Architecture-History Investigation of Possible Oslo Ferry Landing Site Near Bridge 9100 (NDDOT Br. 54-3) on TH1/TH54 in Oslo, Marshall County, Minnesota and Walshville Township, Walsh County, North Dakota

March 2011
Submitted to the Minnesota Department of Transportation
Mn/DOT SP 4509-05; NDDOT Proj. SCB-6-054 (008) 009

Authorized and funded by the
Minnesota Department of Transportation
and the Federal Highway Administration
Agreement 97719

Prepared by
Susan Granger and Scott Kelly

Gemini Research, Morris, Minnesota

ARCHITECTURE-HISTORY INVESTIGATION OF POSSIBLE OSLO FERRY LANDING SITE NEAR BRIDGE 9100 (NDDOT BR. 54-3) ON TH1/TH54 IN OLSO, MARSHALL COUNTY, MINNESOTA, AND WALSHVILLE TOWNSHIP, WALSH COUNTY, NORTH DAKOTA

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EXECUTIVE SUMMARY

The Minnesota Department of Transportation (Mn/DOT) and the North Dakota Department of Transportation (NDDOT) propose to rehabilitate or replace Bridge 9100 (ND Br. 54-3) over the Red River of the North. The bridge carries TH1/TH54 and links Oslo, Minnesota, and Walshville Township, North Dakota.

Gemini Research was retained by Mn/DOT to help determine whether the cultural resource feature identified by Duluth Archaeological Center (DAC) as "Old Roadbed" (32WA0268) was, as DAC suggested, a possible landing site of the Oslo Ferry. DAC identified the "Old Roadbed" during archaeological survey work conducted in association with the proposed bridge project. DAC recommended in its 2010 survey report that "additional research on the potential ferry landing site is warranted." The research would help determine whether the Old Roadbed was a potential historic site (i.e., eligible for the National Register of Historic Places), which would qualify it for consideration during project planning under Section 106 of the National Historic Preservation Act (36 CFR 800).

The Oslo Ferry operated in the early 20th century and was superceded in 1913 by the first road bridge at Oslo. The North Dakota landing site of the ferry had been identified as an archaeological site lead (with no pinpointed location) in 1978; a survey form is on file with the North Dakota State Historic Preservation Office (32WAX0010).

Gemini Research conducted architecture-history fieldwork in October 2010 and archival research between October 2010 and January 2011. Gemini found that the Oslo Ferry operated for about 13 years from c1900-1913 and that it linked overland roads that approached the site of Oslo from the east and west. Gemini found that the most likely location for the ferry crossing was near the western end of Oslo's Third Avenue and, on the North Dakota side, at a spot about 800' north of the current TH 54 centerline. This was later the site of the 1913 road bridge.

Gemini concludes that the Old Roadbed feature (32WA0268) identified by DAC is not associated with a landing site of the Oslo Ferry, and that the Old Roadbed feature identified by DAC is comprised largely of the remnants of a 1930s alignment of TH 54, 1959 contouring for TH 54, and a Soo Line railroad track spur.

This final report and two survey form updates (which will be filed with the North Dakota State Historic Preservation Office) comprise the final products of Gemini Research's investigation.

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INTRODUCTION

For this federally-funded project, the Federal Highway Administration (FHWA), the Minnesota Department of Transportation (Mn/DOT), and the North Dakota Department of Transportation (NDDOT) propose to rehabilitate or replace Bridge 9100 (NDDOT Bridge 54-3) over the Red River near Oslo, Minnesota. The bridge connects Oslo in Marshall County, Minnesota, with Walshville Township in Walsh County, North Dakota (fig. 1). The bridge carries a two-lane highway whose number changes mid-bridge at the state boundary – Minnesota Trunk Highway (TH) 1 and North Dakota TH 54. The proposed undertaking is Mn/DOT project SP 4509-05 and NDDOT Project SCB-6-054 (008) 009.

The FHWA, Mn/DOT, and NDDOT are required by Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800) to take historic properties into consideration when planning undertakings that are federally-funded, -licensed, or -permitted. The Act defines "historic" properties as properties that are listed on, or eligible for, the National Register of Historic Places.

In 2010 the Mn/DOT Cultural Resources Unit, in cooperation with the NDDOT Cultural Resources Unit, identified an Area of Potential Effect (APE) for the proposed undertaking that takes into account possible effects to potential historic properties, both architecture-history resources and archaeological resources. The portion of the APE associated with architecture-history resources is outlined on figure 2. (It also appears on Map 1 in Pettis 2010.) The portion of the APE associated with archaeological resources is outlined on figure 2 in Mulholland et al. 2010.

In 2010 Mn/DOT contracted with Mead and Hunt, Inc., to conduct a Phase I and II architecture-history investigation to identify historic properties within the architecture-history APE. It is Mead and Hunt's recommendation that two properties – the Soo Line Railroad Corridor (MA-RRD-001) and the Soo Line Swing Bridge (MA-OSC-004) – are eligible for the National Register (Pettis 2010). While Mead and Hunt initially recommended that Bridge 9100 (MA-OSC-023) was not eligible for National Register, the firm is currently conducting additional evaluation of the bridge with results expected in spring 2011.

In 2010 Mn/DOT contracted with Duluth Archaeological Center (DAC) to conduct a Phase I archaeological and geomorphic investigation within the archaeological APE. DAC did not identify any precontact archaeological resources that warranted further survey, but did recommend that additional research be conducted on a new site that DAC identified as Old Roadbed (32WA0268) to determine whether the feature is associated with a previously-identified site, the Oslo Ferry landing (32WAX0010). The Oslo Ferry crossed the Red River at Oslo in the early 20th century before the first road bridge was built in 1913. The Oslo Ferry landing had been identified by the North Dakota State Historic Preservation Office (NDSHPO) as a site lead in 1978 but had not been the subject of additional research or field verification (Mulholland et al. 2010).

In October 2010, Mn/DOT contracted with Gemini Research, an architecture-history cultural resources firm, to investigate whether the Old Roadbed feature identified by DAC is associated with the Oslo Ferry landing. If the Old Roadbed feature appeared to be associated with the ferry

landing, further evaluation, including a Phase I historical archaeology survey, could be needed to determine its significance.

This report conveys the results of Gemini's investigation.

PROJECT OBJECTIVE AND METHODS

▪ PROJECT OBJECTIVE

The objective of the current investigation is to determine whether the cultural resource feature identified by Duluth Archaeological Center (DAC) as "Old Roadbed" (32WA0268) is, as DAC suggested was possible, associated with the previously-identified North Dakota landing site of the Oslo Ferry (32WAX0010), and, if it is associated, to determine the site's potential significance.

The Oslo Ferry operated in the early 20th century before the first road bridge was built at Oslo. The ferry crossed the Red River between Walshville Township, North Dakota, and Oslo, Minnesota.

This investigation is being conducted in association with the proposed rehabilitation or replacement of Bridge 9100 (ND Br. 54-3) over the Red River of the North. The bridge carries TH1/TH54 and links Oslo, Minnesota, and Walshville Township, North Dakota (figs. 1-2). The undertaking is proposed by the Minnesota Department of Transportation (Mn/DOT) and the North Dakota Department of Transportation (NDDOT).

Mn/DOT, NDDOT, and the Federal Highway Administration (FHWA) are obligated by Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800) to take historic properties into consideration when planning undertakings that are federally-funded, -licensed, or -permitted. The Act defines "historic" properties as properties that are listed on, or eligible for, the National Register of Historic Places.

DAC identified the Old Roadbed feature during a 2010 archaeological survey conducted in associated with the proposed bridge project. DAC completed a North Dakota Cultural Resources Survey (NDCRS) form, now on file with the North Dakota State Historic Preservation Office (NDSHPO). The eastern end of the Old Roadbed feature is located on the western bank of the river in Section 36 (T115N R51W). Part of the Old Roadbed feature is within the Area of Potential Effect (APE) identified for the proposed undertaking. In its 2010 archaeological survey report, DAC indicates the Old Roadbed feature "may be associated with the North Dakota side of a ferry crossing or a steamboat landing (although the two are not mutually exclusive)" and recommends that "additional research on the potential ferry landing site is warranted" (Mulholland et al. 2010: 18, 24). The North Dakota site of the Oslo Ferry landing (32WAX0010) had been identified in 1978 as a historic archaeological site lead, with no further research or field verification conducted. It was recorded in 1978 on a NDCRS form, also on file with the NDSHPO (Mulholland 2010).

■ PROJECT METHODS

Gemini Research began its investigation in October 2010. Susan Granger served as Principal Investigator. At the beginning of the project, Gemini discussed the scope and purpose with Dennis Gimmestad of the Mn/DOT Cultural Resources Unit, who is consulting with Jeani Borchert of the NDDOT Cultural Resources Unit. If Gemini's investigation began to suggest the Old Roadbed feature was associated with the Oslo Ferry landing, a historical archeologist would be retained to conduct further Phase I archaeological survey and evaluation.

Research Questions. Guiding Gemini's investigation were two research questions: Is the feature identified by Duluth Archaeological Center (DAC) as Old Roadbed (32WA0268) associated with the North Dakota landing site of the Oslo Ferry (32WAX0010)? If not associated with the Oslo Ferry landing, what comprises the Old Roadbed feature identified by DAC?

A secondary question that might be answered during the investigation was: If the Olso Ferry landing is not associated with the Old Roadbed feature, does historical documentation indicate where the ferry landing was located?

Fieldwork and Research. Gemini Research conducted fieldwork in October 2010. Gemini conducted archival research between October 2010 and January 2011 using a variety of primary and secondary sources. Significant sources are listed in this report's References. They include published materials as well as documents archived at the Minnesota Historical Society in St. Paul, the North Dakota State Historical Society at Bismarck, the Institute for Regional Studies at North Dakota State University in Fargo, the Pennington County Historical Society in Thief River Falls, and elsewhere.

One important source, the book *Oslo Golden Jubilee* (1955), is a fairly detailed and well-written community history prepared by a committee led by longtime Oslo physician Dr. I. O. Wiltrout, who was evidently the principal author. Later histories such Solum 1976 and *Oslo, Minnesota* 2005 draw heavily from the 1955 account. In cases of repetition, Gemini relied on, and cited, only the 1955 work.

Of particular interest to this investigation were historic photographs of the Oslo riverfront taken in the early 20th century. Gemini tried to assemble as many photographs of this area as possible. The photographs appear in the Illustrations chapter of this report.

Archaeology. Because Gemini's fieldwork and archival research suggested the Old Roadbed feature was not associated with the Oslo Ferry, a historical archaeologist was not engaged.

Final Report and Survey Form Updates. Gemini prepared this final report to document the objectives, methods, and results of its investigation. The report was first submitted in draft form. Gemini also prepared updates for the two North Dakota Cultural Resources Survey forms on file at the NDSHPO: Old Roadbed (32WA0268) and Oslo Ferry (32WAX0010). The updates essentially repeat information from this report and are therefore not included herein.

This final report and two survey form updates comprise the final products of this architecture-history investigation.

■ EXPECTED RESULTS

It was expected that Gemini Research would gather sufficient information to render an opinion about whether the Old Roadbed feature identified by Duluth Archaeology Center is associated with the Oslo Ferry landing. Because of the low population density of the area and the fact that the ferry operated for only a few years and during the period of Oslo's early settlement, Gemini expected that archival information on the ferry would be fairly limited. It was expected that Phase I historical archaeology survey work would be conducted if it appeared that the Old Roadbed feature was associated with the Oslo Ferry.

PROJECT FINDINGS

Gemini Research's findings are divided into three sections: 1) an overview of relevant background information on the Red River community of Oslo and its ferry; 2) Gemini's conclusions regarding the location of the Oslo Ferry landing; and 3) Gemini's conclusions specific to the Old Roadbed feature (32WA0268) identified by Duluth Archaeology Center (DAC).

The Oslo Ferry operated for about 13 years from c1900-1913. Unfortunately, Gemini Research found no documents that describe the ferry or its operation in any detail, or that discuss exactly where the ferry crossed the river. The information herein was gathered in bits and pieces from many primary and secondary sources, including the photographs in this report's Illustrations and the sources listed in this report's References.

▪ BACKGROUND INFORMATION ON OSLO AND ITS FERRY

Oslo, Minnesota, is located near the northwestern corner of the state on the eastern bank of the Red River of the North. Oslo is in Oak Park Township, which is in southwestern Marshall County. Across the river from Oslo in North Dakota are Walshville Township in southeastern Walsh County, and Turtle River Township in northeastern Grand Forks County. The Walsh-Grand Forks county line is located just west of Oslo (fig. 1).

The Red River begins near present-day Wahpeton-Breckenridge and flows north into Hudson Bay. The Red River Valley is extremely flat and prone to flooding. Serious floods occurred, for example, in 1860, 1861, 1882, 1883, 1897, 1904, 1906, 1907, 1916, and 1920. Dikes and levees were built to protect Oslo in the 1960s and 1970s and periodically updated. The Red River is shallow, torturously twisted, and for most of the season runs slowly. Its banks are relatively low and characterized by long ribbons of slumping clay (figs. 25, 30-31). Both banks are wooded with bands of deciduous trees and shrubs. (See Picha et al. 2008 and Mulholland et al. 2010 for more information.)

Early Settlement and Transportation Links

Euro-Americans began to permanently settle in the Oslo vicinity in the 1870s. There was no railroad service and few roads, and many of the first residents lived in wooded areas close to the Red and its tributaries. Some settlers lived along so-called Red River oxcart trails, transportation routes between Winnipeg and St. Paul that had developed decades earlier. The principal trails closest to the Red were located on the western side because the eastern side of the river was often impassably swampy and plagued, in some places, by "sticky, whitish clay subsoil which resembled putty" (Arnold 1900: 102; also Gilman et al. 1979). The trail on the Minnesota side was located about 45 miles east of the Red, passing through present-day Thief River Falls.

One of the trails on the North Dakota side followed high ground about 30 miles west of the river. Another trail, preferred after 1870, was called the River Trail because it hugged the western bank. It passed through tiny settlements such as Turtle River station (about nine miles southwest of present-day Oslo) and Drayton (about 30 miles north of Oslo). Despite floods, sinkholes, and

mud, the River Trail was a well-worn path by 1871. That year a stagecoach route was established on it and the trail was physically improved, becoming the principal north-south road along this portion of the valley (Gilman et al. 1979: 41; Arnold 1900). North Dakota's Interstate 29 (two miles west of Oslo) roughly follows its route.

A more efficient mode of transport along the valley was the Red River steamboat (figs. 15-18, 25). Steamers hauled passengers and goods on the Red for 53 years from 1859-1912. A typical boat was 110' long and burned copious amounts of cord wood purchased from settlers during frequent stops along the banks. The boats often towed strings of barges. A lower-cost alternative to steamboats were flatboats that were usually hand-poled down the river (northward) and then dismantled and sold for lumber at their final destination.

The steamboat season, determined by the absence of ice and the depth of the water, was often four to five months long but sometimes seven. The head of navigation shifted northward through time, in large part because the boats exchanged freight with railroads that crossed the Red at Fargo-Moorhead and later at Grand Forks. Fargo historian Roy Johnson describes another factor affecting navigation: "As the years passed and the valley's ditch drainage system was created for quick removal of surplus water, the head of navigation was forced downriver, first to Fargo-Moorhead, later to Georgetown and Frog Point [near Climax, MN], and finally Grand Forks" (Glasrud 1982: 80-81, 204). Around 1879 the Army Corps of Engineers began to regularly dredge the navigation channel, including the river segment past Oslo (fig. 17).

The Red River Valley was first served by railroads in 1871 when the St. Paul and Pacific Railroad reached present-day Breckenridge and the Northern Pacific Railroad reached what became Fargo-Moorhead. Trains stimulated development by providing a cost-effective way to market agricultural products. In 1879 rail service came closer to the future site of Oslo when the Great Northern Railroad built a north-south line 16 miles east of the Red. The railroad platted the town of Warren, which became the Marshall County seat, on its line. Grand Forks, 19 miles south of Oslo, received rail service in 1880. In 1881 a north-south Great Northern line was built west of the Red; Manvel, 9 miles southwest of present-day Oslo, and Ardoch, 11 miles west of Oslo, were located on this line. According to historian Roy Johnson, "The coming of the [first] railroads stimulated, rather than depressed, the steamboat business," just as they increased business for the stagecoaches with which they also exchanged passengers and mail (Glasrud 1982: 160; 208). As area population grew, Grand Forks County was organized in 1873, Marshall County in 1879, and Walsh County in 1881.

Crossing the Red River was critical to travel through the region, and was first accomplished by fording the river at shallow spots such as Graham's Crossing (just south of Fort Abercrombie near Breckenridge), and at the mouth of the Sheyenne River (site of Georgetown near Moorhead). Red River oxcarts were also floated across the river by detaching their large wheels and using them as rafts. Private ferry service began at key points as soon as travel warranted it. The Minnesota territorial legislature chartered three ferries on the Red during its 1857 session.

Ferries were eventually established at numerous crossing points. They included the following, listed from south to north, with the date the ferry was established in parentheses: Breckenridge (1871), Fort Abercrombie (ca. 1860), Georgetown (ca. 1860), Moorhead (ca. 1870), Halstad (ca. 1875), Caledonia-Shelly (ca. 1871), Hendrum (ca. 1878), Fisher's Landing (ca. 1875), Grand Forks (1871), Oslo (ca. 1900), Big Woods (1891), Acton (1870s), Drayton (1880), and Pembina

(ca. 1840). Gemini Research was unable to assemble a more definitive list of ferries on the Red, but estimates there might have been a ferry every 10 or 15 miles. Statewide, ferries operated in Minnesota for more than 100 years from circa 1840 to 1952 when a ferry across the Mississippi River at Clearwater was closed. In North Dakota ferries were used as late as 1962 when service across the Missouri River at Washburn was ended (Davies 1932; Larsen 1966).

During winter months, travelers and residents crossed the Red River on the ice. Among the first road bridges were those at Breckenridge (1876), Fargo-Moorhead (1874), Grand Forks (1879), and Drayton (1890). Many of the first bridges floated on pontoons or were other temporary structures that were dismantled each year so they wouldn't be damaged by ice. In Fargo, "Wagons took advantage of the Northern Pacific railroad bridge when it opened in June of 1872, apparently managing to coexist with the train schedule" (Johnson et al. 1992: 17).

By the late 19th century roads in the Red River Valley were still underdeveloped. Historian Arthur Larsen writes that their construction and maintenance were "of purely local concern." He explains:

> [Farmers'] need for roads was greatest at the time of marketing, which was ordinarily in the late summer and autumn, when roads in that area were at their best. Furthermore, settlement was comparatively sparse, and sparsely settled communities usually find it difficult to construct and maintain an adequate set of roads. On the open prairie, moreover, it was a simple task to lay out a way to market along the section lines [thereby going between, rather than through, most farms]. It was only when rainy spells occurred that the necessity for improved roads was felt, and then a cursory going over of the worst spots sufficed (Larsen 1966: 216-217).

Larsen vividly describes Minnesota's rural roads of the late 19th century. He writes they were frost-laden and soggy in the spring and fall. When the roads were soft, wagon wheels sunk deep into the mud, and when the roads were dry the leftover ruts made travel uncomfortably bumpy. In winter snow, many roads simply didn't exist (Larsen 1966: 287-300). Most roads were authorized by counties and townships, but built and maintained by local farmers who were required to work on the roads a few days each year, or else pay cash into a local road fund.

The most important roads near the future site of Oslo led to towns that had train service including Warren, Ardoch, Manvel, and Grand Forks. Smaller roads linked smaller commercial hamlets.

An east-west road approached the future site of Oslo from Warren, the rail town and county seat 16 miles to the east. This road crossed Oak Park Township on an east-west section line. In the vicinity of present-day Oslo, the road followed the line that divides Sections 31 and 32 from Sections 5 and 6 (fig. 9). When Oslo was platted, surveyors laid out the town so this road formed Third Avenue (fig. 7). This road between Warren and Oslo was improved by Marshall County shortly after Oslo was founded (Solum 1976: 53). Now numbered Trunk Highway 1, it became part of the Minnesota trunk highway system in 1934.

Across the river in North Dakota, the grid of surveyed section lines is offset from the section lines in Minnesota. Thus the North Dakota counterpart of the section road from Warren was aligned about 510' farther south following an east-west section line that is the border between Walsh

and Grand Forks counties (fig. 1). As the road approached the river from the west, it jogged north following high ground around an abandoned river oxbow located on the county line. This jog to the north brought the road closer to being aligned directly across from present-day Oslo's Third Avenue. West of the abandoned oxbow, the North Dakota road followed the Walsh-Grand Forks county line, crossing the North Marais River on a small bridge. Just west of the North Marais River, the road branched north toward Walshville (and cut west to Ardoch) and branched south toward Manvel and Grand Forks (see present-day 16th St. NE on figures 1 and 4).

Settlers in the area shopped in Manvel, Warren, Ardoch, and Grand Forks, all of which had train service, and also traded in several small hamlets that had developed along rivers. In Minnesota they included Big Woods, Halvor, and Granville, and in North Dakota they included Bellevue (Turtle River station) and Walshville. These tiny communities predated Oslo, and declined after Oslo was established. Big Woods, eight miles north of Oslo, was settled in 1878. It was the site of the area's first church service (1882) as well as a steamboat landing, ferry service (1891-1913), grain elevator (1887-c1905), store and post office (1893-1909), fraternal hall, blacksmith shop, and sawmill. Granville, about two miles south of Oslo, was settled in 1894 and had a steamboat landing, general store and post office, church, sawmill, and blacksmith shop. Halvor, two miles north of Oslo, was settled by 1897 and had a steamboat landing, church, school, general store and post office, and blacksmith shop. On the North Dakota side, Bellevue, about nine miles southwest of Oslo, and Walshville, about five miles north of Oslo, had similar services except that Bellevue had no boat landing on the Red. Stoughton, two miles west of Oslo, was a farm-based post office (with evidently no other services) that operated from 1893-1905 (*OGJ [Oslo Golden Jubilee]* 1955; Solum 1976).

While the Minnesota side of the river was settled largely by people of Scandinavian and German descent, the North Dakota side had more Canadian, English, Irish, and Old Stock American settlers, as well as Polish and German immigrants.

Oslo Established

By the turn of the century the future site of Oslo was occupied by several farms including those of the Gunderson, Larson, and Grenlin families who became longtime Oslo residents. By 1902 there were five farmsteads within one-half mile of the future townsite (figs. 9-10). All five farmsteads were located close to the road from Warren.

In 1905 the Minneapolis, St. Paul, and Sault Ste. Marie Railroad (Soo Line) built tracks from east to west through southern Marshall County. The railroad crossed the Red River at present-day Oslo via a bridge that swung open to allow steamboats to pass (figs. 14, 16). The tracks were built as part of an aggressive Soo Line expansion into North Dakota, plans for which had been made public in 1902. In 1904-1905 the tracks were laid from Thief River Falls, Minnesota, over the Red at Oslo, and west to Kenmare, North Dakota (see map in Pettis 2010: 75). The 275-mile line, dubbed the "Wheat Line," passed through existing towns such as Warren and Ardoch (both of which were located on north-south Great Northern lines). The Soo also platted about 25 new townsites on its own land along the tracks, including Oslo.

In July 1905 while construction of the railroad was underway, the Soo Line platted Oslo (fig. 6). On July 29 the railroad began selling lots. The sales were handled by the Minnesota Land and Trust Company, which was replaced in 1906 by the Soo-owned Tri-State Land Company. The

companies worked with the Soo Line's townsite agent, Cyrus A. Campbell. In July 1905 Campbell took out half-page ads in Minneapolis newspapers announcing lot sales in Oslo and two nearby towns. The advertisement highlighted Oslo which, according to the ad copy, would be the largest of the towns in Minnesota, the "last town on [the] river," and on "highest ground." In August 1905 Campbell told the *Minneapolis Journal* that Oslo already had 20 commercial buildings under construction ("Crowding" 1905; "Map" 1905; Hudson 1985: 84, 96-97).

The Oslo townsite platted in July 1905 encompassed 14 blocks and extended from the railroad tracks north to Fourth Avenue (figs. 6-8). The plat was drawn to incorporate the road from Warren as Third Avenue. (Gemini noted during October 2010 fieldwork that some of the oldest houses in Oslo are located near the river at the northeastern corner of Third Avenue and Dakota Street. They include a house that does not face a platted street, suggesting it might have been on its site before the streets were platted (fig. 36).) In November 1905, 14 blocks immediately north of the first 14 were added to the plat. Between 1905 and 1928 the town grew slightly from this 28-block footprint.

The Oslo depot was located on the northern side of the tracks a block west of Main Street, which was the north-south commercial thoroughfare (figs. 7-8). Most houses, churches, and retail buildings were built west and east of Main Street between Second and Sixth Avenues. The Oslo school stood on Fifth Avenue (Block 23) at the head of Main Street, and a city park was designated along the river (on Blocks 15-16 and 25-26). Large-scale businesses and those that relied on train service were clustered near the tracks. They included grain elevators, beer warehouses, and the Red Lake Lumber Company, established in 1905. The lumberyard was located "between the station and the river and was stocked [at first] by steamboat from the mill at East Grand Forks. . . . In 1919 [the lumberyard] was moved from the bank of the river to its present site [elsewhere in town]. The moving was done with difficulty as the Red River was at flood stage, the old site was about completely under water, and the new site nothing but mud" (*OGJ* 1955: 62; see also Solum 1976: 204). (The 1905 lumberyard was perhaps located south of the intersection of Dakota Street and Second Avenue, and stocked from a steamboat that landed south of the western end of Third Avenue.)

As Oslo filled with people, a village government was formed in the fall of 1905. The population in 1905 was about 150 people, comprised of "mostly single men" (*OGJ* 1955: 59). The town had seven bars and several beer warehouses in 1905-1906, probably because alcohol sales were prohibited in North Dakota, which had been "dry" since 1890. Oslo had about 344 people in 1910. The population finally exceeded 400 people in 1940, and today is about 300. The town developed as an agricultural service center catering to area farmers who primarily grew wheat.

Red River Transportation Company Elevator

Oslo had four grain elevators within the first two years. Three were built in 1905 at the southern end of town on a railroad track spur or siding just south of the Soo's main track line (figs. 7-8). The fourth elevator was built in 1906 on the western bank of the river (figs. 15-16, 18, 20). The western elevator, owned by the Red River Transportation Company (RRTC), had steamboat access on the Red and railroad access via a spur that extended northeast from the Soo Line tracks (fig. 2). The elevator was also accessed by a road along the western side of the facility. This road is believed to have been a continuation of the road that approached Oslo from the west on the Walsh-Grand Forks county line and jogged north to skirt the abandoned oxbow.

The Red River Transportation Company Elevator was one of a number of riverbank elevators built along the Red and served by steamboats and their barges. The RRTC was one of the Red River's most active haulers. It was founded in 1873 when shipping rivals James J. Hill and Norman Kittson joined forces, formed the RRTC, and thereafter dominating shipping on the river. The company was headquartered in Breckenridge briefly, then Fargo, and later Grand Forks. It primarily owned steamboats, grain barges, and grain elevators. It operated at least nine different steamboats on the Red (*OGJ* 1955: 41, 52-53, 59; Solum 1976: 33, 202; Engelhardt 2007: 40; Herriot 1940). (Note: The Minnesota Historical Society holds RRTC corporate records from 1872-1943. A 1905 *Minneapolis Tribune* article calls it the "Grand Forks Transportation Company," possibly in error. The article states that in 1905 the company operated 2 steamboats, 12 barges, and 11 grain elevators and warehouses on the Red. In September 1905 the company sued the Soo Line railroad for not building a bridge at Oslo that permitted boats to pass. The Soo had begun to build a non-movable bridge, despite plans it had submitted to the federal government for approval. The Soo built the current swing bridge instead ("Would Enjoin" 1905; *Oslo, Minnesota* 2005: 6; *OGJ* 1955: 49).)

The RRTC Elevator at Oslo was built on land owned in 1910 by William Budge (per a 1910 plat map, fig. 12). Budge was a Grand Forks County pioneer, freight shipper, grain buyer, real estate investor, and politician. He was a lifelong friend and business partner of Alexander Griggs, the pioneer founder of Grand Forks, captain of at least seven of the RRTC steamboats, and a businessman with interest in Red River shipping and other enterprises (i.a., *Illustrated* 1889: 701-702, 728-729).

The RRTC Elevator at Oslo was evidently very active. In 1905 the RRTC had the capacity to store 200,000 bushels of grain in its riverbank warehouses ("Would Enjoin" 1905). In 1909 the *Grand Forks Herald* reported that the Red River Transportation Company was overwhelmed with the amount of grain being grown along the Red, and was erecting two more riverbank elevators at Grand Forks and planning to build two more steamboats (Hagerty 2009).

The RRTC Elevator at Oslo burned in 1921 and was not rebuilt. A series of timber pilings at the edge of the river (across from Oslo's public boat ramp) remain from the elevator's waterside structure (figs. 28-29). The pilings are located about 450' northeast of the current TH 54 centerline, measured at 28 degrees northeast from the western end of the highway bridge's western truss (fig 2). (Local residents indicate the pilings remain from the elevator. This location is a good match to historic photographs showing the elevator.) Gemini found the rest of the elevator site to be a wooded area with no buildings or structures. However it appears to retain a few of the fence posts visible in one historic photo (fig. 15) and may contain other elements. (The site is not within the archaeological Area of Potential Effect for the Bridge 9100 rehabilitation or replacement project.)

The Oslo Ferry

A ferry was established at the future site of Oslo by 1900, five years before the village of Oslo was founded, but a generation after the ferries critical to the early settlement of the Red River Valley were established. (Gemini found no evidence of a ferry at Oslo before 1900.)

Gemini Research was unable to determine specifically why the Oslo Ferry predated the townsite given that there was no high concentration of people at the site in 1900 and there was at least

one other ferry nearby at Big Woods, eight miles to the north. A possible explanation is that population was increasing in anticipation of railroad construction, and that farmers on the Minnesota side needed a more efficient way to travel to the closest railroad station, which was at Manvel, and to Grand Forks, which by 1900 had 7,600 people.

The Oslo Ferry was owned by a private party (or parties) for the first several years. For a small fee the ferry carried people, wagons, horses, cattle, and later automobiles across the river. (In Minnesota and North Dakota, ferries were generally regulated by county governments. A ferry charter or license typically granted the owner exclusive rights to operate on a particular stretch of river for a defined number of years, and usually specified the fees that could be charged (Davies 1932; Larsen 1966: 238-242).)

The ferry at Oslo ran from spring to fall. In December 1909 the *Oslo Tribune* noted: "The ferry has ceased its regular crossing of the Red for the next four or five months and the approaches have been fixed so that teams and loads can now cross on the ice without any danger. The ferrymen say that they are quite satisfied to see the old ferry a' resting in the grave for awhile at least" ("Local News" 1909). Area residents crossed the Red on the ice between about December and March each year.

In 1900 the Oslo Ferry was operated by John Dolan, a 62-year-old Irish man who had immigrated to the U.S. in 1855. Dolan is listed in the 1900 federal census as single, living alone in Oak Park Township, and working as a "ferryman." Census records indicate Dolan lived in Big Woods Township (the next township north) in 1895 and also in 1905. He was working as a farmer in 1895 and as a laborer in 1905.

In 1905 the ferry operator was Martin Dallum, a 22-year-old man born in Minnesota of Norwegian parents. Dallum had been a resident of the census district (Oak Park Township) for two months when the state census was taken in June 1905, a few weeks before Oslo was platted. The census lists him among about 15 men, mostly Swedish- and Norwegian-born day laborers, who were evidently living (boarding) together.

In 1910 the ferryman was 26-year-old Norwegian immigrant Christian F. Oas who grew up nearby. In 1910 Oas had been married for four years to Annie Oas, a Minnesota-born woman of Norwegian descent, and the couple had two young children. They lived in Oslo village and eventually had six children. Around 1923 Oas began a long career as a potato buyer in Oslo. He died in 1963 (Federal census; *OGJ* 1955: 41, 65; Solum 1976: 206). (Gemini found no reference to ferrymen living on the North Dakota side of the river. The Big Woods Ferry, which operated for 22 years at Big Woods just north of Oslo, was built, owned, and operated by Knute O. Knutson, who also owned the Big Woods store, blacksmith shop, and sawmill (*OGJ* 1955: 52, 37).)

After Oslo was established in 1905 the need to cross the Red River at this location increased. Farmers on the western bank crossed to patronize businesses in Oslo, and residents of the eastern bank likely crossed to travel to Grand Forks. Rural families on both sides of the river were participants in the greater Oslo community (*OGJ* 1955). Both Minnesota and North Dakota residents visited friends and relatives on the other side of the river, and some attended church on the opposite side. From 1907-1911 a Modern Woodmen lodge hall was located on the North Dakota side; the building was moved into Oslo in 1911.

In June 1906 the Village of Oslo received Congressional approval to build a bridge across the Red River ("Congress Adopted" 1906). For an unknown reason, perhaps cost, a road bridge wasn't built until 1913.

In March 1907 the Village of Oslo bought the privately-owned ferry for $600. The next month the village hired John E. Jackson to build a new ferryboat "at a cost of $493.25" (*OGJ* 1955: 49). Jackson was a 31-year-old carpenter who had built a jail for the village government the previous year.

Historic photos indicate the Oslo Ferry was similar in appearance to other Red River ferries (figs. 23-24), and to those operating elsewhere in Minnesota and North Dakota (MHS and NDSHS photo archives). At least two successive (and similar) craft were used in Oslo, one before 1907 (fig. 14) and the boat built by the village in 1907 (figs. 18-19). Extrapolating from the estimated height of the people shown on board in historic photos, both boats were about 15' wide x 30' long, which was a typical size. There was a hinged ramp or apron at each end of the boat and wooden safety railings, about 3' tall, on the sides.

The Oslo Ferry was a simple cable ferry. Most ferries of this type used a river's current for power, and therefore needed to be aligned perpendicular to the current. An elevated cable or rope was stretched across the river and affixed to a tree or post on each bank. Ropes from the ferryboat were attached to the elevated cable and moved along the cable on pulleys. The ropes were often connected to a windlass or similar device at mid-ship, and sometimes the ferry also had an oar or steering board on the upstream side. The ferryman alternately pulled on one rope and gave slack to the other, thereby tacking across the water. (The circa 1870 photo in figure 23 shows a simpler variation.) More complicated arrangements used cables or chains stretched near the water's surface and mechanisms powered by motors. On many ferries the cable crossing the river could be given slack so it sank below the surface to allow other boats to pass. Occasionally a cable would break and a rowboat would be used to help fetch the cable and restring it (Glasrud 1982; Davies 1932; "Vessel Types"; Larsen 1966: 237).

The landing spots for cable ferries like Oslo's were usually very simple. Historic photos typically show a few heavy timbers laid parallel with the water to provide a platform over the mud (figs. 18-19, 23-24). Because of their simplicity, ferry landings could conceivably be moved to different spots on the bank from season to season, but generally their location was fixed by the roads that approached them. Since roads were difficult to build and maintain, they (and the ferry landings) were likely to remain in place once established.

Local histories reveal little about the Oslo Ferry, but do report that three people and a team of horses were drowned there. The victims of the first incident, in August 1910, were Mrs. Rasmus Hage and her infant son. According to the *Oslo Golden Jubilee*, "the car driven by Rasmus Hage had been ferried across the river and he had made two unsuccessful attempts to climb the bank [at the ferry landing]. On the third attempt his brakes would not hold and the car rolled backward, across the ferry, broke the safety chain and the car and all [five people] in it were thrown in deep water" (*OGJ* 1955: 71). In another incident a year later, a man named John Czapiewski and his team of horses drowned. According to the *Golden Jubilee*, the man "thought the ferry was on his side but it was on the opposite side and he drove the team into the deep water. Efforts were made to save him but without avail" (*OGJ* 1955: 71).

Road Bridge at Oslo

The era of the Oslo Ferry ended in the spring of 1913 when the first road bridge was built (figs. 2-3, 8, 13, 22). The bridge linked Third Avenue in Oslo – the road from Warren – with the road past the Red River Transportation Elevator and the Wosick farmstead.

The cost of the 1913 bridge was shared by four entities: the Village of Oslo, Marshall County, Walshville Township, and Turtle River Township. The center of the bridge could rise to allow steamboats to pass, but steamboat traffic did not return after the 1912 season and the bridge was never lifted.

Construction of the road bridge at Oslo was a significant improvement for the region. Prior to its completion, the nearest road bridges were at Grand Forks, 19 miles south, and Drayton, 30 miles to the north. When the Oslo bridge opened, the ferries at both Oslo and Big Woods ceased operation.

In the early- to mid-1930s the road on the North Dakota side was improved. The work probably occurred soon after the road became part of the North Dakota state highway system in 1932, and perhaps made use of federal New Deal funds. As part of the project, the east-west road on the Grand Forks-Walsh county line was superceded by a new state highway (now numbered TH 54) built about 1/4 mile north of the county line along the northern edge of the Soo Line right-of-way between the North Marais and Red rivers. Today a short segment of diagonal road called 54th St. NE and east-west field roads on the county line remain to mark the pre-1930s road alignment.

In 1959, the 1913 bridge was replaced with a new structure, the current Bridge 9100 (NDDOT Bridge 54-3) (figs. 2, 5, 26). The new bridge was built about 800' upriver from (southwest of) the 1913 bridge. When the 1959 bridge was constructed, the North Dakota state highway department realigned TH 54 slightly between the North Marais River and the new bridge. Similarly, the Minnesota state highway department realigned TH 1 within Oslo to coordinate with the crossing's new location.

The 1913 bridge was subsequently torn down. Today bits of concrete and steel mark its site on the western bank of the river northwest of Oslo's Third Avenue (fig. 34). A roadbed remnant northeast of the Wosick farmstead remains from the road that approached the bridge (fig. 33).

▪ LOCATION OF THE OSLO FERRY LANDING

The place where the Oslo Ferry crossed the Red is not stated in archival sources, and local residents questioned by Gemini Research did not know its location. Early plat maps (which are the principal maps that show local roads) do not indicate a ferry crossing site.

Duluth Archaeology Center (DAC) speculated that the ferry landing on the North Dakota bank was located at an "Old Roadbed" (see "Analysis of Old Roadbed" below) about 80' northeast of the centerline of the Soo Line railroad tracks (fig. 4). Gemini does not believe this was a likely location for the ferry landing because of its close proximity to the Soo Line Swing Bridge. The swing bridge originally had long timber draw rests that extended 120' northeast and 120'

southwest of the central pier (figs. 14, 16, 20-21). The draw rests served as the structure over which the draw span swung when the bridge was opened. (Often a swing bridge would be locked in the open position by using fasteners on the ends of the draw rests.) The length of the draw rests makes a ferry crossing at the DAC-identified site seem impractically close to the railroad bridge.

Oslo's settlement and transportation history suggests that the ferry would have been located at the point where the Oslo area's east-west roads met the banks of the Red. On the eastern bank, this was present-day Third Avenue, which was historically the road from Warren, predated Oslo, and was incorporated into the village plat. On the North Dakota side, the road approached from the west following the Walsh-Grand Forks county line. It then skirted north around the abandoned oxbow, bringing it roughly across from the road from Warren. (On several maps the road approaching from the west is drawn in error, traveling directly east-west through the abandoned oxbow, rather than bypassing it (see e.g., figs. 11-12).)

If the ferry landing on the Minnesota side were located near Oslo's Third Avenue, the North Dakota landing would have to be located northwest of that spot if the ferry were to cross the river perpendicular to the current (fig. 2). Topography suggests a ferry crossing at this location is reasonable because the river terraces are closer together here than they are farther south near the Soo Line tracks. Because of the pattern of this comparatively high ground, crossing the river perpendicular to the current from a landing near Oslo's Third Avenue, and then traveling southwest along the western bank to North Dakota's east-west road, requires road-building on the least amount of low ground prone to flooding and mud. Crossing the river at a more southerly location (for example, closer to the railroad tracks) and then traveling northeast to Third Avenue on the Minnesota bank would mean building and maintaining many more feet of lowlying road. Once the approach roads to the ferry were established, there would probably be little incentive to change them. Given the technology of the day, the maintenance of roads, especially in low-lying areas, was labor-intensive.

Gemini proposes that the Oslo Ferry's eastern landing was located near Oslo's Third Avenue and that the ferry crossed to the northwest, perpendicular to the river, to the North Dakota bank.

In 1913, the first road bridge was built very close to (probably just southwest of) this location.

Photo Evidence

Two of the three known photographs of the Oslo Ferry seem to confirm the ferry crossing location as just described. Most helpful is a circa 1910 photo of the western bank (fig. 18). It shows the Oslo Ferry crossing the river northeast of the Red River Transportation Company (RRTC) Elevator.

The photo also shows a series of Soo Line boxcars on the track spur northeast of the elevator. The position of the boxcars and their length can be used to estimate the location of a ferry landing vis a vis the elevator. Given the fact that Soo Line boxcars of the period were 34' to 36' long, the North Dakota ferry landing would be about 570' northeast of the elevator. This would place the ferry landing about 1,020' northeast of the current TH 54 centerline (measuring at 28 degrees northeast from the western end of the highway bridge's western truss). A ferry that

crossed the Red at approximately this location would meet the Minnesota bank at about Third Avenue or the Warren-to-Oslo road.

A second photo of the Oslo Ferry, also taken circa 1910 (fig. 19), provides fewer direct clues but depicts topography on the western bank consistent with a ferry landing located roughly 1,020' northeast of present-day TH 54. The photo shows a light-colored earthen ferry-landing ramp that is accessed by a road that emerges from the south, which is consistent with a ferry landing accessed from the road past the RRTC Elevator and the Wosick farmstead.

The third known photo of the Oslo Ferry, figure 14, was taken in 1906. It shows the ferry on the southern side of the Soo Line Swing Bridge. Gemini found no evidence of a road leading to the riverbank at this location during this time period. Though maintaining approach roads from the east and west to this location would be possible during dry periods, the roads would be waterlogged and muddy for many weeks each season (especially during flood years such as 1904, 1906, and 1907). It is possible that the ferry was temporarily located south of the railroad bridge when the photo was taken, but it was probably not at this location permanently given the difficulty of maintaining the approach roads.

It is possible that the 1906 photo was staged, perhaps for the Soo Line Railroad to show off Oslo and its transportation facilities as part of a townsite promotional campaign. The Soo Line and its agents commissioned and published many photographs, brochures, and advertisements to promote Soo Line facilities and townsites, including many photos taken in towns along the Wheat Line. (See, for example, South Dakota State Historical Society photos, as well as those of the Pennington County Historical Society and the Minnesota Historical Society. Lounsberry's three-volume *North Dakota History and People* (1917) and Gjevre's three-volume history of the Soo Line (1990, 1995, 2009) also contain many photographs commissioned by the Soo Line.) It is interesting that the curve of the river and the alignment of the bridge require that a photographer stand on the southern side of the swing bridge to display the entire span in a reasonably close photograph. If the Soo Line had commissioned the 1906 photo, it would be logical to photograph the bridge from the south. If the Soo's agent wanted to include the ferry in the photo, it would have taken only a morning's work to move the ferryboat to this location.

▪ ANALYSIS OF OLD ROADBED FEATURE (32WA0268) IDENTIFIED BY DULUTH ARCHAEOLOGY CENTER

In 2010 during a Phase I archaeological and geomorphic investigation of the archaeological Area of Potential Effect (APE) associated with the proposed Bridge 9100 (NDDOT Bridge 54-3) improvement or replacement project, Duluth Archaeological Center (DAC) identified a linear feature which it recorded as a new historic archaeological site, "Old Roadbed" (32WA0268) (figs. 2-4). According to DAC's 2010 archaeology report:

> A former potential roadbed was identified south of but immediately adjacent to the APE and north of the railroad corridor (figure 4 [in DAC report]). This feature was identified as a linear raised area within the tree cover south of and parallel to TH 54. The raised feature varies in dimensions but is generally 10-12 feet wide and 3-4 feet high. The roadbed decreases in elevation to the west and is highest in the east near the river. In addition, a ditch is present immediately south of and adjacent to the raised feature. The

ditch is about 12-15 feet wide and 5 feet deep and contains stagnant water in some locations. As with the roadbed, the elevation of the base of this ditch increases to the east. These two linear surface features extend west at least as far as the intersection of 15th Street NE/County Road 18 with TH 54, a distance of approximately 1/4 mile. West of this intersection, the tree cover is absent and the area between the railroad and the ditch associated with the current TH 54 is generally flat and grassy. This flatter area has a slightly elevated area that corresponds to an extension of the old roadbed but the ditch appears to be absent. Farther west outside the APE, pilings in the North Marais River south of TH 54 indicate a bridge was formerly present in line with the old roadbed corridor (figure 5 [in DAC report]).

To the east, the surface topography between the railroad corridor and the TH 54 ditch is more complex (figure 6 [in DAC report, which is a plan diagram of the feature]). The roadbed narrows until it is barely more than the northern bank of the ditch (although it could have been wider in the past as it is truncated on the north by the TH 54 ditch). The ditch also narrows and becomes shallower as the bottom raises slightly in elevation. Both features are interrupted by a north-south cut with a flat base which is truncated to the north by the ditch associated with the current TH 54. Immediately to the east of this cut is located a flat elevated area (in line with the old roadbed) and a gentle downward slope (in line with the ditch). The elevated area ends in a relatively steep bank above the modern river floodplain . . . . The downward slope extends to the modern river floodplain and widens to form a ramp-like feature approximately 10 feet below the higher terrace (figure 7 [in DAC report]).

This complex of surface features is recorded as a new historic archaeology site, 32WA0268. It is possibly associated with site 32WAX0010, the Ferry to Oslo site. The site was originally recorded from documentary sources during a Regional Environmental Assessment Project in 1978 (Picha, personal communication 8-16-10). The "X" in the site number indicates that no field verification had been conducted. The site is located in the NDSHPO records in the entire SW quarter of Section 36 of T155N R51W on the North Dakota side of the Red River. No corresponding site is recorded in the MnSHPO files for the Minnesota side of the river (Mulholland et al. 2010: 13).

DAC also explains:

The specific location of a ferry crossing at Oslo may have changed through time. However, from the photographs it appears possible that the ramp-like slope and associated raised roadbed south of TH 54 may be associated with the North Dakota side of a ferry crossing or a steamboat landing (although the two are not mutually exclusive). The ramp would provide access to the modern river floodplain while a raised roadbed would be advantageous for vehicles hauling grain or other cargo. The ditch could be the result of borrow for the raised roadbed or associated with either the roadbed or the railroad. Later construction for T.H. 54, including the roadside ditch, probably caused impacts to northern portions of the elevated roadbed, as indicated by the narrower section just west of the cut. Other impacts may have resulted from construction for the current bridge on the north side of the area or from the railroad on the south side of the area" (Mulholland et al. 2010: 18).

In a summary statement DAC recommends "additional research on the potential ferry landing site is warranted" (Mulholland et al. 2010: 24).

Gemini Research Analysis and Conclusions

After conducting fieldwork and archival research in October 2010-January 2011, Gemini Research believes that the Old Roadbed feature (32WA0268) is not associated with a landing site of the Oslo Ferry, and that the Old Roadbed feature identified by DAC is comprised largely of remnants of the 1930s alignment of TH 54, 1959 highway contouring, and the Soo Line track spur serving the Red River Transportation Company Elevator.

Gemini's discussion below is divided into four sections, arranged from west to east:

Pilings in North Marais River. DAC noted pilings in the North Marais River, about one mile west of the Red River, that DAC believed might be associated with the western end of the "Old Roadbed" feature DAC identified (figs. 4, 35). DAC writes, "pilings in the North Marais River south of TH 54 indicate a bridge was formerly present in line with the old roadbed corridor" (Mulholland et al. 2010: 13).

Gemini found that the pilings in the North Marais River remain from a bridge built as part of the state highway department's construction of TH 54 along the northern edge of the Soo Line right-of-way in the 1930s. A 1939 aerial photo shows this alignment (fig. 4). Today there are about seven bridge pilings on the eastern bank and about four on the western bank (fig. 35). Gemini noted that the centerline of the sets of bridge pilings is about 50' south of the current TH 54 centerline, which is consistent with the 1930s alignment of the highway.

Flat Element Between the North Marais River and 15th St. NE/Co. Rd. 18. DAC describes a linear, flat part of the "Old Roadbed" extending between the North Marais River (on the west) and 15th St. NE/Co. Rd. 18. DAC writes, "the tree cover is absent and the area [south of] the current TH 54 is generally flat and grassy. This flatter area has a slightly elevated area that corresponds to an extension of the old roadbed but the ditch appears to be absent" (Mulholland et al. 2010: 13).

Gemini concludes that DAC was observing two different elements: one between the North Marais River and 54th St. NE, and the other between 54th St. NE and 15th St. NE/Co. Rd. 18 (fig. 4).

Between the North Marais River and 54th St. NE, the "flat and grassy" linear feature observed by DAC is the state highway department's 1930s alignment of TH 54, which is visible on the 1939 aerial photo (fig. 4). Gemini noted that the approximate centerline of the "flat and grassy" linear feature noted by DAC is roughly 50' south of the current TH 54 centerline, which is consistent with the 1930s highway alignment.

Between 54th St. NE and 15th St. NE/Co. Rd. 18, the "flat and grassy" linear feature observed by DAC is largely comprised of 1959 contouring associated with moving TH 54 to its current alignment (fig. 4; also ND "Right-of-Way Plat" 1958).

Linear Raised Area Between 15th St. NE/Co. Rd. 18 and a "North-South Cut." East of 15th St. NE/Co. Rd. 18, DAC describes two linear features, parallel with each other and aligned roughly east-west. One is "a linear raised area within the tree cover south of and parallel to TH 54" that "is generally 10-12 feet wide and 3-4 feet high." The other is a ditch "immediately south of and adjacent to the raised feature." DAC indicates "the roadbed narrows" and "the ditch also narrows and becomes shallower." DAC adds, "Both features are interrupted by a north-south cut with a flat base" (Mulholland et al. 2010: 13).

Gemini found that the "linear raised area within the tree cover south of and parallel to TH 54" is the Soo Line railroad spur that served the Red River Transportation Company Elevator (figs. 2-4). The spur was aligned parallel with, and immediately north of, the main Soo Line tracks and curved to the northeast along the western bank of the river to access the elevator near the water's edge (figs. 15, 18). The spur had been removed by the time of a 1939 aerial photo, but its path on the photo is marked by a curve of shrubs and other vegetation (fig. 3-4). The ditch noted by DAC is likely a railroad-built ditch on the southern side of the spur.

The location where DAC observed that the two linear features "narrow" is likely the place where the track spur curved to the northeast.

Gemini estimates that the Soo Line track spur serving the elevator was about 2,400' long. At its western end, it left the Soo Line tracks perhaps 500' west of 15th St. NE/Co. Rd. 18 (fig. 2). It curved to the northeast as it approached the riverbank, and followed the bank roughly parallel with the road that served the elevator and the Wosick farmstead. The northeastern end of the spur was perhaps 850' northeast of the current TH 54 centerline. A roughly 300'-long segment of the spur would have been removed for the construction of the 1959 bridge and its approach.

Gemini speculates that the "north-south cut" that DAC observed (at the approximate place where the track spur curved northeast) is a feature that may have been made for or by vehicles leaving the TH 54 roadbed, crossing the former rail spur alignment, and continuing down to the piers of the Soo Line Swing Bridge (perhaps to maintain it) and/or to the water's edge.

"Flat Elevated Area" and "Ramp-like Feature" on the West Bank of the River. DAC also describes surface features located immediately east of the north-south cut just discussed (i.e., located southwest of the western abutment of Bridge 9100/54-3) (figs. 2-4, 26). DAC writes that the features include, "a flat elevated area (in line with the old roadbed) and a gentle downward slope (in line with the ditch). The elevated area ends in a relatively steep bank above the modern river floodplain . . . . The downward slope extends to the modern river floodplain and widens to form a ramp-like feature" (Mulholland et al. 2010: 13).

DAC also writes, "from the [historic] photographs it appears possible that the ramp-like slope and associated raised roadbed south of TH 54 may be associated with the North Dakota side of a ferry crossing or a steamboat landing (although the two are not mutually exclusive). The ramp would provide access to the modern river floodplain while a raised roadbed would be advantageous for vehicles hauling grain or other cargo" (Mulholland et al. 2010: 18).

Gemini speculates that the surface features recorded by DAC were made by post-1930s road construction, by vehicles, or by some other "modern" (e.g., post-1950) activity including perhaps construction of the 1959 bridge.

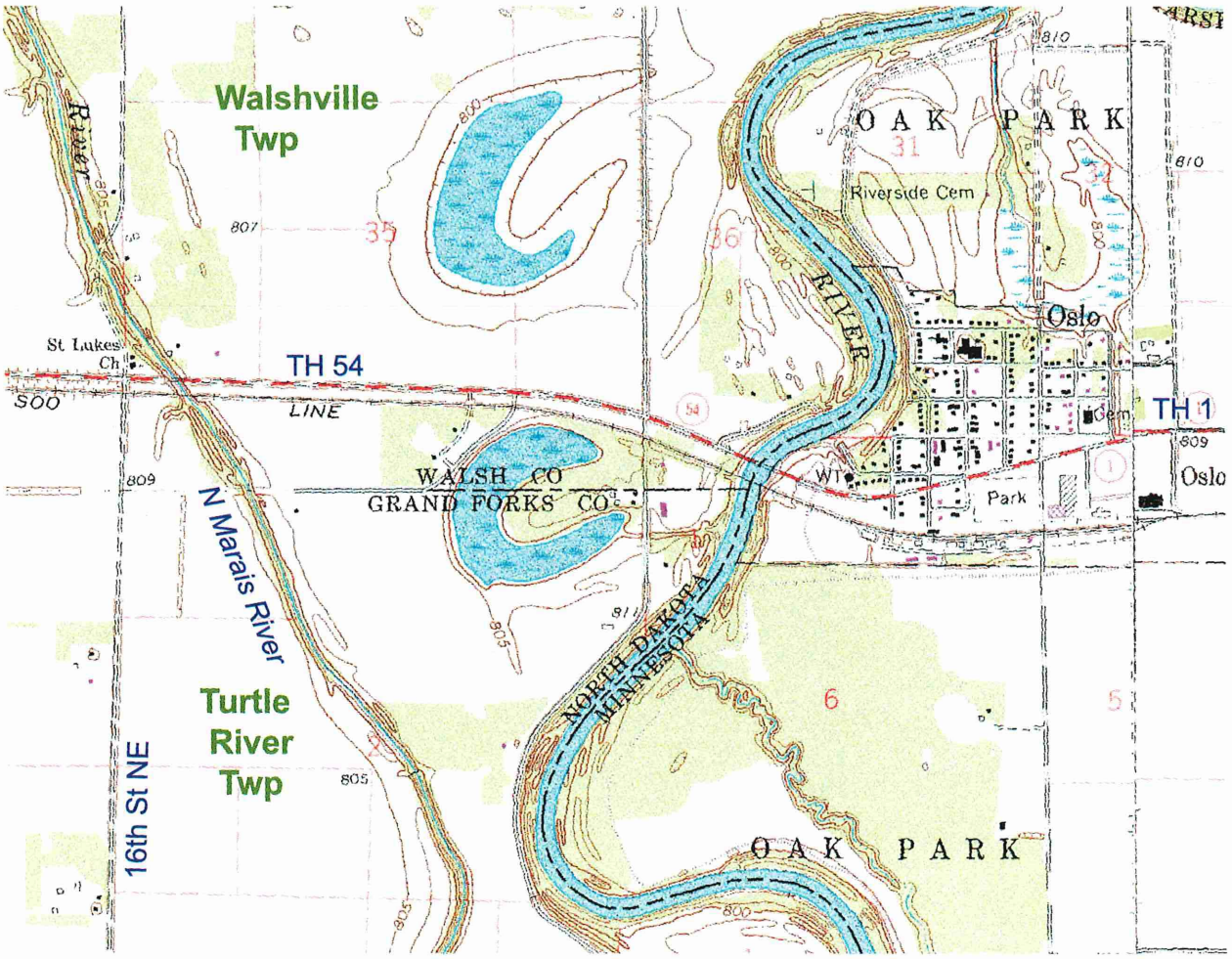

Fig. 1 Location Map

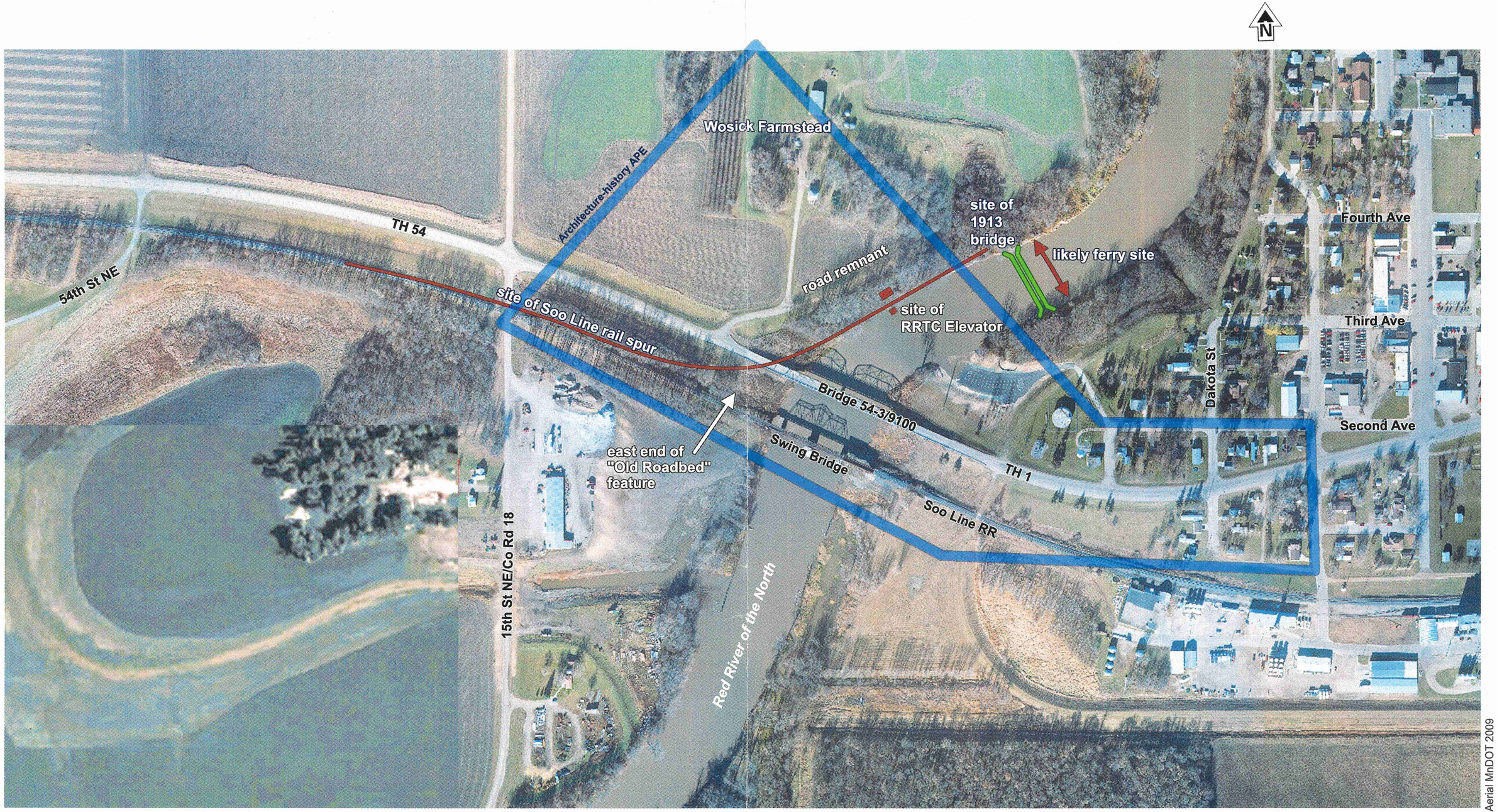

Fig. 2 Map of Oslo Crossing (2009 aerial)

prep by Gemini Research February 2011

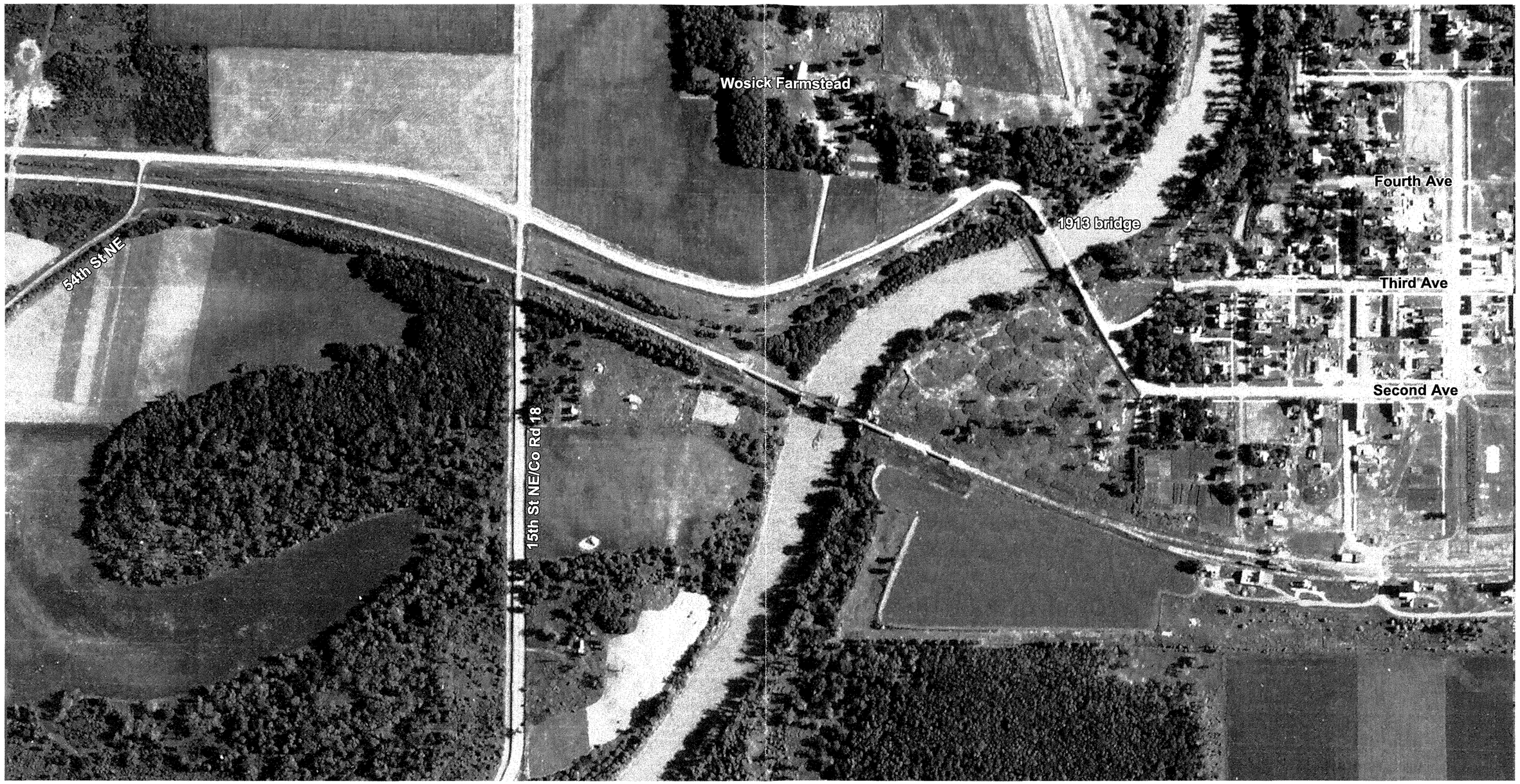

Fig. 3 1939 aerial view of Oslo vicinity with 1930s alignment of Trunk Highway 54, Soo Line Swing Bridge (1905), site of former Soo Line track spur to Red River Transportation Company Elevator, and 1913 road bridge; taken July 9, 1939 (Farm Services Agency)

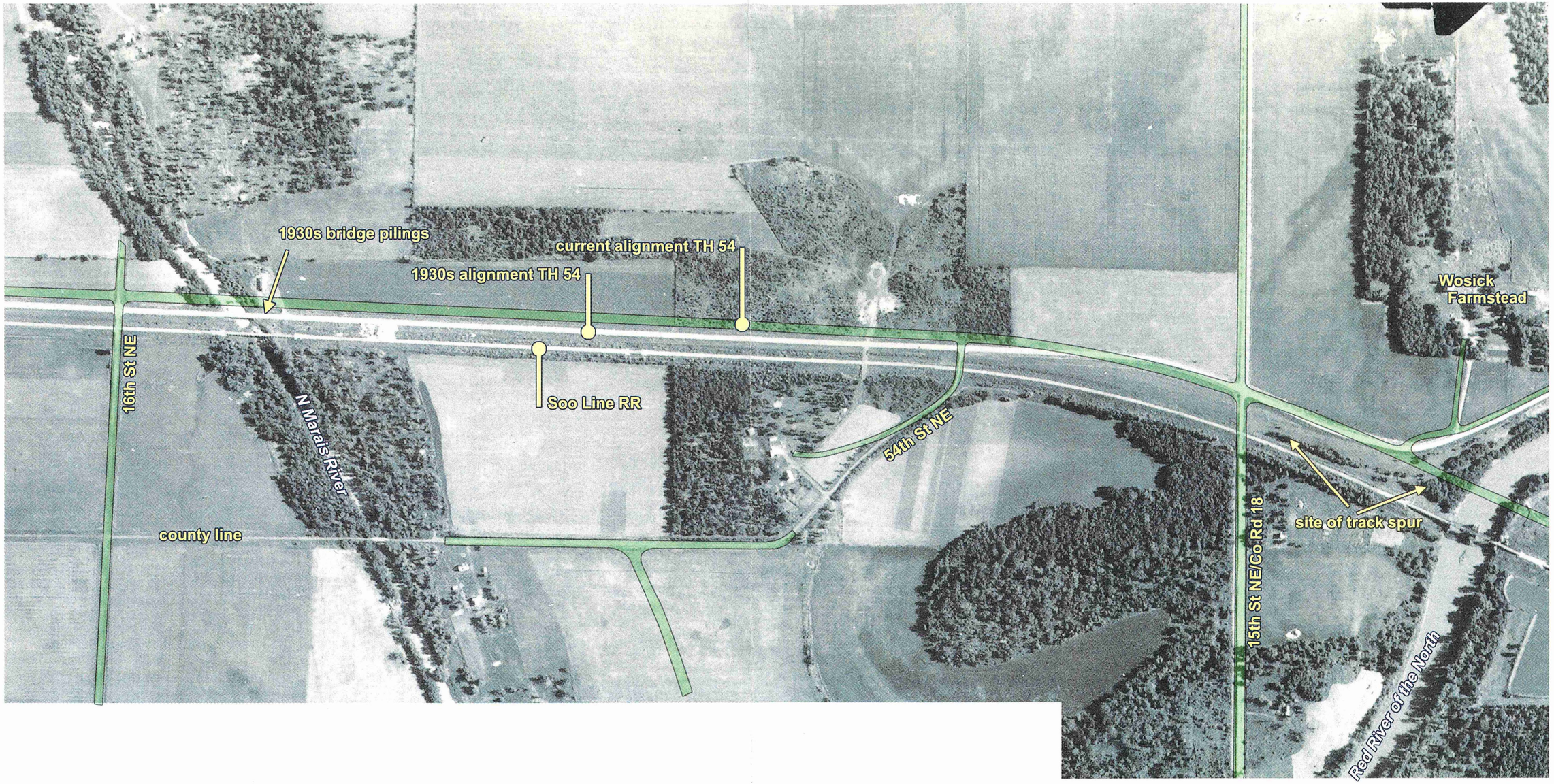

Fig. 4 1939 aerial view with North Marais River and 1930s alignment of TH 54; note current alignment of TH 54; taken July 9, 1939 (Farm Services Agency)

prep by Gemini Research February 2011

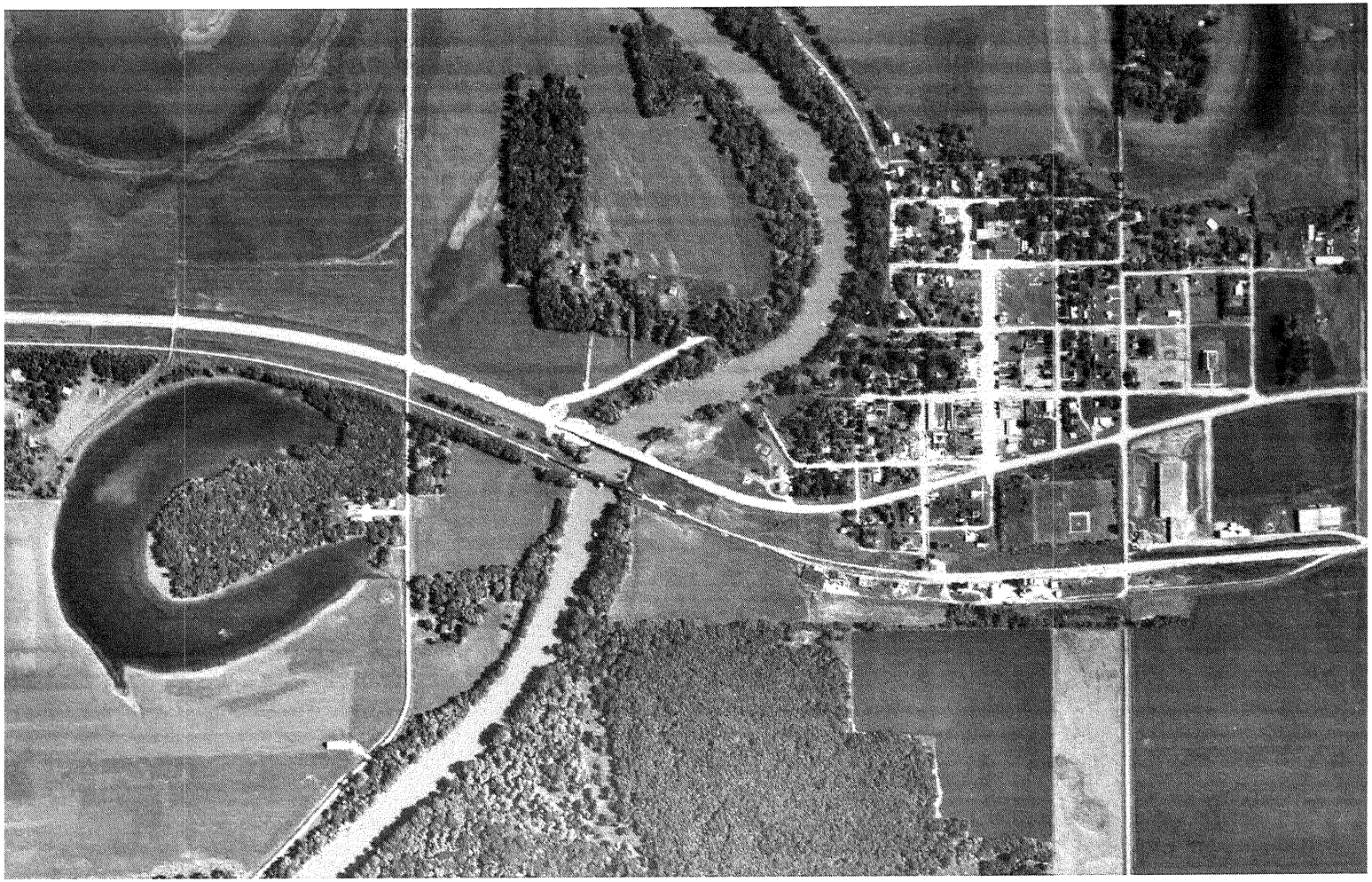

Fig. 5. 1966 aerial view of Oslo vicinity with 1959 alignment of Trunk Highway 54, Soo Line Swing Bridge (1905), and state highway bridge (1959); the 1913 road bridge has been removed but roads approaching it remain; taken June 26, 1966 (Farm Services Agency)

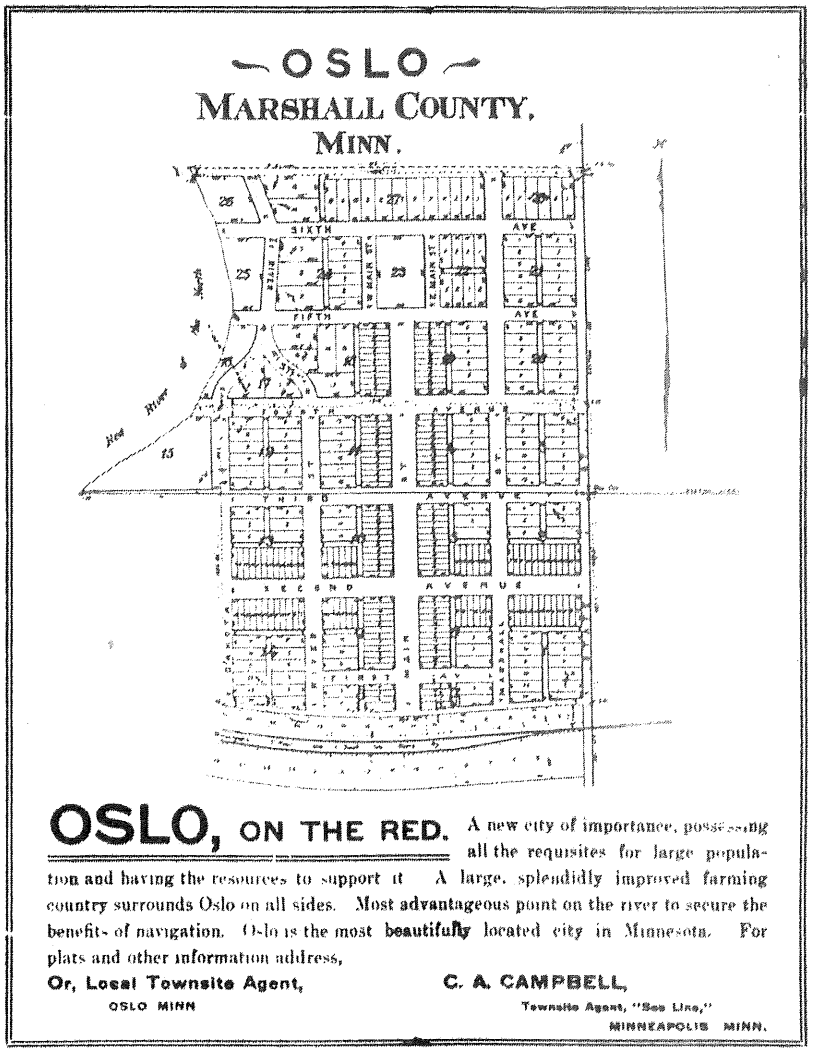

Fig. 6. 1905 map of Oslo used by Soo Line agent Cyrus A. Campbell to promote and sell townsite lots; the plat's Third Avenue was placed on a preexisting section road, the road from Warren (*Oslo Golden Jubilee* 1955: 71)

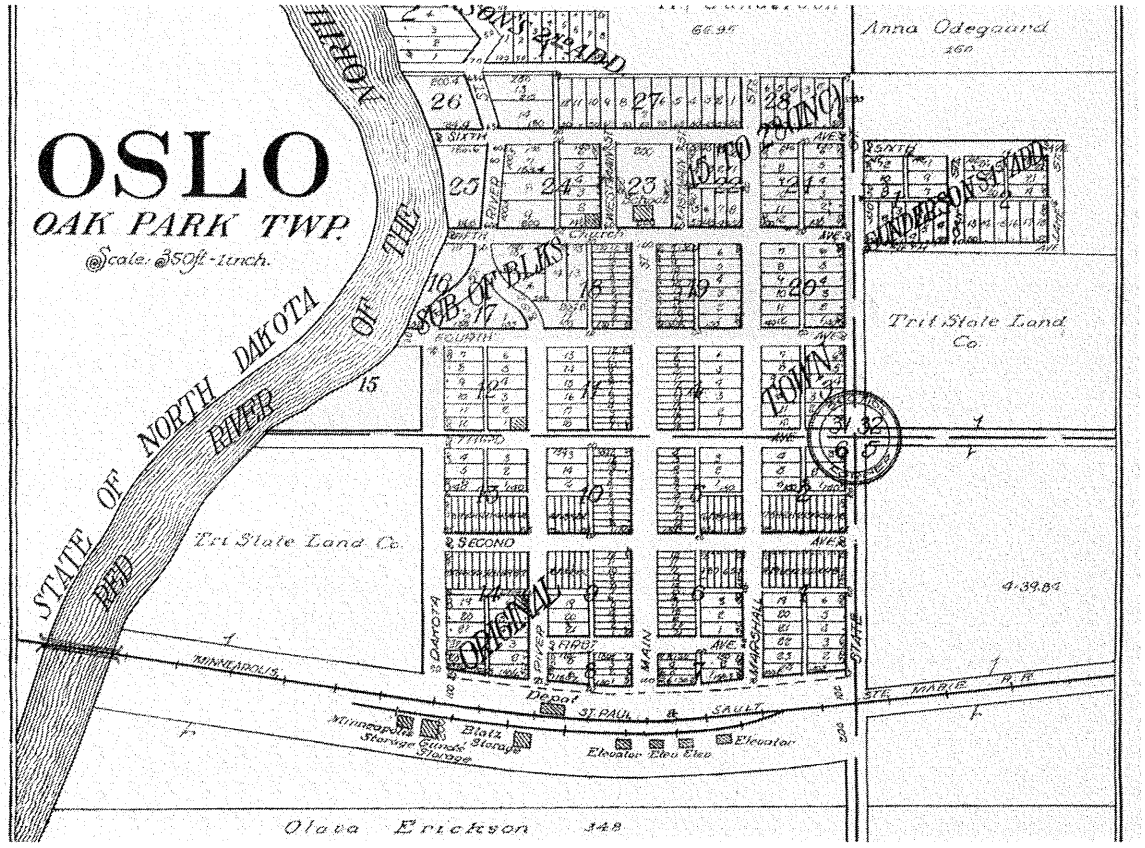

Fig. 7. 1909 map of Oslo showing the Soo Line Swing Bridge, trackside grain elevators, and Third Avenue (the road from Warren); the curve of the railroad at the river is misdrawn on this map (compare to figure 7) (*Standard Atlas of Marshall County* 1909)

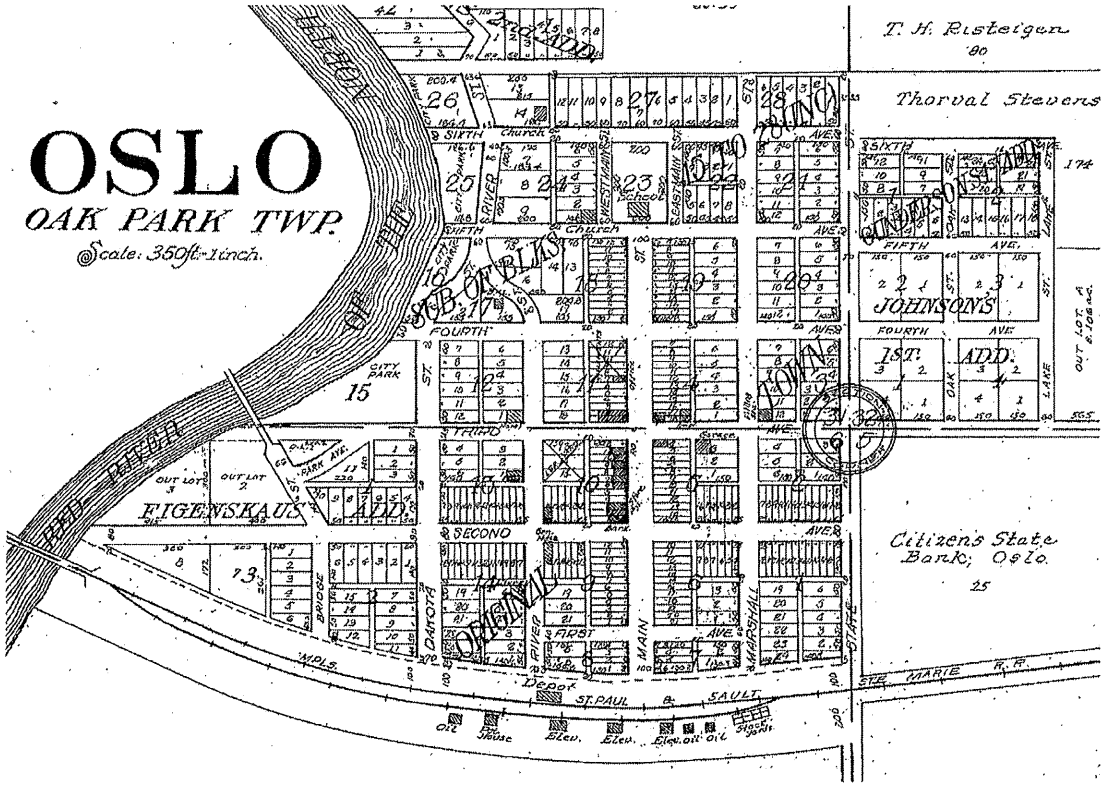

Fig. 8. 1928 map of Oslo showing the 1913 road bridge accessible from Second and Third Avenues; commercial buildings are clustered near Main and Third; the school is on Fifth Avenue (on Block 23) at the top of Main Street (*Standard Atlas of Marshall County* 1928)

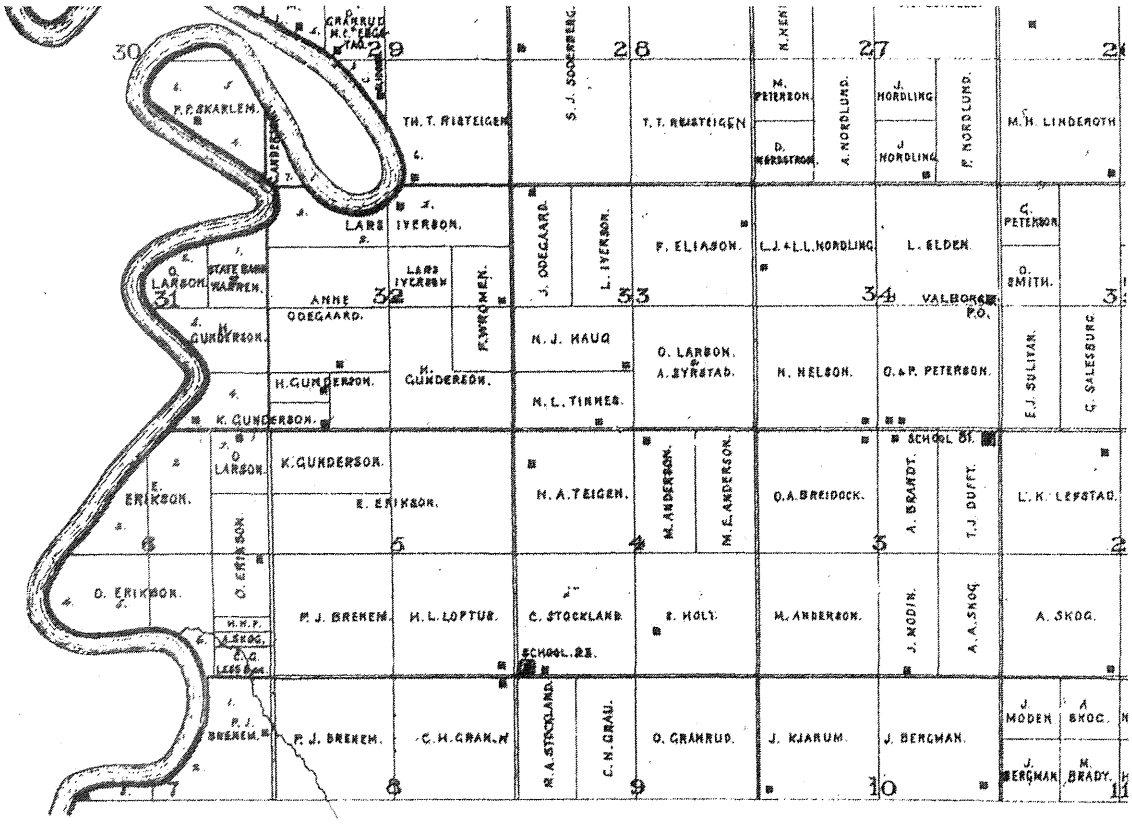

Fig. 9. 1902 plat of Oslo vicinity, Oak Park Township; Oslo was platted near the corner of Sections 31, 32, 5, and 6 (*Atlas of Marshall County* 1902)

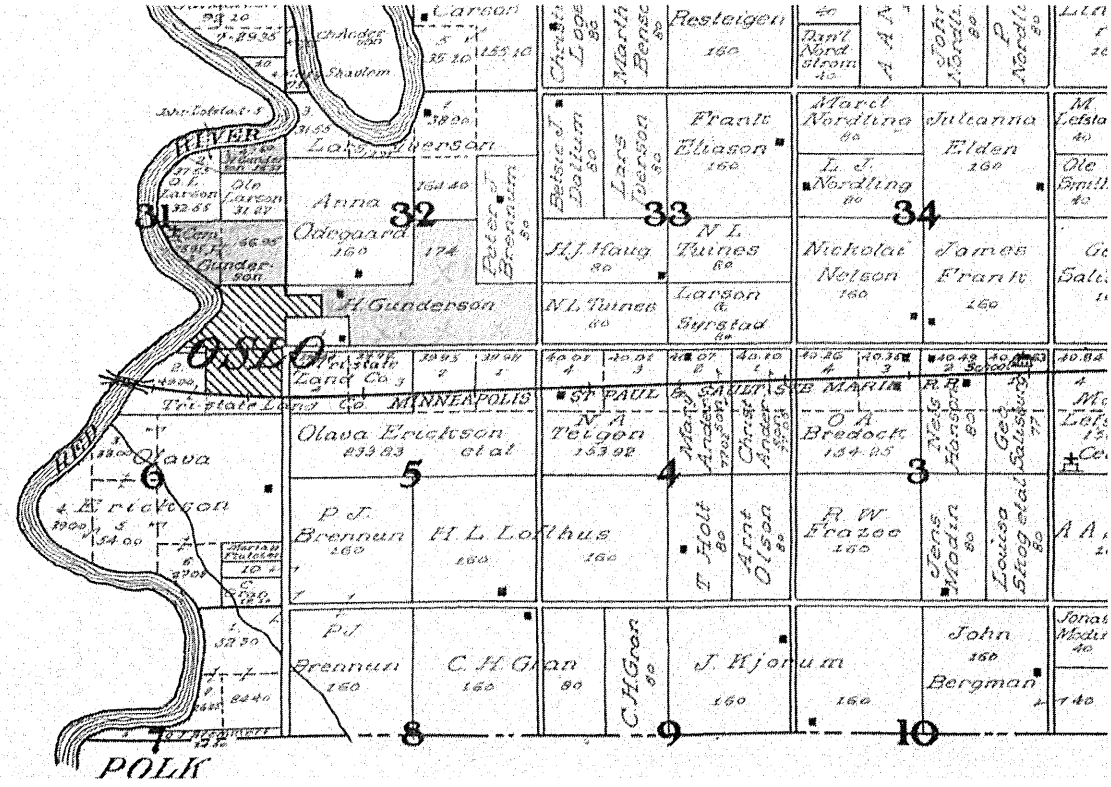

Fig. 10. 1909 plat of Oslo vicinity, Oak Park Township; the curve of the railroad at the river is misdrawn on this map (*Standard Atlas of Marshall County* 1909)

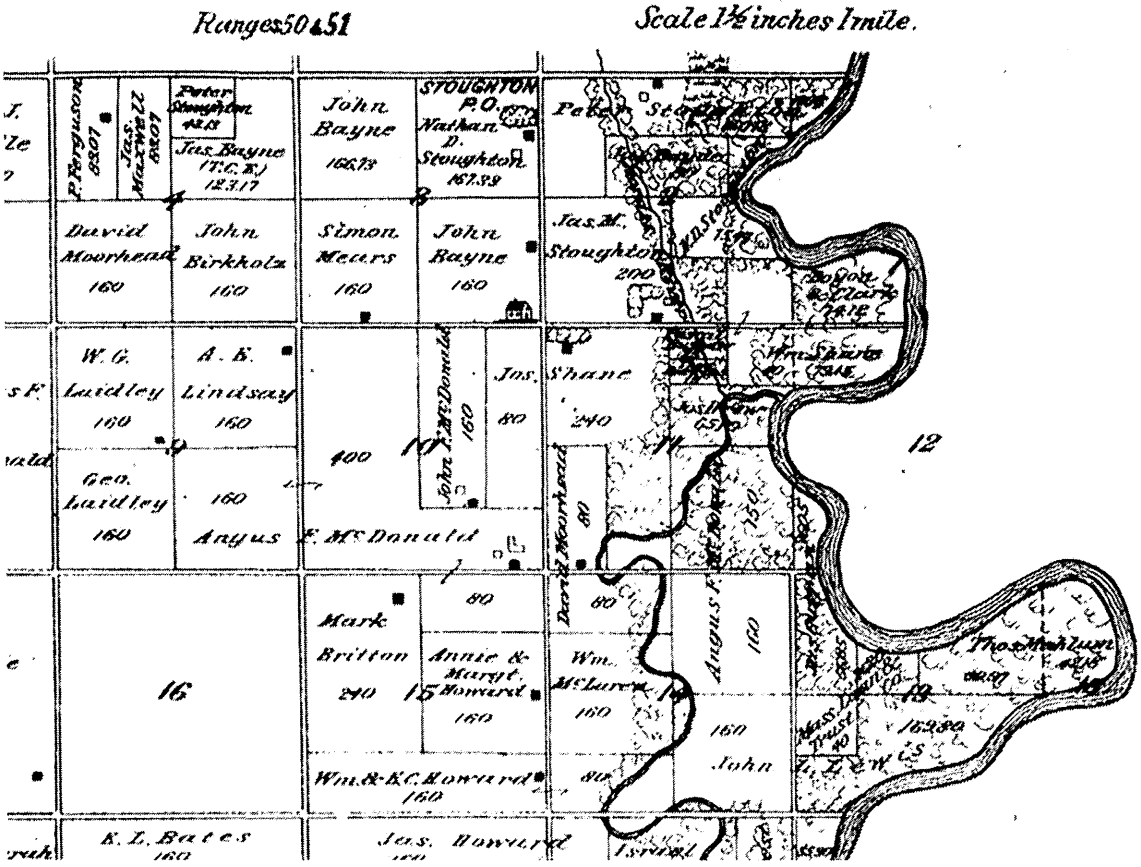

Fig. 11. 1893 plat of Turtle River Township, Grand Forks County, opposite Oslo (which was founded east of the upper right corner of the map); the road to Manvel and Grand Forks ran along the east edge of Sections 8, 10, and 15; the map erroneously shows the county-line road at the upper right corner going straight through the abandoned oxbow (*Plat Book of Grand Forks* 1893)

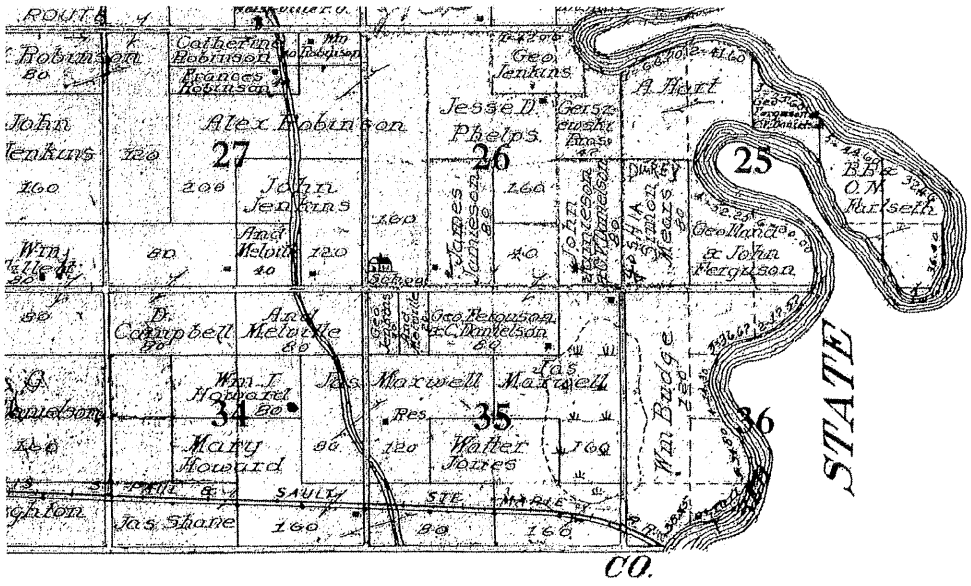

Fig. 12. 1910 plat of Walshville Township, Walsh County, opposite Oslo (which would be east of the lower right corner); the map mistakenly shows the county-line road at the lower right corner going straight through the abandoned oxbow rather than jogging north around it (*Standard Atlas of Walsh County* 1910)

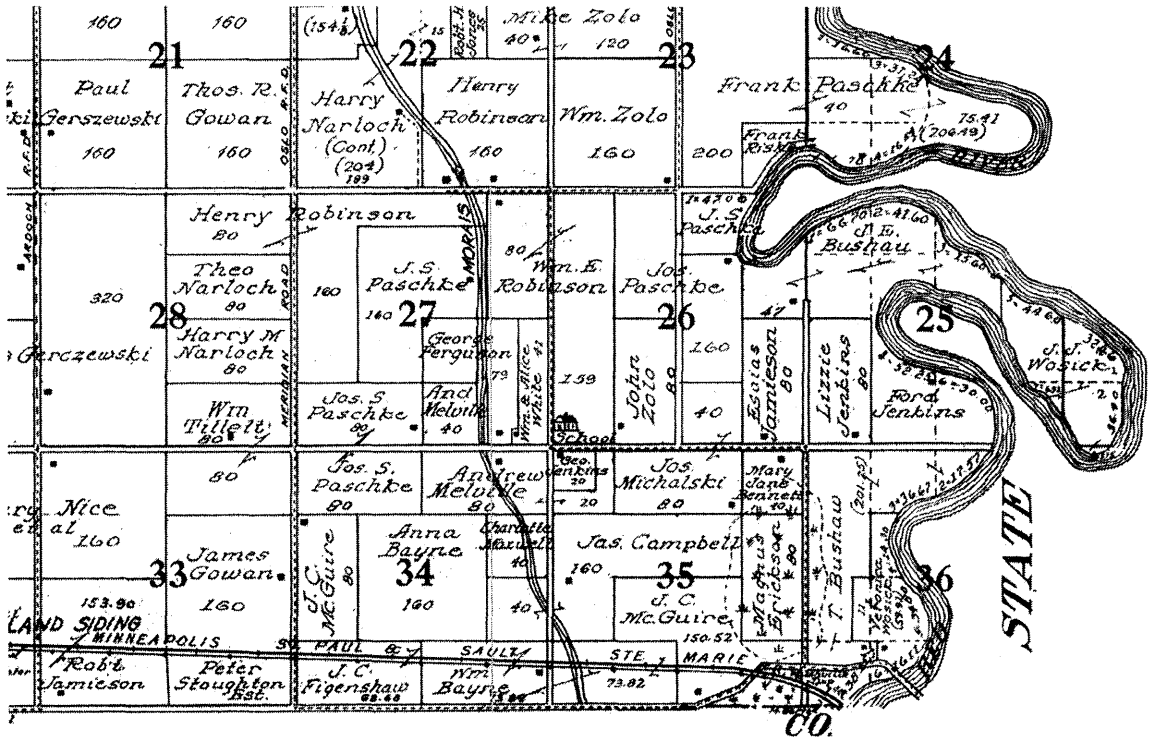

Fig. 13. 1928 plat of Walshville Township, Walsh County, opposite Oslo showing the 1913 road bridge approached by the county-line road that jogged north around the abandoned oxbow (*Standard Atlas of Walsh County* 1928)

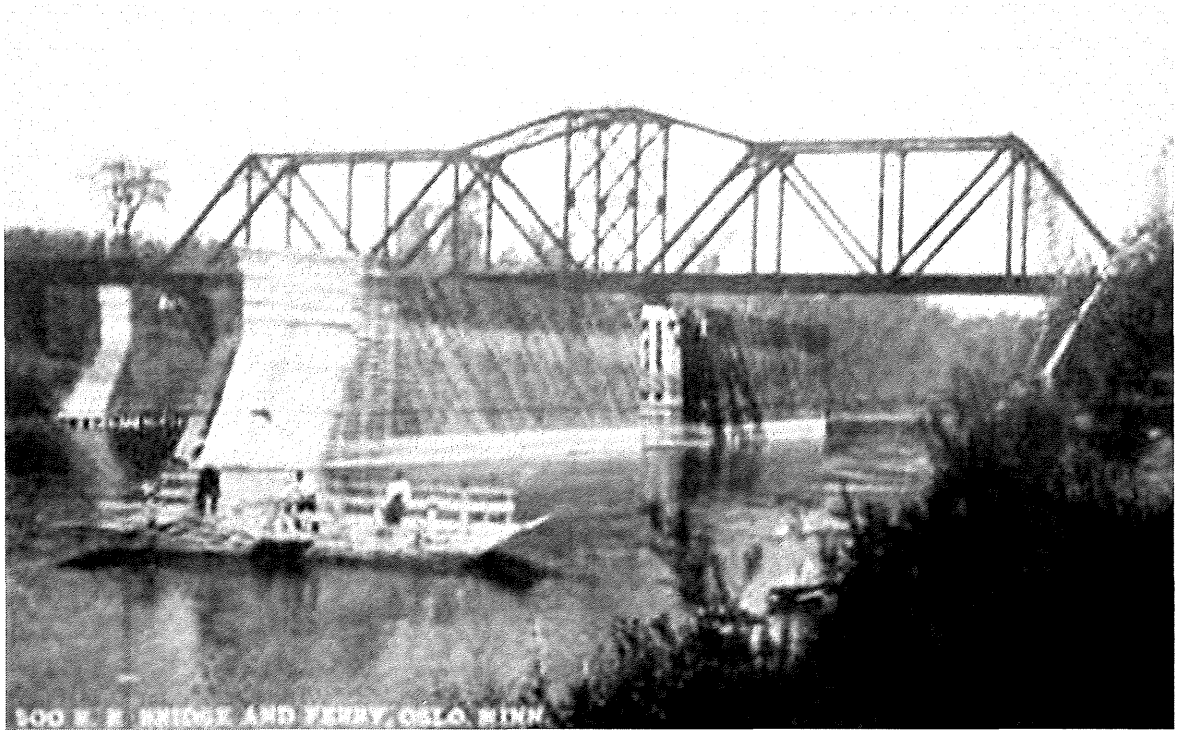

Fig. 14. 1906 photo of the south side of the Soo Line Swing Bridge with the Oslo Ferry in the foreground; the water is low suggesting late summer since 1906 was a spring-flood year; the man in the center of the ferry appears to be holding a single oar and is flanked by a man and a woman; facing northwest (*Oslo Golden Jubilee* 1955: 69)

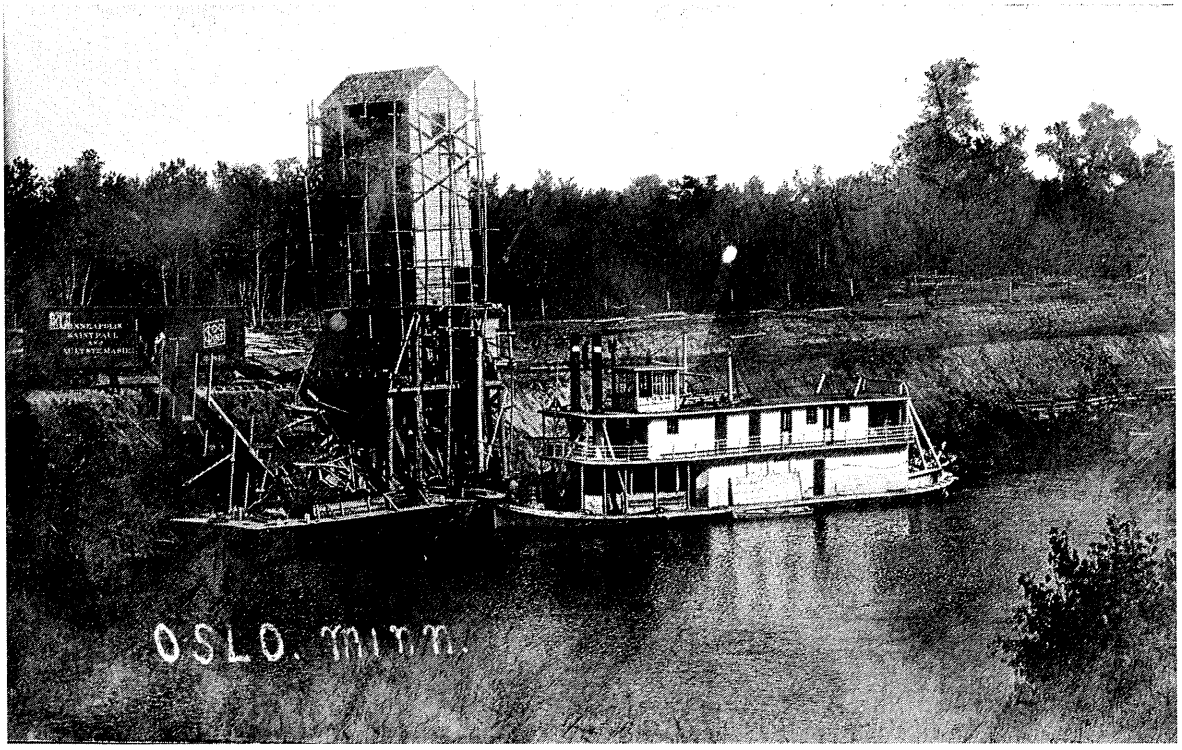

Fig. 15. 1906 view of the Red River Transportation Company Elevator at Oslo being built, along with a barge and steamboat; there is a boxcar on the track spur that runs along the bank; a few of the fence posts at the base of the tree line in this photo are still standing; facing northwest (Pennington County Historical Society)

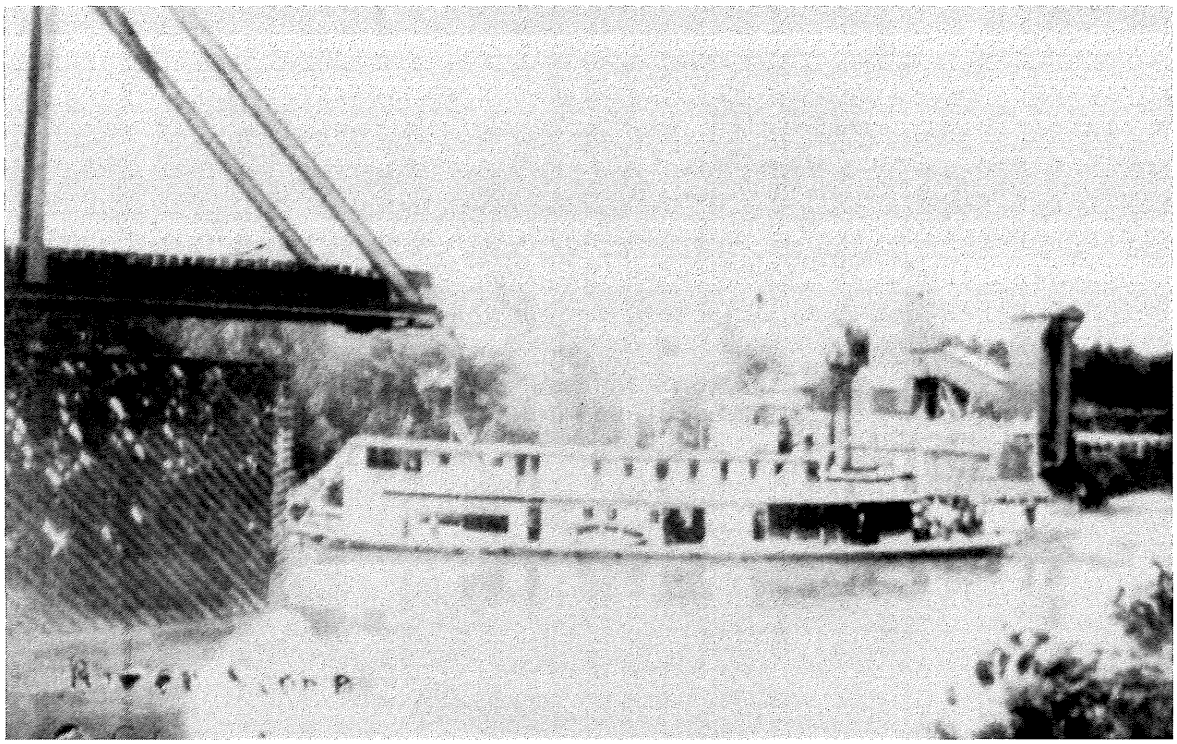

Fig. 16. Ca. 1907-1912 view of the Soo Line Swing Bridge in open position, a steamboat, and the Red River Transportation Company Elevator; facing northwest (Pennington County Historical Society)

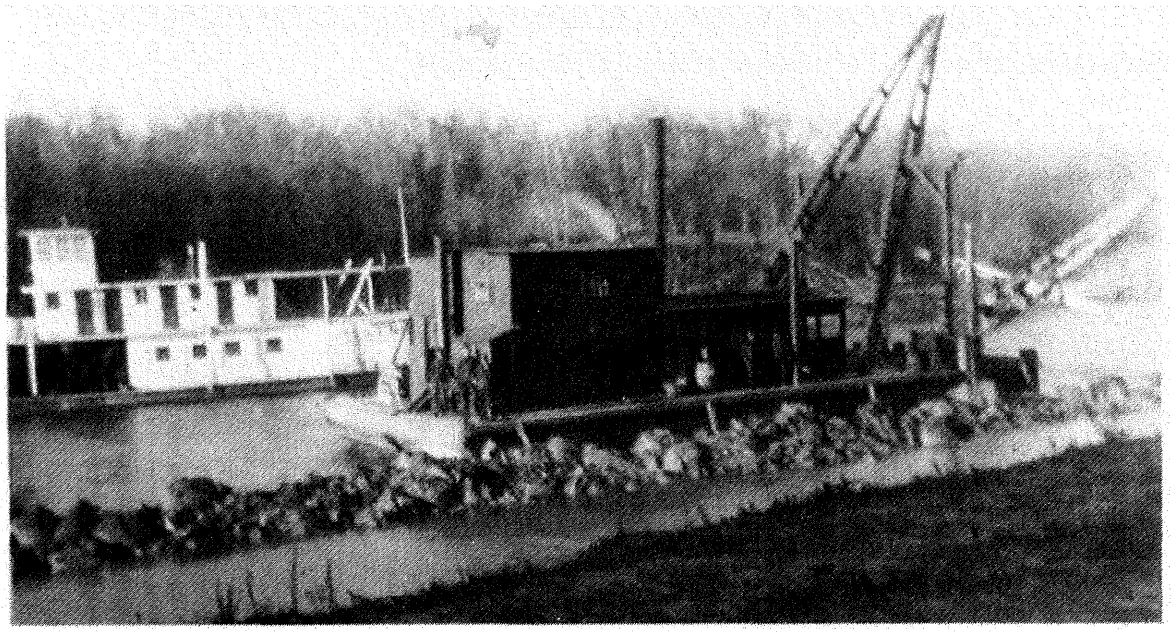

Fig. 17. Ca. 1910 photo of the steamboat *Ogama* and the government dredge at Oslo; the Oslo bank is probably in the foreground; facing northwest (*Oslo, Minnesota* 2005: 2)

Fig. 18. Ca. 1910 view of the Oslo Ferry with the Red River Transportation Company Elevator, boxcars on Soo Line track spur, a barge, and a steamboat; at the midpoint of the ferry is a man at a windlass with a sun canopy overhead; also on the ferry are a woman and a horse; facing west (Pennington County Historical Society)

Fig. 19. Ca. 1910 photo of the Oslo Ferry; the Oslo ferry landing and a rowboat are in the foreground; the North Dakota ferry landing is across the river; the ferryman is beneath a sun canopy next to a windlass; right of the operator is a wagon pulled by two horses; there is probably another person left of the ferryman; facing northwest (*Oslo Golden Jubilee* 1955: 74)

Fig. 20. April 1916 photo of the Soo Line Swing Bridge, the Red River Transportation Company Elevator, and the river as the ice is melting in a high-water spring; note the swing bridge's timber draw rest (over which the span opens) that projects from the central bridge pier; facing southwest, taken April 17, 1916 (Pennington County Historical Society)

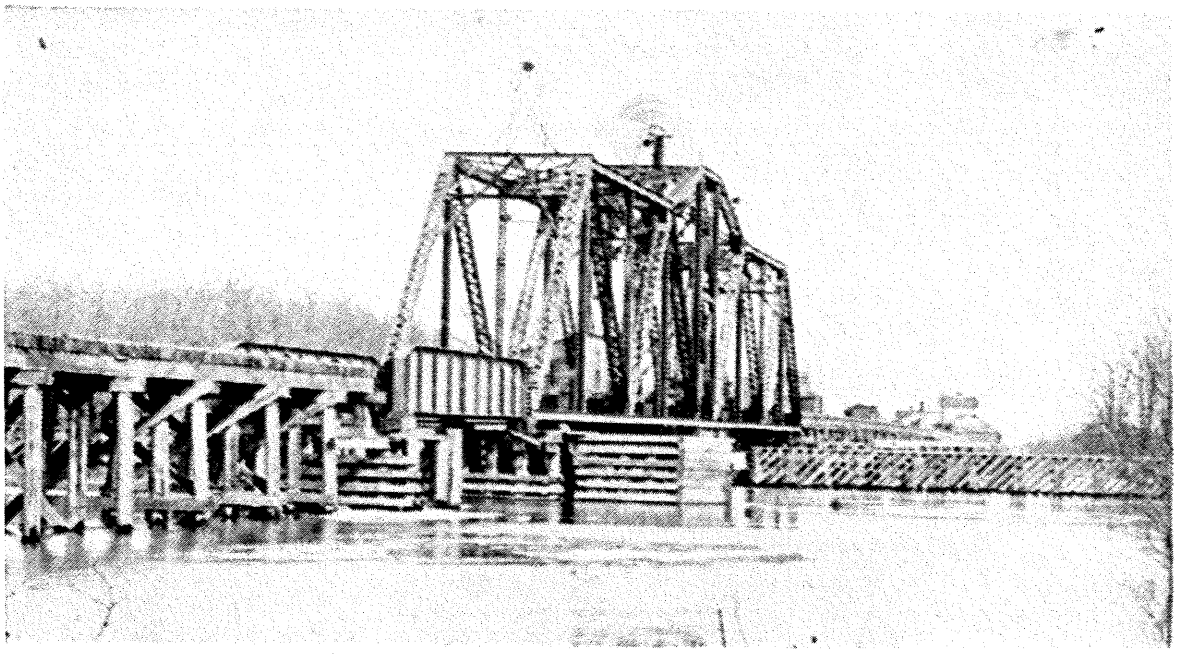

Fig. 21. April 1916 view of the Soo Line Swing Bridge in high water with the elevators in south Oslo in the distance; facing southeast (*Oslo Golden Jubilee* 1955: 69)

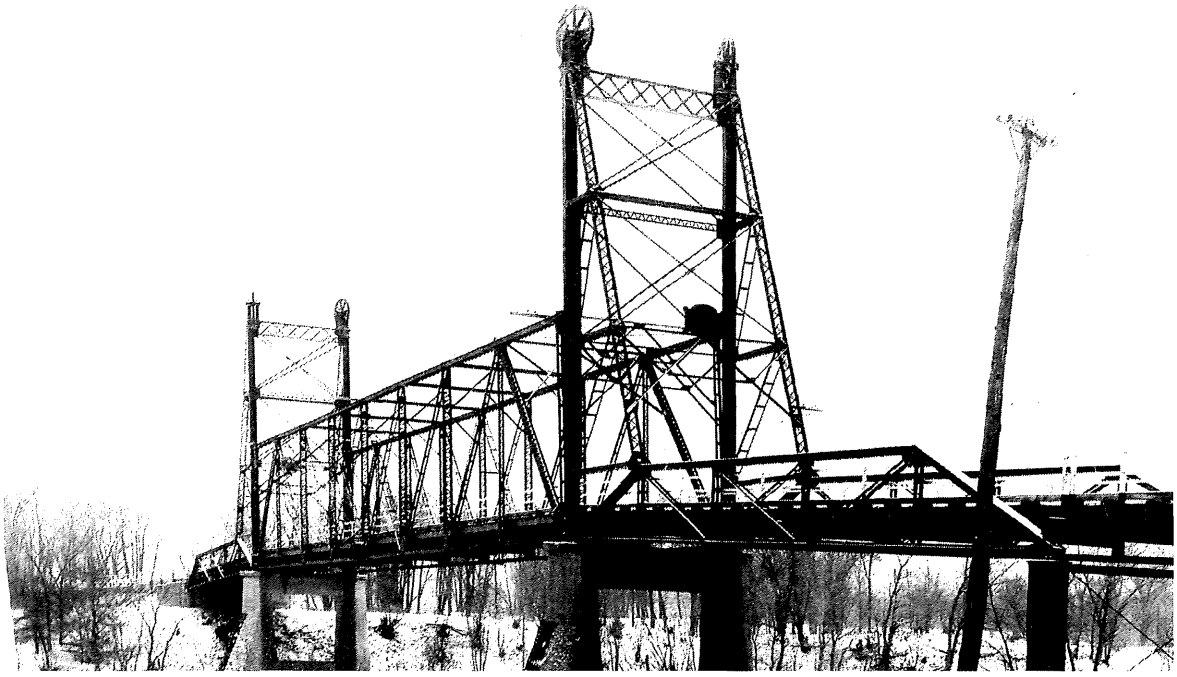

Fig. 22. The 1913 road bridge after its lift-bridge counterweights had been removed in 1932; wooded North Dakota bank of the river; facing northwest, ca. 1940 (Mn/DOT photo)

Fig. 23. Cable ferry over the Red River near Breckenridge; note the simple timber ferry landing in the distance; ca. 1870 (State Historical Society of North Dakota, 00670-31)

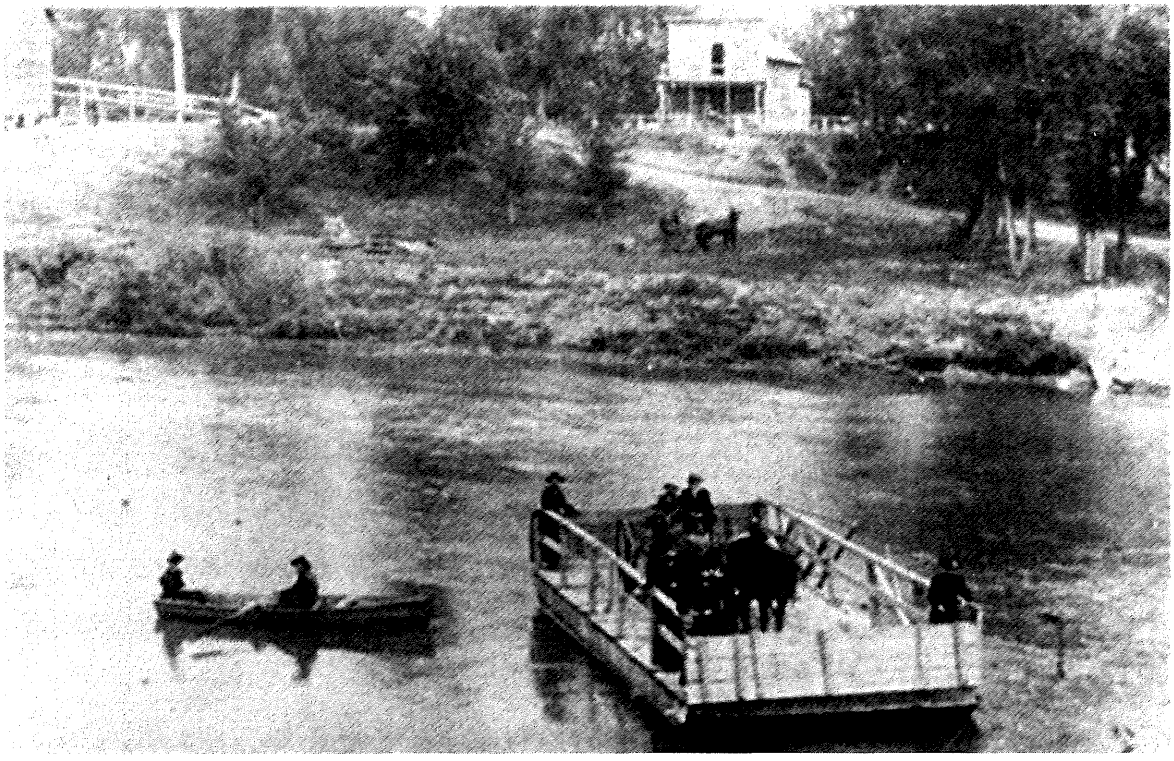

Fig. 24. Cable ferry over the Red River at Big Woods (8 miles north of Oslo); the ferry landing is at the right edge of the photo; the ferry owner's store is in view; facing east, ca. 1910 (*Oslo, Minnesota* 2005: 2)

Fig. 25. Steamboat *Grand Forks* (built 1895) towing grain barges near Grand Forks; 1910 photo by Johnson and Olson of Alexandria, MN (Institute for Regional Studies, NDSU, 2000.212.284)

Fig. 26. The group of trees between the Soo Line Swing Bridge (left) and the state highway bridge (right) is part of the "Old Roadbed" feature identified by Duluth Archaeology Center, as is a "ramp-like feature" at the water's edge; facing northwest, 2010 (Gemini Research photo)

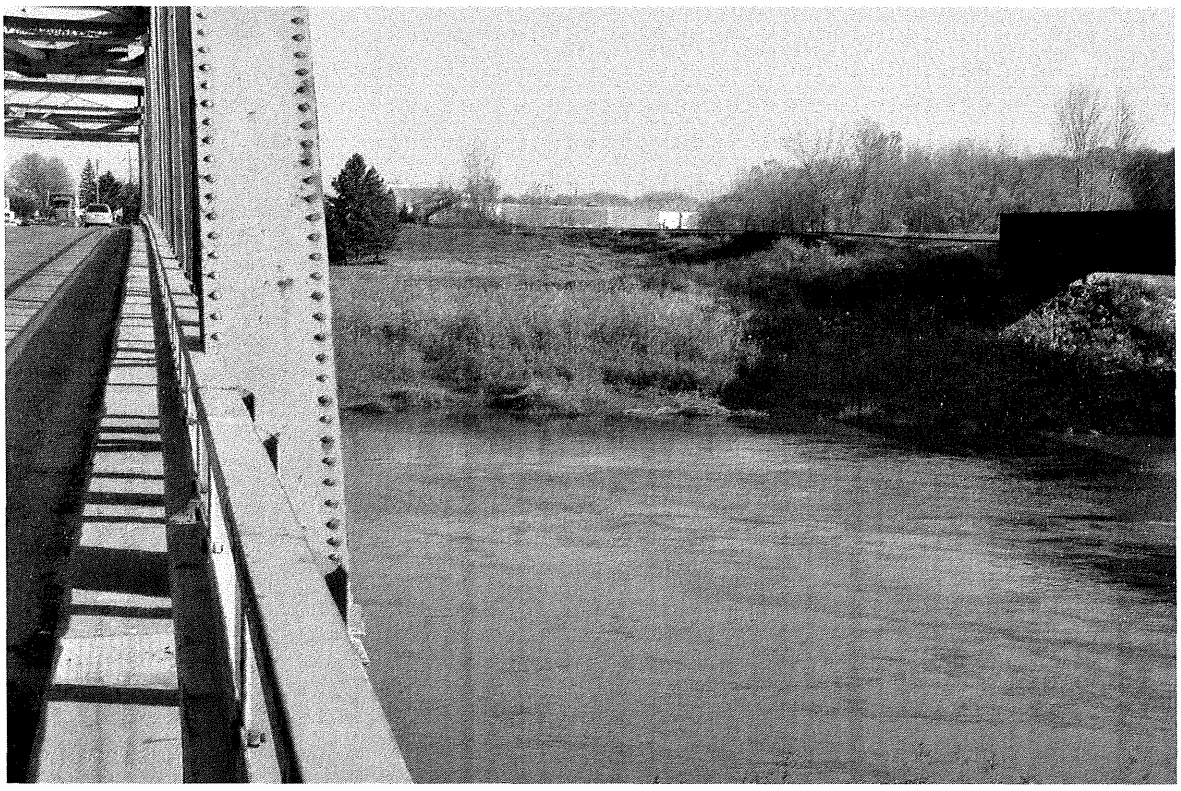

Fig. 27. Minnesota side of the river across from the "Old Roadbed" feature identified by Duluth Archaeology Center as a possible landing of the Oslo Ferry; state highway bridge at left, railroad at right; facing southeast, 2010 (Gemini Research photo)

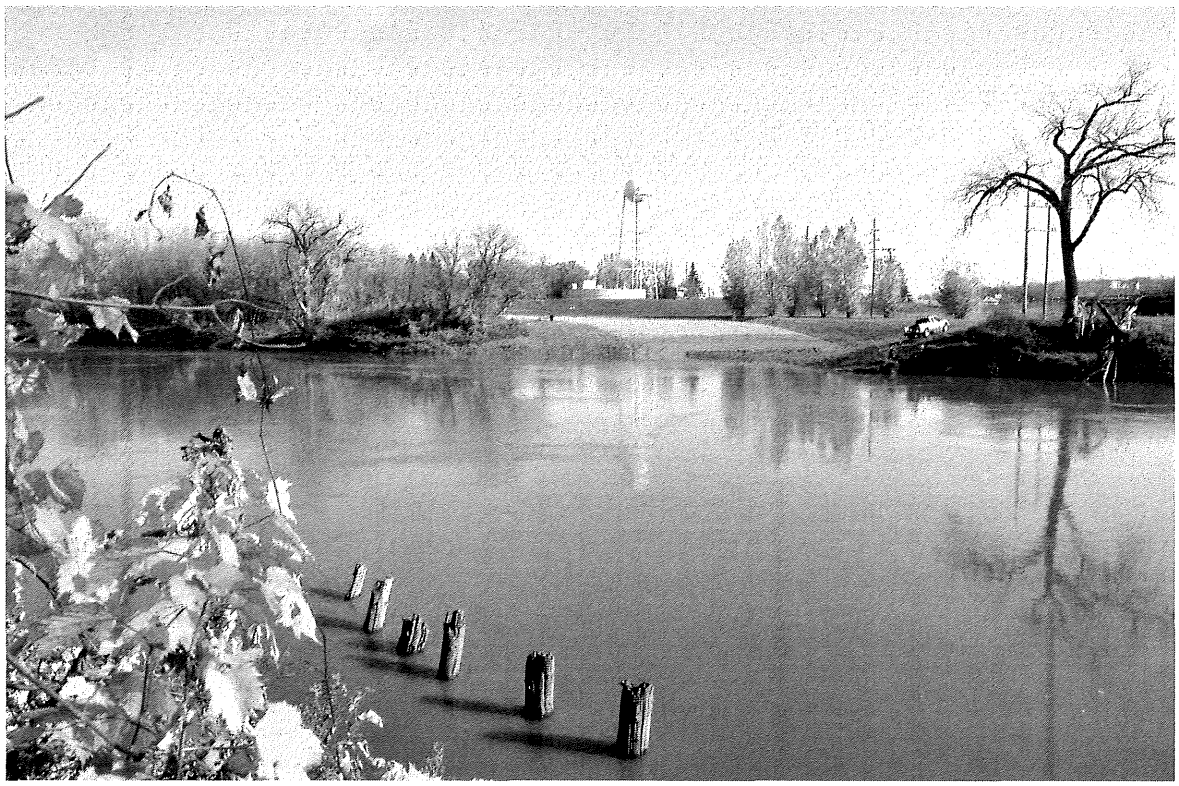

Fig. 28. Wood pilings in the foreground remain from the Red River Transportation Company Elevator; Oslo's public boat ramp is across the river; facing southeast, 2010 (Gemini Research photo)

Fig. 29. Another view of the pilings from the Red River Transportation Company Elevator; the water was high when this photo was taken and a local resident said the piers usually project farther out of the water; facing northwest, 2010 (Gemini Research photo)

Fig. 30. Segment of the North Dakota bank at Oslo (in high water) matching the view in figure 17; the Red River Transportation Company Elevator stood on the far bank (left of center); the 1913 bridge was built just right of the photo; facing west, 2010 (Gemini Research photo)

Fig. 31. Segment of the North Dakota bank just north of the previous photo (a branch snagged in the river at left center appears in both photos); remnants of the western end of the 1913 bridge remain on the bank (in from the right edge of the photo); facing west, 2010 (Gemini Research photo)

Fig. 32. Looking across the Red, south of the railroad tracks, to the low-lying area that drains an abandoned river oxbow (see the oxbow on figures 1 and 4); facing southwest, 2010 (Gemini Research photo)

Fig. 33. A remnant of the road that approached the 1913 bridge; taken northeast of the Wosick farmstead; facing northeast, 2010 (Gemini Research photo)

Fig. 34. Concrete and steel remnants of the 1913 road bridge on the western bank of the river across from Oslo's Third Avenue; facing southeast, 2010 (Gemini Research photo)

Fig. 35. Bridge pilings in the North Marais River that remain from the 1930s alignment of Trunk Highway 54; facing east, 2010 (Gemini Research photo)

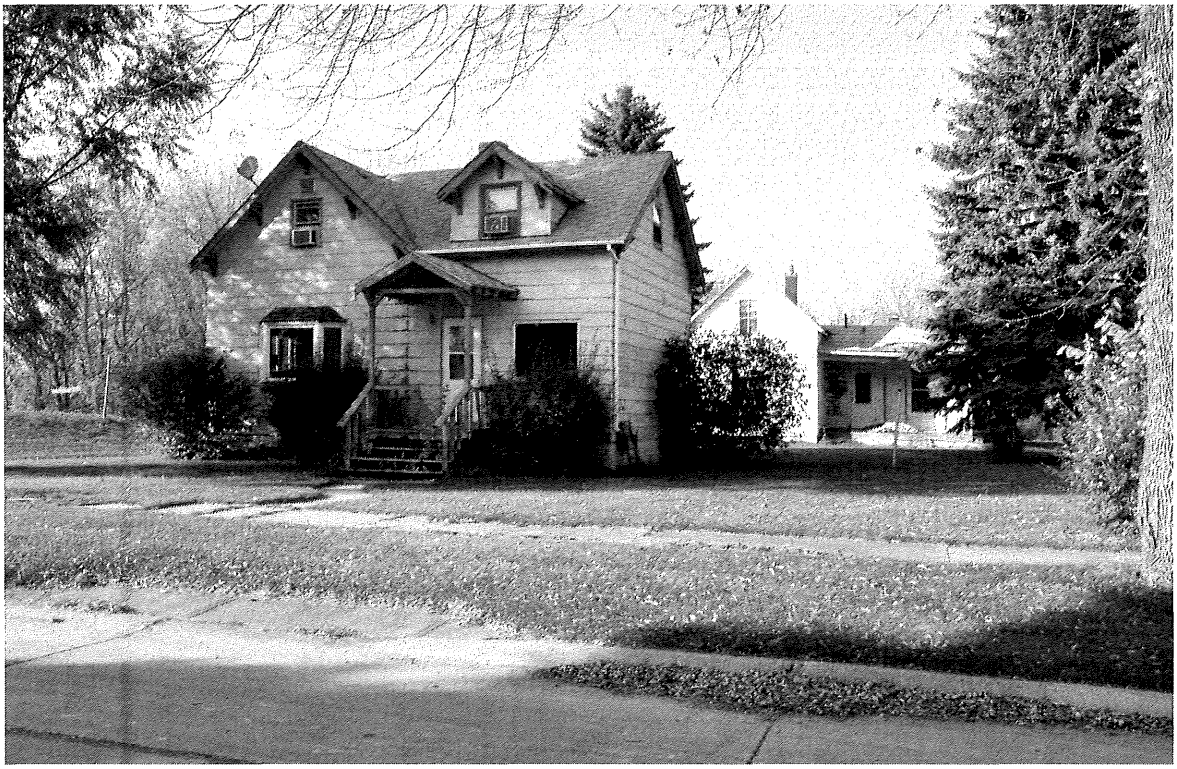

Fig. 36. Two houses at the northeastern corner of Third Avenue and Dakota Street in Oslo; the house on the right does not face a platted street (and perhaps predates platting); Third Avenue is in the foreground; facing north, 2010 (Gemini Research photo)

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