removal of small eastern section of lumber shed
1902	Same	Addition of small, one-story structure between lumber shed and three-story building
1910	Same	Removal of one-story structure
1917	Same	Same
1927	Same	Same; Red Wing Manufacturing vacated complex; only occupant auto sales and repair on 1 st floor of three-story building
1943	Same	Removal of four-story building, bridge, and lumber shed; addition of covered ramp to 2 nd floor of three-story building

AREA 11 (BLOCK 21, LOTS 6 AND 7)

BLOCK 21, LOT 6 (402 AND 414 BUSH STREET)

Sanborn Map	Property Address	Notes on Land Use
1884-1917	None	Vacant
1927	402 Bush St.	One-story tile gas station and surrounding vacant space
1943	Same	Removal of gas station; gas tanks present; vacant space to side (north) of new gas station
1884	414 Bush St.	One-and-a-half-story dwelling; east half of associated one-story shed; vacant space to side (north) of dwelling
1891	Same	Possible extension of rear one-story section of house to the north
1895	Same	One-and-a-half-story section shown in location of possible 1891 extension
1902	Same	Same
1910	Same	Removal of shed and one-and-a-half story section
1917	Same	Dwelling appears in 1891 configuration
1927	Same	Dwelling appears in 1895 configuration
1943	Same	Same

BLOCK 21, LOT 7 (411[409] 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	411 4th St. W.	North portion of a two-story dwelling and vacant space to the front (north) and side (east); a two-story stable behind the dwelling and vacant space between the stable and rear of dwelling; a one-story shed off the southeast corner of dwelling and attached one-story structure
1891	409 4th St. W. (reassigned from 411)	Same
1895-1902	Same	Same
1910	Same	Removal of shed and attached one-story structure; addition of small, one-story section to rear of dwelling, which has been converted to the Red Wing Hotel; stable converted to outhouse
1917	Same	Removal of outhouse; addition of two-story, iron-clad annex behind (south of) hotel
1927-1943	Same	Same

AREA 12 (BLOCK 21, LOTS 4-6)

BLOCK 21, LOT 4 (428 ¼ [410] 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	428 ¼ 5th St. W.	East majority of two-story ice house associated with Remmler Brewery and vacant space to east and north
1891-1895	None	Same
1902	None	Addition of one-story wash house on north side of ice house
1910	None	Expansion of one-story boiler room section of brewery (Lot 5) into southern half of Lot 4; ice house now labeled as stock house
1917	410 5th St. W.	Expansion of wash house addition; wash house now racking room; two-story section contains beer cellars on the 1 st floor and ice storage on the 2 nd
1927	Same	Same; brewery not in operation
1943	Same	Same

BLOCK 21, LOT 5 (422 AND 428 BUSH STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	None	South end of three-story Remmler Brewing Co. brewery, including south end of frame portion containing cooler and boiler
1891-1910	None	Same
1917	422 Bush St.	Same
1927	Same	Same; brewery not in operation
1943	Same	Same; brewery in operation
1884	428 Bush St.	Remmler Brewing-associated two-story saloon building and vacant space to side (north)
1891-1895	Same	Same; rear section of saloon used as dwelling
1902	Same	Addition of one-story structure on north side of rear (west) section of saloon building; this section now an office
1910	Same	Same
1917	Same	Addition of one-story structure on east side of previously added one-story structure on saloon building
1927	Same	Same; building labeled as store
1943	Same	Same; back (west) section of store labeled as office

AREA 13 (BLOCK 27, LOTS 7-9)

BLOCK 27, LOT 7 (301 1/6 [311] AND 301 1/9 [311] 3RD STREET W., 302, 304, 306, 310, 312, AND 314 PLUM STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	301 1/6 W 3 rd St.	Two-story building and vacant space to side (east); building houses a saloon
1891	311 3rd St. W. (reassigned from 301 1/6)	Same
1895	Same	Same
1902	Same	Expansion of rear (south) of building to encompass structure at location formerly designated as 301 1/9 Bush
1910-1917	Same	Same
1927	Same	Same; saloon now a store
1943	Same	Same
1884	301 1/9 Bush St.	Northern portion of one-and-a-half-story storage building immediately south of saloon at 301 1/6 W 3 rd and very small structure south of storage building
1891-1895	None	Same
1902	311 3rd St. W.	Integration of storage building into saloon building; removal of very small structure
1910-1917	Same	Same
1927	Same	Same; saloon now a store
1943	Same	Same
1884	302 Plum St.	Vacant space behind building, which houses clothing store
1891-1895	Same	Same
1902	Same	Same; clothing store now grocery store
1910	Same	Same
1917	Same	Same; grocery store now clothing store
1927	Same	Same; building labeled as "store"
1943	Same	Same; building labeled as "restaurant"
1884	304 Plum St.	Vacant space behind building, which houses liquor store and saloon
1891-1917	Same	Same
1927	Same	Same; building labeled as "store"
1943	Same	Same
1884	306 Plum St.	Very small one-story structure and vacant space behind building; building houses grocery store

1891	Same	Same; grocery store now gentlemen's furnishings store
1895-1902	Same	Same
1910	Same	Removal of very small one-story structure
1917	Same	Same
1927	Same	Same; building labeled as "store"
1943	Same	Same
1884	310 Plum St.	Vacant space behind building, which houses harness shop
1891-1917	Same	Same
1927	Same	Same; building labeled as "store"
1943	Same	Same
1884	312 Plum St.	Vacant space behind building, which is a boot maker[?] shop
1891	Same	Same; building vacant
1895	Same	Same; building houses cobbler shop
1902	Same	Same; cobbler shop now barber shop
1910	Same	Same, although adjacent building replaced by new building (312-314 Plum), north section (312) houses confectionary
1917	Same	Same
1927	Same	Same; building labeled as "store"
1943	Same	Same
1884	314 Plum St.	West portion of a one-story storage room behind (west of) a blacksmith shop; one-story shed behind storage room
1891	Same	Removal of shed; addition of very small structure behind (west of) storage room
1895-1902	Same	Same
1910	Same	Removal of very small structure; adjacent building replaced by new building (312-314 Plum), south section (314) houses saloon
1917	Same	Same
1927	Same	Same; building saloon now wallpaper and paint store
1943	Same	Same; building now an office

BLOCK 27, LOT 8 (301 1/8 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	301 1/8 3rd St. W.	Southern majority of one-story agricultural implements storage building (301 1/8), south half of one-story shed, and vacant space between
1891	Same	Removal of shed
1895	None	Replacement of storage building with two-and-a-half-story stable/veterinary hospital; addition of east portion of one-story wareroom
1902	None	Removal of wareroom
1910	None	Removal of veterinary hospital; vacant
1917-1943	None	Vacant

BLOCK 27, LOT 9 (301 1/8 [317 {319}] AND 301 1/2 [317 1/2] 3RD STREET W., 301-303, 307, 305-313 BUSH STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	301 1/8 3rd St. W.	Vacant space behind fire engine house, associated bell tower, and associated one-story structure
1891	317 3rd St. W.; 301 1/8 not designated	Rear (south) edge of one-story section of building and vacant space behind; building houses a grocery store
1895	319 3rd St. W. (reassigned from 317)	Same; grocery store also sells crockery
1902	Same	Same; grocery store now post office
1910	Same	Same; post office now movie theater
1917	Same	Same; movie theater now a printing operation
1927	Same	Addition of one-story garage to rear (south) of building
1943	Same	Same; printing operation now labeled as store
1884	301 1/2 3rd St. W.	One-story building, south portion of adjacent one-story shed to its north, and vacant space to the west of both ; building used as a lock-up
1891	317 1/2 3rd St. W. (reassigned from 301 1/2)	Removal of shed; lock-up now a storage shed for groceries and oil
1895	None; 317 1/2 not designated	Addition of one-story structure on north side of storage shed; storage shed labeled as wareroom
1902	None	Removal of wareroom building and one-story structure; vacant
1910-1917	None	Vacant
1927	None	Addition of one-story garage (see 319 W. 3 rd)
1943	None	Same

1884	301-303 Bush St.	Vacant space to south of rear (east) portion of building housing a post office, news and cigar shop, and dry good store
1891	Same	Replacement of vacant space with two-story platform (see 305-313 Bush)
1895	Same	Same
1902	Same	Platform shortened slightly, leaving minimal vacant space
1910	Same	Addition of very small one-story structure to north of platform, replacing vacant space
1917-1943	Same	Same
1884	307 Bush St.	Vacant space to rear (west) of lime house
1891	305-313 Bush St.	Addition of two-story platform behind portion (305-307) of commercial block replacing lime house; commercial block houses fur factory across 3 rd floor, and the Gales Room (307), a furniture store (311), and an insurance office (313) on the 1 st
1895	Same	Same; fur factory and Gales Room gone, commercial college on 3 rd floor (305-307); rest of block houses a tailor shop (309), a hardware and general store on the 1 st floor, and the public library on the 2 nd (311-313)
1902	Same	Platform shortened slightly; commercial college gone, dance hall on 2 nd floor, grocery store on 1 st (305-207); public library replaced by commercial club; hardware store gone
1910	Same	Addition of very small one-story structure to north of platform, behind 307; tailor shop replaced by piano and organ store, general store now labeled racket store (similar); lodge hall (305-309) and club room (311-313) present on 3 rd floor
1917	Same	Same; building functions are illegible
1927	Same	Replacement of platform with smaller one-story structure; with exception of lodge hall, commercial block labeled entirely as stores
1943	Same	Same

AREA 14 (BLOCK 27, LOTS 1-5)

BLOCK 27, LOT 1 (326 [328] 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	326 4th St. W.	South end of one-story wood shop, part of J. Kappell wagon shop building complex
1891	Same	Same; wagon shop complex now owned by Remshardt and Handel
1895	Same	Same; wood shop now vacant
1902	Same	Same; associated with blacksmith shop, but specific function illegible
1910	Same	Same; part of wagon shop
1917	328 4th St. W. (reassigned from 326)	Same; wagon shop now an "old clothes" shop
1927	Same	Same; old clothes shop now a welding shop

BLOCK 27, LOT 2 (315-317, 319 [319-321], AND 321-325 [323-325] BUSH STREET, 320 AND 326-330 [324-330] 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	315-317 Bush St.	Vacant space behind building housing Dr. Peterson's Livery
1891	Same	Same; livery replaced by a gentlemen's store (315) and farm implements store (317)
1895	Same	Same; gentlemen's store replaced by buggies and implements shop
1902	Same	Same; implements stores replaced by grocery store (315) and hardware store (317)
1910	Same	Same; grocery store replaced by south half of hardware store
1917	Same	Same; south half of hardware store replaced by farm implements store
1927	Same	Same; building labeled generally as stores
1943	Same	Same
1884	None	Vacant
1891	319 Bush St.	Vacant space behind (east of) building; building houses sheet iron and tin shop
1895	319-321 Bush St. (reassigned from 319)	Same; building houses plumber shop (319) and cobbler shop (321)
1902	Same	Same; plumber shop now a cobbler shop; cobbler shop now a bakery

1910	Same	Same, although building expanded to abut relevant portion of lot; entire building houses bakery and confectionary
1917	Same	Same; bakery and confectionary now grocery and bakery
1927	Same	Same; building labeled as store
1943	Same	Same
1884	321-325 Bush St. and 326-330 4th St. W.	Vacant space to side (south) of rear (east) portion of building at 321-325 Bush St. and to east of buildings at 326, 328, and 330 W. 4 th ; all buildings part of J. Kappel wagon shop complex
1891	Same, plus 320 4th St. W.	Addition of one-story shed (320 W. 4 th); wagon shop complex now owned by Remshardt and Handel
1895	323-325 Bush St. (reassigned from 321-325) and 326-330 4th St. W.	Removal of shed (320 W. 4 th); addition of very small, one-story structure on north end of rear portion of building at 321-325 Bush, now a wallpaper and paints store; one-story addition onto rear (east) of building at 326-330 W. 4 th , now vacant
1902	Same	Removal of very small, one-story structure; wallpaper and paints store replaced by steam laundry; 326-330 now a blacksmith shop
1910	Same	Same; wagon shop added to blacksmith shop
1917	Same	Same; steam laundry building (323-325) now vacant; other building houses plumbing shop (326), old clothes shop (328), and horseshoeing (330)
1927	323-325 Bush St. and 324-330 W. 4 th (reassigned from 326-330)	Same; plumbing shop (324) replaced by machinery storage, old clothes shop by welding (326), and horseshoeing by a blacksmith (328-330); former steam laundry now photo shop (323) and a store (325)
1943	323-325 Bush St. and 330 4th St. W.	Removal of building at 324-330 W. 4 th ; in relevant portion of lot, leaves vacant space to rear (east) of new building (330 W. 4 th), a store, and to rear (east) of movie theater at 323-325 Bush

BLOCK 27, LOT 3 (315 ½ BUSH STREET, 314, 314 ½, 314 ⅔, AND 314 ¾ [316] 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	314 4th St. W.	Vacant space behind (north) and to side (west) of dwelling
1891	Same	Addition of one-story structure behind (north of) dwelling
1895	Same	Same
1902	Same	Removal of one-story structure
1910	Same	Addition of back (north) end of one-story veneered building that replaced dwelling; building houses a plumber's shop

1891-1917	Same	Same
1927	Same	Same; building part of commercial block replacing previous, houses a store
1943	Same	Same

AREA 15 (BLOCK 22, LOTS 6-10)

BLOCK 22, LOT 6 (301, 301 1/3, 301 1/4 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	301 4th St. W.	One-story agricultural implements storage shop adjacent to building at 301 1/3 W. 4 th and vacant space to side (west)
1891	None	Removal of building; vacant
1895-1943	None	Vacant
1884	301 1/3 4th St. W.	Two-story building adjacent to 301 W. 4 th and vacant space to rear (west) and sides; building is vacant and labeled "old"
1891	None	Removal of building; vacant
1895-1943	None	Vacant
1884	301 1/4 4th St. W.	One-and-a-half- to two-story stable and vacant space to side (north); stable is labeled "old"
1891	Same	Same
1895-1943	None	Vacant

BLOCK 22, LOT 7 (NO STREET ADDRESS)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Vacant space to rear of agricultural implements storage building, vacant building, and stable in Lot 6
1891	None	Vacant; storage building and vacant building removed
1895	None	Vacant; stable removed
1902	None	Vacant
1910	None	Vacant; east side of City Hall built adjacent to relevant portion of lot
1917-1943	None	Vacant

BLOCK 22, LOT 8 (313 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884-1902	None	Vacant
1910	None	Vacant; north-central portion of City Hall built adjacent to relevant portion of lot
1917	None	Vacant
1927-1943	313 4th St. W.	Vacant

BLOCK 22, LOT 9 (NO STREET ADDRESS)

Sanborn Map	Property Address	Notes on Land Use
1884	407 Bush St.	Rear (east) end of a two-story building and surrounding vacant space; building houses a machinist's repair shop on 1 st floor and wagon storage on second
1891	Same	Removal of repair shop building; addition of central section of a one-story repair shop associated with fireman's hall (Lot 10)
1895	Same	Addition of west-half of one-story section added on north side of repair shop; repair shop now labeled as city tool house
1902	Same	Same
1910	None	Removal of repair shop; vacant; west side of City Hall built adjacent to relevant portion of lot
1917-1943	None	Vacant

BLOCK 22, LOT 10 (407 AND 409 BUSH STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	407 Bush St.	Front (west) majority of two-story building adjacent to building at 409 Bush, and vacant space to south, west, and east; building houses machinist's repair shop and wagon storage on the 2 nd floor
1891	Same	Removal of building; addition of front (west) majority of building, including entire two-story front section and west portion of one-story rear section; front section houses fireman's hall, rear section a repair shop
1895	Same	Same; repair shop now city tool house
1902	Same	Same
1910	None	Removal of building; vacant
1917-1943	None	Vacant
1884	409 Bush St.	One-story building adjacent to building at 407 Bush, and vacant space to north, west, and east; building is vacant
1891	None	Removal of building; vacant space to the side (north) of fireman's hall and repair shop at 407 Bush
1895-1943	None	Vacant

AREA 16 (BLOCK 22, LOTS 3-4)

BLOCK 22, LOT 3 (314 [316 {320}], 314 ½, AND 314 ½ 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	314 5th St. W.	Two-story dwelling with one-story rear section and surrounding vacant space
1891	316 5th St. W. (reassigned from 314)	Same
1895	320 5th St. W. (reassigned from 316)	Addition of one-story structure onto rear/side (northeast) of dwelling
1902	Same	Reduction of one-story structure on rear/side (northeast) of dwelling
1910	Same	Addition of two small one-story structures, one each on the front (south) and rear of the dwelling, and addition of small one-story structure off rear (northeast) corner of dwelling
1917	Same	Removal of one-story structure northeast of dwelling
1927-1943	Same	Same
1884	314 ½ 5th St. W.	One-and-a-half-story stable in northwest corner of lot and surrounding vacant space
1891-1895	Same	Same
1902	Same	Addition of one-story structure to east end of stable
1910	None; 314 5th St. W. not designated	Same; stable now labeled as one story and encompasses one-story structure
1917	None	Removal of stable; vacant
1927-1943	None	Vacant
1884	314 ¼ 5th St. W.	One-and-a-half-story stable with two consecutively attached one-story structures behind (north of) dwelling, and surrounding vacant space
1891	Same	Same; structure closest to stable labeled as shed
1895	None; 314 ¼ W. 5 th not designated	Same
1902	None	Removal of stable
1910-1943	None	Removal of two one-story structures; vacant

BLOCK 22, LOT 4 (306 [316 {310}] AND 308 [318 {312}] 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	306 5th St. W.	Dwelling with two-story front (south) section and two consecutive rear one-story sections, small one-story structure behind dwelling, and vacant space surrounding both; dwelling adjacent to dwelling at 308 W. 5 th
1891	Same	Same
1895	316 5th St. W. (reassigned from 306)	Removal of one-story structure behind dwelling
1902-1910	Same	Same
1917	310 5th St. W. (reassigned from 316)	Same
1927	Same	Addition of east half of small one-story structure onto front of dwelling
1943	Same	Same
1884	308 5th St. W.	Dwelling with two-story front (south) section and two consecutive rear one-story sections, and surrounding vacant space; dwelling adjacent to dwelling at 306 W. 5 th
1891	Same	Same
1895	318 5th St. W. (reassigned from 308)	Same
1902-1910	Same	Same
1917	312 5th St. W. (reassigned from 318)	Same
1927	Same	Addition of west half of small one-story structure onto front of dwelling
1943	Same	Same

AREA 17 (BLOCK 11, LOTS 6-9)

BLOCK 11, LOT 6 (301-303 5TH ST. W.)

Sanborn Map	Property Address	Notes on Land Use
1884	301-303 5th St. W.	Building with one-story section on east and two consecutive two-story sections on west; one-story section houses grocery store and saloon, two-story section a dwelling
1891	Same	Addition of second story to east section; addition of one-story structure to western sections
1895	Same	Same
1902	Same	Same; grocery store replaced by barber shop
1910	Same	Same; barber shop gone, saloon takes over space
1917	Same	Same
1927	Same	Same; saloon now a store
1943	Same	Same

BLOCK 11, LOT 7 (309 [311] 5TH STREET W. AND 308 PLUM STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	309 5th St. W.	Rear (south) one-story section of dwelling (309), smokehouse, east end of one- to two-story stable, and vacant space surrounding all
1891	Same	Removal of dwelling; addition of north end of two-story building used as saloon; addition of one-story shed north of smokehouse; addition of one-story stable behind (south of) saloon
1895	Same	Addition of small, one-story structure north of shed
1902	Same	Addition of small, one-story structure on rear (south) of saloon
1910	Same	Replacement of building with new two-story building, north portion houses saloon, north edge in relevant portion of lot; removal of stables
1917	Same	Same
1927	311 5th St. W. (reassigned from 309) and 308 Plum	Removal of smokehouse, shed, and one-story structure to north; addition of rear (west) of 25-car garage (308 Plum); saloon replaced by hotel
1943	Same	Same

BLOCK 11, LOT 8 (315 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	315 5th St. W.	East portion of N. Lovegren wagon shop complex, including two-story front (north) portion, two separate one-story sections on rear, and east edge of two-story side (west) section; north portion houses blacksmith on 1 st floor and machine shop on 2 nd , west one-story section not in use and east houses an office, west section has wagon work on 1 st floor and stock storage on 2 nd
1891	Same	Addition of board awning to front (north) of north portion; west section identified in Lot 9 as 319 W. 5th
1895	Same	Same
1902	Same	Removal of north and rear portions of wagon complex; west section functions as general storage
1910	None	Removal of west portion of wagon complex; vacant
1917-1943	None	Vacant

BLOCK 11, LOT 9 (319 5TH STREET W. AND 513 ½ BUSH STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	None	West portion of N. Lovegren wagon shop complex, consisting of side (west) majority of two-story section, and vacant space to rear; section houses wagon work on 1 st floor and stock storage on 2 nd , associated with 315 W. 5 th (Lot 8)
1891	319 5th St. W.; assigned to west portion of wagon complex	Same
1895	Same	Same
1902	Same	Same; west one-story section has become standalone general storage building
1910	None	Removal of building; addition of one-story shed and adjacent one-story structure
1917	None	Same
1927	None	Same; shed now labeled as a garage
1943	None	Removal of garage and adjacent structure; vacant
1884	513 ½ Bush St.	Small, one-and-a-half-story building and surrounding vacant space behind dwelling (513) in Lot 10
1891	Same	Same; building identified as wood shed
1895	None; 513 ½ Bush not designated	Removal of wood shed; addition of two-story stable
1902	None	Addition of small, one-story structure on side (west) of stable

1910	513 ½ Bush St.	Same
1917	None	Same; stable now labeled “fuel” and structure on west as a garage
1927	None	Same
1943	None	Removal of former stable and structure; addition of south end of new one-story garage

AREA 18 (BLOCK 26, LOT 10)

BLOCK 26, LOT 10 (301 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	301 3rd St. W.	North two-story portion of Lyons Hotel and vacant space to rear (east)
1891	Same	Same
1895	Same	Same; north portion of former hotel vacant
1902	Same	Same; front (west) portion of 301 W. 3 rd houses cobbler shop on north and tailor shop on south, rear portion is a dwelling
1910	Same	Same; dwelling not present, cobbler and tailor shops extend to rear (east) of building
1917	Same	Same; tailor shop replaced by auto tire shop
1927	Same	Removal of building; vacant
1943	Same	Addition of one-story filling station and associated gas tanks

AREA 19 (BLOCK 26, LOTS 6-9)

BLOCK 26, LOT 6 (304 AND 312 [314] POTTER STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	304 Potter St.	One- to two-story dwelling and surrounding vacant space
1891	Same	Addition of one-story section onto side (south) of rear (west) section of dwelling
1895-1917	Same	Same
1927	Same	Addition of east half of one-story tile garage off southwest of dwelling
1943	Same	Same
1884	None	One-story shed and surrounding vacant space
1891	None	Same
1895	None	Addition of one-story structure onto west side of shed
1902-1910	None	Same
1917	312 Potter St.	Removal of shed and structure; addition of one-story dwelling
1927	314 Potter St. (reassigned from 312)	Same
1943	Same	Same

BLOCK 26, LOT 7 (304 ½ POTTER STREET [203 ½ 3RD STREET W.] AND 209 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	304 ½ Potter St.	Two-story stable, attached one-story structure, detached one-story shed, and surrounding vacant space
1891	Same	Addition of one-story shed north of stable
1895	None; 304 ½ Potter not designated	Replacement of detached eastern one-story shed with two consecutively attached one-story structures; addition of one-story structure on west side of stable
1902	None	Removal of shed north of stable
1910	203 ½ 3rd St. W.	Removal of one-story structure adjacent to east side of stable
1917	None	Removal of all stable and associated structures; addition of one-story garage
1927	None	Addition of west half of one-story garage, associated with 304 Potter St. (Lot 6) and of one-story concrete garage, associated with 314 Potter St. (Lot 6)

1943	None	Same
1884-1910	None	Vacant
1917	209 3rd St. W.	Addition of one-and-a-half-story dwelling
1927-1943	Same	Same

BLOCK 26, LOT 8 (213 3RD STREET W. AND 313 ½ [315 ½] PLUM STREET [213 ½ 3RD STREET W.])

Sanborn Map	Property Address	Notes on Land Use
1884	None	One- to one-and-a-half-story dwelling and surrounding vacant space, platform associated with building in Lot 9 to west
1891	213 3rd St. W.	Removal of platform; addition of wagon stock storage yard and adjacent eastern edge of small one-story structure off southwest corner of dwelling
1895	Same	Same
1902	Same	Same; wagon stock storage yard labeled more generally as a lumber yard
1910	Same	Removal of lumber yard and adjacent one-story structure
1917-1943	Same	Same
1884	313 ½ Plum St.	Two-story stable with one-story attached structure and surrounding vacant space
1891	Same	Addition of very small structure to north of stable; addition of wagon stock storage yard and adjacent eastern edge of small one-story structure off northwest corner of stable
1895	Same	Same
1902	315 ½ Plum St. (reassigned from 313 ½)	Same; wagon stock storage yard labeled more generally as a lumber yard
1910	213 ½ 3rd St. W. (reassigned from 315 ½ Plum)	Removal of very small structure north of stable, lumber yard, and adjacent one-story structure
1917	None; 213 ½ W. 3 rd not designated	Same
1927	None	Removal of stable complex; addition of one-story garage
1943	None	Removal of garage

BLOCK 26, LOT 9 (305, 305-307 [307], AND 309- 313 PLUM STREET, 217-219 [219-221 {217-219}] 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	305 Plum St.	Vacant space behind (east of) south edge of National Hotel building
1891	Same	Addition of northwest portion of one-story structure at east edge of lot; hotel now vacant
1895	Same	Addition of north half of one-story structure on west end of previous one-story structure; building in front (west) of relevant portion of lot removed
1902	Same	Same
1910	None	Removal of eastern one-story structure
1917	305-307 Plum St.	Removal of remaining one-story structure; new building in front (west) of relevant portion of lot is a creamery
1927	Same	Same
1943	307 Plum St. (reassigned from 305-307)	Same; building now a store and four-car garage
1884	309-313 Plum St.	North half of one-story structure on rear (east) of north portion (309) of building, fire escape, and vacant space behind both; one-story structure behind central portion (311) of building and attached to side (north) of rear section of south portion (313) of building, as well as vacant space behind it; north and central portions house saloon(s); south portion houses agricultural implements warehouse
1891	Same	Addition of southwest portion of one-story structure at east edge of lot behind 309; saloon(s) replaced by printing shop (309) and a vacancy (311)
1895	Same	Removal of one-story structure behind central portion of building; addition of south half of one-story structure on west end of structure at east edge of lot; 311 now houses storage
1902	Same	Same; printing shop replaced by cigar factory; storage replaced by bicycle repair shop
1910	Same	Removal of fire escape; removal of eastern one-story structure; bicycle repair shop replaced by tea and coffee shop; agricultural implements warehouse replaced by pipe fitting operation

1917	Same	Removal of western one-story structure; removal of one-story structure from rear (east) of north portion (309); addition of one-story, iron-clad structure on north side of rear (east) portion of central section (311); addition of one-story iron-clad section on back end of central section and adjacent one-story structure on its east; addition of one-story structure bridging iron-clad section and back end of 313, as well as fire escape on east end of this structure; cigar factory replaced by boots and shoes repair shop; tea and coffee shop replaced by secondhand store; pipe fitting operation now labeled as a plumbing shop
1927	Same	Removal of all previous one-story structures; addition of two-story garage on rear of central portion; boots and shoes repair shop and plumbing shop now labeled generally as stores; secondhand store now an express office
1943	Same	Same
1884	None	Vacant space behind (south of) building, M. Kappel's carriage and wagon shop
1891	217-219 3rd St. W.	Same
1895	219-221 3rd St. W. (reassigned from 217-219)	Same
1902	Same	Same
1910	Same	Same; Kappel not indicated as owner, though building function remains the same
1917	Same	Same; building vacant
1927	Same	Same; building houses wholesale grocery warehouse
1943	217-219 3rd St. W. (reassigned from 219-221)	Same; building now a bottling works

AREA 20 (BLOCK 26, LOTS 1-2)

BLOCK 26, LOT 1 (313 ½-313 ⅓ [315-317] AND 319 PLUM STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	313 ½-313 ⅓ Plum St.	Front (west) of two-story hotel barn (313 ½) and adjoining one-story carriage house (313 ⅓) associated with the Hotel De Batlo, and vacant space south of carriage house
1891	315-317 Plum St. (reassigned from 313 ½-313 ⅓)	Same
1895	Same	Removal of rear (east) portion of carriage house
1902	Same	Addition of one-story structure on side (south) and small one-story structure on rear (east) of former carriage house, now an office; stable labeled as carriage room in front and livery in back; associated hotel now the Hotel Hendel, but vacant
1910	Same	Removal of small one-story structure from rear (east) of office; one-story structure on side (south) of office is labeled as a shed; associated hotel now the Henry Vollmers Hotel
1917	Same	Extension of one-story office section to rear (east) to accommodate one-story stable expansion; addition of one-story stable to east of shed; associated hotel now the Central Hotel
1927	Same	Replacement of front (west) portion of stable complex with front majority of one-story, tile, 30-car garage with office; loss of vacant space to south (see 319 Plum St.)
1943	Same	Same
1884	None	Vacant space between the Hotel De Batlo and associated stable/carriage house
1891-1895	None	Vacant
1902	None	Vacant; hotel now Hotel Hendel (closed and vacant)
1910	None	Vacant; hotel now Henry Vollmers Hotel
1917	None	Vacant; hotel now Central Hotel
1927	319 Plum St.	Addition of front (west) of three-story building, the Miller Hotel
1943	Same	Same

BLOCK 26, LOT 2 (313 ½-313 ⅓ [315-317] AND 319 PLUM STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	313 ½-313 ⅓ Plum St.	Rear (east) of two-story hotel barn (313 ½) and adjoining one-story carriage house (313 ⅓) associated with the Hotel De Batlo, and vacant space to south of carriage house
1891	315-317 Plum St. (reassigned from 313 ½-313 ⅓)	Same
1895	Same	Removal of portion of carriage house in lot
1902	Same	Addition of very small, one-story structure on rear (east) of stable; associated hotel now the Hotel Hendel, but vacant
1910	Same	Same; hotel now Henry Vollmers hotel
1917	Same	Extension of one-story section to rear (east) to accommodate one-story stable expansion; associated hotel now the Central Hotel
1927	Same	Replacement of rear (east) portion of stable complex with rear minority of one-story, tile, 30-car garage with office; loss of vacant space to south (see 319 Plum St.)
1943	Same	Same
1884	None	Small one-story structure between the back (east) of the Hotel De Batlo and associated stable/carriage house and surrounding vacant space
1891-1895	None	Same
1902	None	Addition of two one-story structures, one each to the west and northeast of existing structure
1910	None	Removal of original one-story structure; addition of small one-story structure south of northeast structure
1917	None	Removal of all structures; vacant
1927	319 Plum St.	Addition of rear (east) of three-story building and attached one-story structure; building is the Miller Hotel
1943	Same	Same

AREA 21 (BLOCK 26, LOTS 4-5)

BLOCK 26, LOT 4 (210 [210B {208-210}], 210 ½, AND 210 ⅓ 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	210 4th St. W.	Two-story dwelling with one-story rear (north) section and surrounding vacant space
1891-1895	Same	Same
1902	Same	Same; dwelling now labeled as boarding house
1910	210B 4th St. W. (reassigned from 210)	Expansion of two-story portion to north and addition of one-story structure on south and east; boarding house now labeled as a dwelling
1917	Same	Addition of two very small one-story structures, one each on rear (north) and side (east) of dwelling
1927	208-210 4th St. W.	Same; dwelling divided into duplex
1943	Same	Same
1884	210 ½ 4th St. W.	One-and-a-half-story stable and adjacent one-story structure
1891	Same	Addition of very small structure to south of one-story structure
1895-1902	Same	Same
1910	210C 4th St. W.	Removal of stable complex; addition of one-story stable in northeast corner of lot; addition of one-story structure south of 210C and 210D W. 4 th
1917	None; 210C not designated	Addition of one-story structure on south of stable; stable now labeled as one-and-a-half stories
1927	210 ½ 4th St. W. (reassigned from 210C)	Same; stable converted to garage
1943	Same	Same
1884	210 ⅓ 4th St. W.	One-and-a-half-story stable and adjacent one-story shed
1891	Same	Addition of second shed on east of first shed
1895-1902	Same	Same
1910	210D 4th St. W. (reassigned from 210 ⅓)	Removal of sheds; addition of one-story structure south of 210C and 210D W. 4 th
1917	None; 210D not designated	Same
1927	210 ⅓ 4th St. W. (reassigned from 210D)	Same; stable converted to garage
1943	Same	Same

BLOCK 26, LOT 5 (204 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	204 4th St. W.	One-story dwelling, small one-story structure just off rear (northwest) corner of dwelling, small one-story structure behind both in northwest corner of Lot, and vacant space surrounding all
1891-1910	Same	Same
1917	Same	Addition of small, one-story structure on south of structure in northwest corner
1927	Same	Removal of all small structures
1943	Same	Same

AREA 22 (BLOCK 23, LOTS 1-10)

BLOCK 23, LOT 1 (415 AND 417 PLUM STREET, 228 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	415 Plum St.	One-story building, front (west) of adjacent one-and-a-half-story stable to rear, and minimal vacant space to rear; building is used as agricultural implements warehouse
1891	Same	Replacement of front end of stable with front end of smaller shed
1895	Same	Removal of shed; warehouse now a blacksmith shop and fence factory
1902	Same	Extension of rear (east) end of building, now a feed mill and hay feed store
1910-1917	Same	Same
1927	None	Removal of building; addition of north end of one-story oil and grease warehouse and gas tanks to west
1943	Same	Same
1884	None	One-story structure adjacent to side (south) of building at 415 Plum, one-and-a-half-story stable east-southeast of structure, and surrounding vacant space
1891	417 Plum St.	Removal of one-story structure; addition of two-story stable operated by the Conlin Bros.
1895	Same	Addition of one-story structure adjacent to south side of one-and-a-half-story stable
1902	Same	Same; stable converted to a hay and feed store in the front (west), stable in the back
1910	Same	Removal of one-and-a-half-story stable and one-story structure; addition of long, narrow one-story structure to rear (east) of two-story building
1917	Same	Replacement or reconfiguration of building, now labeled as one-and-a-half stories; if reconfigured, addition of one-and-a-half-story section on rear (east)
1927	Same	Removal of all previous buildings and structures; addition of south end of one-story oil and grease warehouse, adjacent one-story structure to the west, and one-story filling station west of structure
1943	Same	Removal of filling station
1884	228 5th St. W.	Back (north) end of one-story section of dwelling and surrounding vacant space

1891	Same	Addition of very small, one-story structure to side (east) of back (north) end of dwelling; addition of shed north of structure
1895	Same	Removal of shed
1902	Same	Removal of dwelling; vacant space to rear (north) of grocery store beyond relevant portion of lot
1910	Same	Addition of small, two-story structure on rear (north) of grocery store
1917	Same	Removal of two-story structure; addition of two-story structure east of former
1927	Same	Addition of gas tanks behind (east of) grocery store
1943	Same	Same

BLOCK 23, LOT 2 (220 AND 222 [224] 5TH STREET W., 415 AND 415 ½ PLUM STREET

Sanborn Map	Property Address	Notes on Land Use
1884	222 5th St. W.	One-and-a-half-story dwelling and surrounding vacant space
1891	224 5th St. W. (reassigned from 222)	Addition of one-story section on rear (north) of dwelling and very small structure behind dwelling
1895	Same	Same
1902	Same	Removal of one-story section from rear of dwelling
1910	Same	Removal of very small structure
1917	Same	Portion of dwelling converted to garage
1927	Same	Same
1943	Same	Addition of one-story garage behind (north of) dwelling in northwest corner of lot
1884	None	Vacant space
1891	220 5th St. W.	Addition of side (west) majority of two-story dwelling
1895	Same	Addition of small, one-story structure behind (north of) dwelling in northeast corner of lot
1902	Same	Removal of structure
1910	Same	Same
1917	Same	Lot line shifted to fully encompass dwelling; addition of two adjacent one-story structures behind (north of) dwelling
1927	Same	Expansion of dwelling to rear (north) to encompass one-story structures
1943	Same	Same
1884	415 ½ Plum St.	East end of one-and-a-half-story stable, two consecutively attached small one-story structures, and surrounding vacant space

1891	Same	Replacement of stable and structures with east end of small shed and adjacent lumber shed
1895	Same	Removal of small shed
1902	415 Plum St.	Removal of lumber shed; expansion of rear (east) of one-story building at 415 Plum (Lot 1) into Lot 2; building houses a feed mill and a hay and feed store
1910-1917	Same	Same
1927	None	Removal of building; vacant
1943	None	Vacant

BLOCK 23, LOT 3 (214 [216], 214 ½ [216 ½], AND 214 ⅓ [216 ⅓] 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	214 5th St. W.	One-and-a-half-story dwelling and surrounding vacant space
1891	Same	Addition of one-story structure to rear (north) of dwelling
1895-1902	Same	Same
1910	216 5th St. W. (reassigned from 214)	Same
1917	Same	Addition of one-story structure on front (south) of dwelling
1927-1943	Same	Same
1884	214 ½ 5th St. W.	One- to one-and-a-half story stable and surrounding vacant space
1891	Same	Same
1895	Same	Addition of one-story stable to east
1902	Same	Same
1910-1917	None; 214 ½ not designated	Same
1927	216 ½ 5th St. W.	Same; east stable converted to garage
1943	Same	Stable and garage replaced by single concrete-block, one-and-a-half-story stable
1884	214 ⅓ 5th St. W.	One-story stable and surrounding vacant space
1891	None	Removal of stable; vacant
1895-1917	None	Vacant
1927	216 ⅓ 5th St. W.	Addition of one-story, concrete-block auto garage
1943	Same	Same

BLOCK 23, LOT 4 (210, 210 ½, AND 210 ½ [210 ⅓] 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	210 5th St. W.	One-story dwelling, three consecutively adjacent small, one-story structures behind (north of) dwelling, and surrounding vacant space
1891	Same	Addition of small, one-story section on rear (north) of dwelling; addition of shed adjacent to rear of new section; removal of three one-story structures
1895-1917	Same	Same
1927	210 and 210 ½ W 5 th St.	Shed (210 ½) converted to garage
1943	Same	Same
1884	210 ½ 5th St. W.	One-and-a-half-story stable and surrounding vacant space
1891	Same	Same
1895	Same	Addition of one-story structure to south end of stable
1902	Same	Same
1910	None; 210 ½ not designated	Removal of one-story structure
1917	None	Same
1927	210 ⅓ 5th St. W.	Stable converted to garage
1943	Same	Same

BLOCK 23, LOT 4 (202 AND 202 ⅓ 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	202 5th St. W.	One-and-a-half-story dwelling and surrounding vacant space
1891	Same	Expansion of rear (north) section of dwelling to east
1895-1943	Same	Same
1884	202 ⅓ 5th St. W.	Two-story vacant building (202 ⅓) one-story structure and attached one-story shed to rear (west) and surrounding vacant space
1891	None	Removal of building
1895	None	Removal of previous structures; addition of one-story stable and adjacent one-story structure
1902	None	Same
1910	None	Removal of previous structures; addition of small, one-story structure
1917	None	Removal of one-story structure; addition of one-and-a-half-story structure and attached one-story structure
1927-1943	None	Same; structure labeled as a garage

BLOCK 23, LOT 6 (201 AND 205 4TH STREET W., 408 POTTER STREET)

Sanborn Map	Property Address	Notes on Land Use
1884-1902	None	Vacant
1910	None	Addition of east half of two-story stable and one-story corn crib to the north
1917	210 4th St. W.	Addition of one-story wagon shed to north of corn crib; lot owned by Kroeger-Bach Lumber Co.
1927	Same	Same; lot owned by Robson & Tubbesing Coal & Ice Co.
1943	408 Potter St.	Removal of all previous structures; addition of small, one-story dwelling
1884-1902	None	Vacant
1910	None	Addition of west half of two-story stable, adjacent one-story stable, and one-story shed to north
1917	205 4th St. W.	Removal of shed; addition of one-story section on rear (north) of one-story stable, houses wood stock and blacksmith and wagon shop; lot owned by Kroeger-Bach Lumber Co.
1927	Same	Same; lot owned by Robson & Tubbesing Coal & Ice Co.; former blacksmith/wagon building used for tools and garage; former stable now feed storage
1943	Same	Removal of all previous structures; addition of one-story filling station and gas tanks

BLOCK 23, LOT 7 (410 ¼ PLUM STREET, 209 AND 211 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	410 ¼ Plum St.	One-and-a-half-story stable and surrounding vacant space; stable is set back, unclear to which street the address designation refers
1891	Same	Same
1895	None	Vacant
1902	211 4th St. W.	Addition of one-story building with attached one-story structure; building houses carpenter shop
1910	Same	Removal of one-story structure; addition of east half of one-story structure onto side (west) of building, now an office; addition of one-story shed behind (south) of building
1917	Same	Removal of one-story structure from side (west) of building; shed identified as lumber shed; lot owned by Kroeger-Bach Lumber Co.
1927	Same	Removal of lumber shed
1943	Same	Same; office now labeled as a store
1884-1917	None	Vacant

1927	None	Addition of one-story structure
1943	209 4th St. W.	Addition of one-story concrete block building, identified as a store

BLOCK 23, LOT 8 (401 1/5 [219 {217} 4TH STREET W.] AND 401 1/5 PLUM STREET, 217 1/2 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	401 1/5 Plum St.	Dwelling with two-story front (north) section, one-story central and rear sections, and one-story structure to side (west) of central section, and surrounding vacant space
1891	219 4th St. W. (reassigned from 401 1/5 Plum)	Same
1895	Same	Removal of one-story rear section; addition of two adjacent one-story sections to side (east) of former central (now rear) section; addition of small one-story structure behind dwelling; addition of one-and-a-half story stable behind one-story structure
1902	217 4th St. W. (reassigned from 219)	Addition of one-story structure to front (north) of dwelling; removal of small one-story structure; addition of one-story structure on south of stable (no longer coded as such)
1910	217 and 217 1/2 4th St. W.	Replacement of stable and one-story structure with one-story stable (217 1/2)
1917	217 4th St. W.	Removal of all previous structures; addition of eastern two-thirds of one-story lumber warehouse owned by Kroeger-Bach Lumber Co.
1927	Same	Same; warehouse now Goodhue County repair shop, building labeled as brick and tile construction
1943	Same	Addition of one-story garage behind (south of) repair shop
1884	401 1/5 Plum Street	One-story building (possibly former dwelling) and surrounding vacant space; building is vacant
1891	None	Removal of building; vacant
1895-1943	None	Vacant

BLOCK 23, LOT 9 (401 ½ PLUM STREET [223 4TH STREET W.]

Sanborn Map	Property Address	Notes on Land Use
1884	401 ½ Plum St.	Vacant space to the rear (south) and side (east) of J. A. Anderberg's livery
1891	223 4th St. W.	Addition of very small structure behind (south of) livery; livery replaced by Hendle Bros. wagon shop on the 1 st floor and G. W. Hawkins painting shop on the 2 nd
1895	Same	Same
1902	Same	Replacement of very small structure with larger one-story structure; addition of one-story shed on rear (south) of former livery; former livery now houses wagon and painting operations in north half and Standard Oil Co. barn in southern half
1910	Same	Removal of structure and shed; adjacent building again labeled as livery
1917	Same	Addition of two one-story garages to the rear (south) of livery
1927	Same	Removal of one garage; addition of back (south) end of one-story, concrete-block building, which replaced livery, houses auto sales and repair shop
1943	Same	Removal of second garage

BLOCK 23, LOT 10 (409-411 AND 409 PLUM STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	409-411 Plum St.	Southern two-thirds of two-story building (407-411 Plum) and vacant space to rear (east); building occupied by A. Newstrom's carriage and wagon shop; 409-411 portion houses stock room, wagon materials, blacksmith shop, and woodworking shop
1891	Same	Same
1895	Same	Addition of one-story structure to rear (east) of building; building noted to be iron clad
1902	Same	Expansion of one-story structure to south; owner now William Remshardt
1910	Same	Reduction of rear (east) end of building, now labeled only as blacksmith shop
1917	Same	Same; building houses blacksmith shop (409) and horseshoeing operation (411)
1927	409 Plum St.	Removal of building and structure; addition of one-story tile building (409); addition of one-story coal shed to the side (south) of the rear (east) end of building; building houses a blacksmith shop
1943	Same	Same

BLOCK 24, LOT 1 (415 [417 {415}] AND 419 POTTER STREET, 128, AND 128 ½ [126] 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	415 Potter St.	One-and-a-half-story dwelling with one-story rear (east) section and surrounding vacant space
1891	Same	Dwelling removed; vacant
1895-1902	Same	Same
1910	417 Potter St. (reassigned from 415)	Two-story dwelling with one-story rear (east) section and one-story structure on front, and surrounding vacant space
1917	Same	Same
1927	415 Potter St. (reassigned from 417)	Same
1943	Same	Same
1884	419 Potter St.	One-and-a-half-story dwelling with one-story rear (east) section, one-story structure behind dwelling, and surrounding vacant space
1891	Same	Removal of dwelling; addition of two-story dwelling with one-story section on rear (east); removal of one-story structure; addition of elongated one-story structure behind dwelling
1895-1910	Same	Same
1917	Same	Basement indicated on dwelling; one-story section added onto side (south) of one-story structure
1927	Same	Addition of one-story garage to side (north) of one-story structure
1943	Same	Same
1884	128 5 th St. W.	Two-story dwelling with one-and-a-half-story side (east) section and surrounding vacant space
1891	Same	Same
1895	Same	Use of dwelling as Swedish Baptist Church
1902	Same	Same
1910	Same	Removal of church building; addition of larger, one-story church building
1917-1943	Same	Same
1884	128 ½ 5 th St. W.	West half of one-story shed
1891	None	Removal of shed; vacant
1895-1902	None	Vacant
1910	126 5 th St. W.	Addition of edge (west) of two-story dwelling with one-story front (south) structure
1917-1943	Same	Same

BLOCK 24, LOT 2 (118 ¼, 118 ⅓ [122 ½], 122, AND 128 ⅓ [124 {126}] 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	118 ¼ 5 th St. W.	One-and-a-half-story stable with one-story structure on side (south) and surrounding vacant space
1891	Same	Addition of two adjacent (north and south), small, one-story structures on rear (east) of stable; connects 118 ¼ with 118 ⅓
1895-1902	Same	Same
1910	None	Stable converted to shed; removal of south adjacent structure; north adjacent structure labeled as shed
1917	None	Former stable is now a gas station
1927	None	Removal of gas station; addition of one-story garage
1943	Same	Same
1884	118 ⅓ 5 th St. W.	Two-story building and surrounding vacant space; building houses carpenter shop
1891	Same	Building labeled "shop"; addition of two adjacent (north and south), small, one-story structures on side (west) of building; connects 118 ⅓ with 118 ¼
1895-1902	Same	Same
1910	None	Removal of south adjacent structure; north adjacent structure labeled as shed
1917	122 ½ 5 th St. W.	Building labeled "motorcycle"
1927	None	Motorcycle shop and adjacent structure are now garages
1943	None	Removal of shop and adjacent structure; addition of one-story garage
1884	None	Vacant
1891	122 5 th St. W.	Addition of two-story dwelling with one-and-a-half-story rear (north) section, very small, one-story side (west) section, and one-story structure on front; addition of one-story shed behind (north of) dwelling
1895-1902	Same	Same
1910	Same	Removal of shed
1917	Same	Addition of very small, one-story section onto side (east) of dwelling
1927	Same	Addition of story onto east section
1943	Same	Dwelling has been converted to apartments
1884	128 ⅓ 5 th St. W.	East half of one-story shed and surrounding vacant space
1891	124 5 th St. W. (reassigned from 128 ⅓)	Removal of shed; addition of smaller one-story shed; addition of very small structure behind (north) of shed

1895	None	Removal of shed
1902	None	Same
1910	126 5 th St. W.	Removal of very small structure; addition of majority (east) of two-story dwelling with one-story structure on front (south)
1917	Same	Addition of very small, one-story section on rear (north) of dwelling
1927-1943	Same	Same

BLOCK 24, LOT 9 (117 ½ [121 ½] AND 121-123 [121] 4TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	117 ½ 4 th St. W.	One-and-a-half-story stable, attached (west) one-story shed, attached (north) very small structure, and surrounding vacant space
1891	None	Removal of shed; addition of two adjacent (east-west) one-story small structures to stable; very small structure on north indicated as one story
1895	None	Same
1902	121 ½ 4 th St. W.	Removal of adjacent (west) one-story small structure; stable and adjacent (east) one-story small structure now used as carpenter shop; addition of one-story structure west of carpenter shop
1910	None	Removal of very small structure on north of carpenter shop
1917	None	Carpenter shop now a gas station
1927	None	Addition of small, one-story structure north of gas station; removal of one-story structure west of gas station; addition of one-story garage west of gas station; gas station building now vacant
1943	None	Removal of all buildings and structures except garage
1884	121-123 4 th St. W.	One-and-a-half-story dwelling with one-story rear (west) section, adjacent (west) one-story structure, and surrounding vacant space
1891	Same	Removal of one-story structure; addition of one-story structure south of central section
1895	121 4 th St. W. (reassigned from 121-123)	Same
1902	Same	Removal of one-story structure
1910	Same	Addition of small, one-story section on rear (south) of one-and-a-half-story portion of dwelling
1917-1943	Same	Same

BLOCK 24, LOT 10 (127 4TH STREET W., 411 [413] AND 411 ½ POTTER STREET

Sanborn Map	Property Address	Notes on Land Use
1884	127 4 th St. W.	One-story dwelling with one-and-a-half-story rear (south) section and structure on front and surrounding vacant space
1891	Same	Same
1895	Same	Addition of one-story structure onto side (west) of rear section
1902	Same	Addition of small structure onto side (east) of rear section
1910	Same	Removal of small structure from side (east) of rear section
1917	Same	Addition of one-story structure onto side (east) of rear section
1927-1943	Same	Same
1884	411 Potter St.	Two-story building, adjacent (north) one-story shed, surrounding vacant space; building houses dressmaker shop
1891	413 Potter St. (reassigned from 411)	Removal of one-story shed; addition of one-story section onto rear of building; building is now a dwelling
1895-1902	Same	Same
1910	Same	Removal of dwelling or expansion of dwelling to north
1917-1943	Same	Same
1884	411 ½ Potter St.	One-and-a-half-story shed, adjacent (north) one-story structure, one-story structure behind (north of) one-story structure, and surrounding vacant space
1891-1895	Same	Same
1902	413 ½ Potter St. (reassigned from 411 ½)	Removal of both one-story structures; addition of larger one-story structure on rear (north) of stable and one-story structure on side (west) of stable
1910	None	Same
1917	None	Addition of one-story garage north of north structure
1927	None	Removal of shed, adjacent structure on north, and adjacent structure on west; addition of one-story garage
1943	Same	Same

AREA 23 (BLOCK 10, LOTS 7-9)

BLOCK 10, LOT 7 (209 ½ 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	209 ½ 5th St. W.	Two-story stable and surrounding vacant space behind a dwelling
1891-1943	Same	Same

BLOCK 10, LOT 8 (215 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	215 5th St. W.	Two-story dwelling with rear (south) one-story section (215), small one-story structure behind dwelling, near southeast corner of lot, and surrounding vacant space
1891	Same	Addition of two very small structures, one to the northeast and one to the west-northwest of the one-story structure
1895	Same	Addition of very small structure to front (north) of dwelling
1902	Same	Addition of one-story structure to rear (south) of two-story section of dwelling
1910	Same	Removal of very small structures northeast and west-northwest of one-story structure near southeast corner; replacement of one-story structure near southeast corner with one-story structure in southeast corner
1917	Same	Same
1927	Same	Removal of very small structure from front (north) of dwelling; addition of small two-story structure on side (west) of dwelling; addition of one-story garage behind dwelling, in southwest corner of lot
1943	Same	Same

BLOCK 10, LOT 9 (221 [219-221] 5TH STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	221 5th St. W.	Boarding house with two-story main section, two-story side (east) section, off the back (south) of which are a consecutive one-and-a-half-story section and one-story section, and surrounding vacant space
1891	Same	Addition of structure on front (north) of two-story side section; boarding house now the Sundry Hotel
1895	Same	Same

1902	Same	Removal of front portion of main section; hotel now a dwelling
1910	Same	Addition of one-story structure on front (north) of main section; addition of one-story section on rear of main section; addition of one-story section on side (east) of side section; addition of one-story structure to side (east) of one-and-a-half-story section
1917	219-221 5th St. W. (reassigned from 221)	Dwelling now a duplex; addition of two small one-story structures to side (west) of consecutive one-and-a-half and one-story sections; addition of fire escape to side (east) of one-and-a-half-story section
1927	Same	Consolidation of one-story structures on side (west) of consecutive one-and-a-half and one-story sections; expansion of one-story section on rear (south) of main section
1943	Same	Same

AREA 25 (BLOCK 25, LOTS 6-10)

BLOCK 25, LOT 6 (101, 101 1/3 [308 W. BLUFF ST.], AND 107 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	101 3rd St. W.	Two-story stable with one-story rear (south) section and surrounding vacant space
1891	Same	Removal of one-story section
1895-1917	Same	Same
1927	101 3rd St. W./300 Bluff St.	Same
1943	Same	Removal of stable
1884	101 1/3 W. Bluff St.	One-story dwelling with front (east), central, and west sections, and surrounding vacant space
1891	Same	Expansion of rear (west) section of dwelling to south
1895	308 Bluff St.	Removal of front (east) section of dwelling
1902	Same	Addition of small, one-story structure and very small structure behind (west of) dwelling
1910	Same	Replacement of two structures behind (west of) dwelling with single one-story structure; addition of one-story structure on front of dwelling
1917	Same	Same
1927	Same	Removal of one-story structure behind (west of) dwelling; addition of one-story garage behind dwelling, one-story structure off rear (southwest) corner of dwelling, and one-story structure to side (north) of dwelling
1943	None	Removal of dwelling and all previous structures
1884	107 3rd St. W.	One-story dwelling and surrounding vacant space; dwelling is vacant
1891	None	Removal of dwelling; vacant
1895-1917	None	Vacant
1927	None	Addition of one-story wagon shed
1943	None	Removal of wagon shed; vacant

BLOCK 25, LOT 7 (109 1/2 AND 109 1/3 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Two adjacent one-story structures and surrounding vacant space behind (south of) dwelling
1891	None	Addition of one-story structure east of other two
1895-1902	None	Same
1910	None	Removal of all structures; vacant

1917	None	Vacant
1927	109 ½ 3rd St. W.	Addition of one-story garage
1943	Same	Same
1884	None	Two separated one-story sheds and surrounding vacant space behind (south of) dwelling
1891	None	Removal of sheds; vacant
1895	None	Vacant
1902	None	Addition of small, one-story structure
1910	None	Removal of structure; addition of south end of one-story structure
1917	None	Same
1927	109 ⅓ 3rd St. W.	Addition of one-story garage
1943	Same	Same

BLOCK 25, LOT 8 (115 ½ [115 ⅓] AND 115 ½ 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	115 ½ 3rd St. W.	One-story stable and surrounding vacant space behind (south of) dwelling and cigar factory
1891	Same	Replacement of one-story stable with one-and-a-half-story stable with adjacent one-story structure (115 ½); addition of very small structure north of stable; cigar factory now grocery store
1895-1902	Same	Same
1910	None; 115 ½ not designated	Removal of very small structure; addition of one-story structure to west end of one-story structure attached to stable
1917	None	Removal of western one-story structure
1927	115 ⅓ 3rd St. W.	Removal of one-story structure; stable converted to garage
1943	Same	Same
1884-1917	None	Vacant
1927	115 ½ 3rd St. W.	Addition of one-story garage
1943	Same	Same

BLOCK 25, LOT 9 (117 ½ AND 119 3RD STREET W., 307 [309] POTTER ST.)

Sanborn Map	Property Address	Notes on Land Use
1884	117 ½ 3rd St. W.	One-and-a-half- to two-story stable and surrounding vacant space
1891-1902	Same	Same
1910	None; 117 ½ not designated	Same

1917	None	Same
1927	None	Same; stable converted to garage
1943	None	Removal of garage
1884	None	One-story dwelling and surrounding vacant space
1891	None	Same
1895	119 3rd St. W.	Same
1902-1910	Same	Same
1917	Same	Replacement or expansion of dwelling, now one-and-a-half to two stories with one-story structure on front (north) of one-and-a-half-story section; addition of very small structure behind one-and-a-half-story section
1927	Same	Removal of very small one-story structure; addition of one-story garage behind (south of) dwelling
1943	Same	Same
1884	307 Potter St.	Rear (east) one-story section of dwelling, one-story shed behind dwelling, and surrounding vacant space
1891	Same	Addition of small one-story section on rear (east) of dwelling; addition of very small structure northeast of shed
1895	309 Potter St. (reassigned from 307)	Same
1902-1917	Same	Same
1927	Same	Removal of very small structure northeast of shed
1943	Same	Same

BLOCK 25, LOT 10 (307 [309] POTTER STREET)

Sanborn Map	Property Address	Notes on Land Use
1884-1891	307 Potter St.	Front (west) majority of dwelling and surrounding vacant space; Lot 10 portion of dwelling includes two one-and-a-half-story front sections, the north one of which has a structure on the front, and three one-story central sections
1895	309 Potter St. (reassigned from 307)	Same
1902-1943	Same	Same

AREA 26 (BLOCK 39, LOTS 1-2)

BLOCK 39, LOT 1 (223 [225 {225A}], 225, AND 227-229 (225-227) PLUM ST.)

Sanborn Map	Property Address	Notes on Land Use
1884	223 Plum St.	One-story building, small, one-story structure behind (east of) building, and surrounding vacant space; building houses a meat shop
1891	225 Plum St. (reassigned from 223)	Same; building is vacant
1895	225A Plum St.	Removal of building; vacant
1902	223 Plum St.	Addition of front (west) majority of four-story building, houses part of wholesale grocery operation also at 225-227 Plum
1910	Same	Same
1917	Same	Same; map now notes basement in the building
1927	Same	Same; property owned by Friedrich & Kempe Co. Inc.
1943	Same	Same
1884	225 Plum St.	Building with one-and-a-half-story front (west) section and two-story rear section, and surrounding vacant space; building houses candy store in front, dwelling in back
1891	227-229 Plum St.	Removal of building; addition of front (west) majority of Frederick Block, a two-story commercial block, houses a grocery warehouse (227) and a grocery (229)
1895	225-227 Plum St. (reassigned from 227-229)	Same
1902	Same	Same; addition of third story to Frederick Block, now labeled as a wholesale grocery
1910	Same	Same
1917	Same	Same; map now notes basement in the building
1927	Same	Same; grocery run by Friedrich & Kempe Co. Inc.
1943	Same	Same

BLOCK 39, LOT 2 (218 [218A] 3RD ST. W., 223 AND 227-229 [225-227] PLUM STREET)

Sanborn Map	Property Address	Notes on Land Use
1884	218 3rd St. W.	One-and-a-half-story building with one-story rear (north) section and surrounding vacant space; building houses a grocery store
1891	Same	Same; grocery store replaced by meat shop
1895	218A 3rd St. W. (reassigned from 218)	Same; meat shop replaced by hand-printing shop

1902	Same	Same; function illegible
1910	Same	Same; houses fruit store
1917	Same	Replacement or alteration of building to serve as warehouse; building labeled as iron clad
1927-1943	Same	Same
1884	None	Vacant
1891	None	Addition of very small structure
1895	None	Removal of very small structure
1902	223 Plum St.	Addition of rear (east) minority of four-story building, houses part of wholesale grocery operation also at 225-227 Plum
1910-1917	Same	Same
1927	Same	Same; grocery run by Friedrich & Kempe Co. Inc.
1943	Same	Same
1884	None	Vacant
1891	227-229 Plum St.	Addition of two-story rear (east) minority of Frederick Block, which houses a grocery warehouse (227) and grocery (229), eliminates vacant space
1895	225-227 Plum St. (reassigned from 227-229)	Same
1902	Same	Same; addition of third story to Frederick Block, now labeled as a wholesale grocery
1910-1917	Same	Same
1927	Same	Same; grocery run by Friedrich & Kempe Co. Inc.
1943	Same	Same

AREA 27 (BLOCK 28, LOTS 7-10; BLOCK 29, LOTS 3-7)

BLOCK 28, LOT 7 (310-314 BUSH STREET, 407 AND 409-411 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	None	One-story structure and surrounding vacant space
1891	310-314 Bush St.	Removal of one-story structure; addition of rear (west) minority of Red Wing Opera House; opera house is two to three stories and iron clad
1895-1902	Same	Same
1910	None	Removal of opera house; vacant space behind (west of) commercial block with clothing store and plumbing operation
1917	None	Same; commercial block has photo and picture frame shop, plumbing operation, and paint and wallpaper shop
1927	None	Same; commercial block labeled as having stores and a hand laundry
1943	None	Same; hand laundry replaced by store
1884	407 3rd St. W.	Vacant space to rear (south) of building housing restaurant and confectionary on 1 st floor and dress maker shop on 2 nd
1891	Same	Same; building vacant
1895	Same	Same; function of building illegible
1902-1910	Same	Same; building houses dry goods store
1917	Same	Same; dry goods store now a grocery store
1927-1943	Same	Same; building labeled generally as a store
1884	409-411 3rd St. W.	Vacant space to rear of building housing printing operation in basement, newsroom on 1 st floor, and dwelling on 2 nd (409), and a grocery on the 1 st floor and dress maker shop and coffee roasting operation on the 2 nd (411)
1891	Same	Same; building houses a confectionary (409) and gunsmith (411)
1895	Same	Same; confectionary replaced by vacancy, gunsmith by sporting goods store
1902	Same	Same; vacancy replaced by restaurant, sporting goods store by cutlery shop and telephone exchange
1910	Same	Same; cutlery shop and telephone exchange replaced by plumbing operation
1917	Same	Same
1927-1943	Same	Same; building labeled as store (409) and office (411)

BLOCK 28, LOT 8 (413 AND 415-417 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	413 3rd St. W.	Vacant space behind (south of) grocery store
1891	Same	Addition of one-story, iron-clad grocery warehouse in southeast corner of lot; grocery store replaced by fruit store
1895	Same	Same
1902	Same	Same; fruit store back to grocery store
1910	Same	Same
1917	Same	Same; grocery warehouse now telephone company supply house
1927	Same	Same; telephone company supply house now a garage; grocery store labeled generally as store
1943	Same	Removal of garage; vacant
1884	415-417 3rd St. W.	Vacant space behind (south of) planned cigar factory (415) and a notions and harness shop (417)
1891	Same	Same; cigar factory operating, notions and harness shop replaced by vacancy
1895	Same	Same; vacancy replaced by candy shop
1902	Same	Same; candy shop replaced by bicycle shop and repair
1910	Same	Same; cigar factory replaced by saloon, bicycle shop replaced by sporting goods store
1917	Same	Same
1927-1943	Same	Same; building labeled generally as store

BLOCK 28, LOT 9 (419, 419 ½, 421, 421 ½, AND 423 [425] 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	419 3rd St. W.	One-story structure and surrounding vacant space to rear (south) of building housing grocery store
1891	Same	Removal of one-story structure; addition of one-story structure and smokehouse
1895	Same	Removal of one-story structure and smokehouse; addition of one-story carriage house and one-story storage building, adjacent to each other
1902	Same	Removal of carriage house and storage building; addition of one-and-a-half-story, iron-clad bakery supply building
1910	419 and 419 ½ 3rd St. W.	Same; grocery store now a bakery; bakery supply building (419 ½) drawn slightly south of previous, now houses an ice cream factory

1917	Same	Same; candy added to bakery; ice cream factory now a warehouse
1927	419 3rd St. W.; 419 ½ not designated	Same; bakery now an office
1943	Same	Removal of warehouse
1884	421 3rd St. W.	One-story building and surrounding vacant space; building houses Chinese laundry
1891	Same	Addition of one-story shed on rear (south) of building; building noted as having basement; Chinese laundry now a dye house
1895	Same	Addition of one-story structure on east side of shed; function of building illegible
1902	Same	Same; building now a plumbing shop
1910	Same	Expansion or removal of previous building and structure; larger building with two-story front (north) section and one-story back section now present, houses a pool hall; addition of one-story, iron-clad building behind first building
1917	421 and 421 ½ 3rd St. W.	Same; iron-clad building now designated 421 ½ and labeled as warehouse; cigar shop added to pool hall
1927	421 3rd St. W.; 421 ½ not designated	Same; pool hall now a Salvation Army facility
1943	421 and 421 ½ 3rd St. W.	Same; Salvation Army facility now a restaurant
1884-1891	421 ½ 3rd St. W.	East half of one-and-a-half-story stable
1895	None; 421 ½ not designated	Same
1902	None	Same
1910	423 3rd St. W.	Vacant space to rear (south) of building; building houses music and jewelry store
1917	Same	Same; building includes drugstore, piano store, and photo shop or gallery
1927	Same	Same; building labeled generally as store
1943	425 3rd St. W. (reassigned from 423)	Same

BLOCK 28, LOT 10 (421 ½, 423 [425], 425 [427], AND 427 [429] 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884-1891	421 ½ 3rd St. W.	Central portion of one-and-a-half-story stable
1895-1902	None; 421 ½ not designated	Same
1910	423 3rd St. W.	Removal of stable; vacant space behind (south) of building housing music and jewelry store
1917	Same	Same; building includes drugstore, piano store, and photo shop or gallery
1927	Same	Same; building labeled generally as store

1943	425 3rd St. W. (reassigned from 423)	Same
1884	421 ½ and 425 3rd St. W.	West end of one-and-a-half-story stable (421 ½) and surrounding vacant space behind dwelling (425)
1891	Same	Addition of one-story structure on west end of stable; dwelling includes a photo shop or gallery
1895	425 3rd St. W.; 421 ½ not designated	Same
1902	Same	Same; photo shop or gallery no longer present in dwelling
1910	Same	Removal of stable and structure; vacant space behind building that replaces dwelling, houses Chinese laundry
1917	Same	Same
1927	Same	Same; former Chinese laundry now labeled generally as store
1943	427 3rd St. W. (reassigned from 425)	Same
1884	None	Small structure in southwest corner of lot and surrounding vacant space
1891	None	Removal of structure; vacant
1895-1902	None	Vacant
1910	427 3rd St. W.	Vacant space behind building housing an office
1917	Same	Same; office is for an optometrist; a garage is now just north of relevant portion of lot
1927-1943	Same	Same; office type not specified

BLOCK 29, LOT 3 (429 [431], 431, AND 431-433 [433-435] 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Small structure in southeast corner of lot and surrounding vacant space
1891	None	Removal of structure; addition of very small structure
1895-1902	Same	Same
1910	None	Removal of very small structure; vacant
1917	None	Vacant
1927	429 3rd St. W.	Vacant space behind office building
1943	431 3rd St. W. (reassigned from 429)	Same
1884-1902	431 3rd St. W.	Vacant space behind (south of) dwelling
1910	431-433 3rd St. W.	Vacant space behind newspaper office building for the Red Wing Republican, which replaces dwelling

1917-1927	Same	Same
1943	433-435 3rd St. W. (reassigned from 431-433)	Same

BLOCK 29, LOT 4 (NO STREET ADDRESS)

Sanborn Map	Property Address	Notes on Land Use
1884	None	Vacant; adjacent properties include a dwelling (Lot 3), a dressmaker shop (Lot 5) and a Baptist church (Lot 7)
1891	None	Vacant; dressmaker shop now a dwelling
1895	None	Vacant
1902	None	Vacant; former dressmaker shop now a Chinese laundry
1910	None	Vacant; adjacent buildings removed; adjacent buildings now Red Wing Republican newspaper office (Lot 3) and Sheldon Memorial Auditorium (Lots 5-7)
1917-1943	None	Vacant

BLOCK 29, LOT 5 (439, 443, 447, AND 449 3RD STREET W., 301 EAST AVENUE/441 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	439 3rd St. W.	Front (north) majority of one-story building and surrounding vacant space; building houses dressmaker shop
1891	Same	Same; dressmaker shop now a dwelling
1895	Same	Same
1902	Same	Same; dwelling now a Chinese laundry
1910	None	Removal of building; east edge of one-story structure on back (east) of Sheldon Memorial Auditorium and surrounding vacant space
1917	None	Same
1927-1943	301 East Avenue/441 3rd St. W.	Same
1884-1891	None	Vacant space to the side (west) of 439 W. 3 rd
1895	443rd St. W.	Addition of one-story side (east) section of 443 W. 3 rd ; building houses photo gallery
1902	Same	Same
1910	None	Removal of building; west part of one-story structure on back (east) of Sheldon Memorial Auditorium and surrounding vacant space
1917	None	Same
1927	301 East Avenue/441 3rd St. W.	Same

1943	Same	Same
1884-1902	447 3rd St. W.	Most of west half of front (north) majority of one-story building, houses marble works
1910	None	Removal of building; vacant space in front (west) of Sheldon Memorial Auditorium
1917	None	Same
1927	301 East Avenue/441 3rd St. W.	Same
1943	Same	Same
1884	449 3rd St. W.	One-story building and vacant space to rear (south); building houses gunsmith and machinist shop
1891	Same	Building removed; vacant
1895-1902	Same	Vacant
1910	None	Vacant space in front (west) of Sheldon Memorial Auditorium
1917	None	Same
1927	301 East Avenue/441 3rd St. W.	Same
1943	Same	Same

BLOCK 29, LOT 6 (439, 447, AND 449 3RD STREET W., 301 EAST AVENUE/441 3RD STREET W.)

Sanborn Map	Property Address	Notes on Land Use
1884	439 3rd St. W.	Rear (south) minority of one-story building and surrounding vacant space; building houses dressmaker shop
1891	Same	Same; dressmaker shop now a dwelling
1895	Same	Same
1902	Same	Same; dwelling now a Chinese laundry
1910	None	Removal of building; vacant space behind (east of) Sheldon Memorial Auditorium and surrounding vacant space
1917	None	Same
1927-1943	301 East Avenue/441 3rd St. W.	Same
1884-1902	447 3rd St. W.	Most of west half of rear (south) minority of one-story building, houses marble works
1910	None	Removal of building; vacant space in front (west) of Sheldon Memorial Auditorium
1917	None	Same
1927	301 East Avenue/441 3rd St. W.	Same
1943	Same	Same
1884	449 3rd St. W.	Vacant space to rear (south) of building, houses gunsmith and machinist shop
1891	Same	Vacant; building removed

1895-1902	Same	Vacant
1910	None	Vacant space in front (west) of Sheldon Memorial Auditorium
1917	None	Same
1927	301 East Avenue/441 3rd St. W.	Same
1943	Same	Same

BLOCK 29, LOT 7 (301 EAST AVENUE/441 3RD STREET W. AND 313 EAST AVENUE

Sanborn Map	Property Address	Notes on Land Use
1884	None	Rear (east) section and front edge of one-story 1 st Baptist church, and vacant space to front of church
1891-1895	313 East Avenue	Same
1902	Same	Same; church closed
1910	None	Removal of church; one-story rear (east) section of Sheldon Memorial Auditorium, houses property room, and surrounding vacant space, as well as vacant space to front of auditorium
1917	None	Same; rear section of building also houses boiler room
1927	301 East Avenue/441 3rd St. W.	Same
1943	Same	Same

