

American Society of Civil Engineers –
Minnesota Section

Timeline:
Two Centuries of Minnesota Civil Engineering Milestones
1819-2014



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Introduction

The American Society of Civil Engineers (ASCE)-Northwest Section was founded in 1914. This year, as it celebrates its centennial, this timeline helps salute its achievements and recognize its leaders.

The timeline lists milestones from the history of the ASCE-Northwest Section, now called the ASCE-Minnesota Section, as well as examples of the iconic work of civil engineers and information about Minnesota civil engineering leaders. It begins with some of the earliest development in the state, pre-dating statehood, and ends with educational work sponsored by ASCE-Minnesota Section extending into 2015.

The work of this active ASCE Section is documented in its records collection, held at the Department of Civil Engineering at the University of Minnesota. The timeline includes examples of meetings, programs, and state and national conferences hosted by the Minnesota Section. The list is by no means complete, but included to represent its work. For more information about programs and sponsorships throughout the century, see the ASCE-Minnesota Section Records.

Information in this timeline is from the geographic area of the ASCE-Minnesota Section. It thus does not include information from the Duluth Section (Koochiching, St. Louis, Lake, Cook, Itasca, Cass, Crow, Wing, Aitkin, Carlton and Pine Counties) unless a tie could be established to people or work from the Minnesota Section. It ends with an appendix listing milestones of the ASCE-Minnesota Section student chapter, based in the Department of Civil Engineering at the University of Minnesota.

This timeline celebrates the Minnesota Section. As the Minnesota Section moves into its second century, the Section mission, as stated on the ASCE-Minnesota website, illustrates its ongoing commitment to supporting civil engineering in Minnesota:

The American Society of Civil Engineers is a non-profit professional organization founded in 1852 with over 140,000 members worldwide. Locally, the Minnesota Section represents more than 1200 members that work in all levels of government, academia and the private sector to design, construct and maintain our State's infrastructure. One of our key responsibilities is to advocate for infrastructure stewardship to protect the public's health, safety, and improve our quality of life.

Congratulations to Minnesota's civil engineers, past and present, who have made these achievements possible.

American Society of Civil Engineers-Minnesota Section
Two Centuries of Minnesota Civil Engineering Milestones
1819-2014

Through 1859

1819 – Fort Snelling

Members of the 5th Infantry Regiment, United States Army, under the command of Colonel Josiah Snelling build this military fort at the confluence of the Minnesota and Mississippi Rivers.

Source:

“Timeline of Minnesota History,” Minnesota Historical Society,
http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

Photo:

Seth Eastman “Distant View of Fort Snelling,” Minnesota Historical Society, Paintings Collections Online | ID Number: AV1991.85.30 (Accession Number).

1851 – University of Minnesota

The University of Minnesota, now home of the Department of Civil Engineering, is founded as a prep school; it is organized as a land grant university in 1869.

Source:

“College of Science and Engineering, University of Minnesota,”
http://cse.umn.edu/aboutcse/CSE_CONTENT_200027.html, accessed 1/23/2014.

1852 – The American Society of Civil Engineers is Founded

Twelve civil engineers gather at the Croton Aqueduct in New York State and agree to incorporate the American Society of Civil Engineers (ASCE). In 1981, the ASCE Metropolitan Section unveils a plaque at the site of the founding. Today the ASCE, with over 140,000 members worldwide, is recognized as the nation’s oldest engineering society. Its mission is: “Provide essential value to our members and partners, advance civil engineering, and serve the public good”.

Sources:

“American Society of Civil Engineers,” www.asce.org/, accessed 1/23/2014.

“History of ASCE,” <http://content.asce.org/history/150/150years.html>, accessed 1/24/2014.

“About ASCE: ASCE in Brief,” <http://www.asce.org/about-asce/>, accessed 1/24/2014.

1855 – First Bridge Across the Mississippi River

The very first bridge to cross the main channel of the Mississippi River is constructed in 1854 and opens for wagon and pedestrian traffic in 1855. Up until this time, and in other areas along the river, water transportation is more important than land transportation. It spans the river at what later would become Hennepin Avenue in Minneapolis. New York engineer Thomas Musgrove Griffith designs this cable suspension span with its ornate wooden towers connecting the future site of Minneapolis with Nicollet Island.

Farther downstream at Davenport, Iowa and Rock Island, Illinois, construction on a railroad bridge connecting the two cities also begins in 1854. This span, however, is not completed until 1856.

Some twenty years later Griffith designs a new Hennepin Avenue bridge that is completed in 1877. Also a suspension bridge, this new bridge features rustic stone towers that gives the structure a medieval castle look. Griffith’s stone-towered suspension span soon proves to be inadequate for serving the needs of the rapidly-growing city. In 1885 Minneapolis begins constructing a new bridge adjacent to Griffith’s suspension bridge. Designed initially as a stone arch bridge, objections from the milling industry quickly force the city to modify its plans and instead erect a steel, two-span, ribbed arch bridge with only one pier in the middle of the river. Horace E. Horton of Rochester, Minnesota erects the steel superstructure of the new bridge that is completed about mid-1888. This new steel bridge serves for a century. Both bridges are used for nineteen months until the city begins dismantling the stone-towered suspension bridge.

In September 1990 Minneapolis dedicates a fourth Hennepin Avenue bridge. The new bridge is a six-lane suspension bridge designed by Howard, Needles, Tammen and Bergendoff (HNTB) and built at a cost of \$28 million. Its design reflects the heritage of the two previous suspension bridges at the location.

Sources:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota’s Historic Bridges*. University of Minnesota Press, 2008.

Minneapolis Riverfront Development Coordination Board. *St. Anthony Falls Rediscovered*. Minneapolis, 1980.

“Timeline of Minnesota History,” Minnesota Historical Society, http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

“First Mississippi bridge opened 155 years ago,” <http://qconline.com/progress/stories2.php?id=530796>, accessed 7/21/2014. The information about the status of the Iowa/Illinois bridge as the first bridge across the Mississippi River is incorrect.

Photo:

First suspension bridge. *St. Anthony Falls Rediscovered*, pp. 59, 60.

Photo:

First suspension bridge. Gardner, p. 2. See also “The First Suspension Bridge” in *Hennepin History* (July, 1952): 2. Photo by Edwin D. Harvey, 1865. See also Minnesota Historical Society photograph collections.

Photo:

Stone-towered suspension bridge. Gardner, p. 44. See also Minnesota Historical Society photograph collections.

Photo:

Stone-towered suspension bridge. *St. Anthony Falls Rediscovered*, p.1.

Photo:

Hennepin Avenue steel arch bridge. Gardner, p. 45. See also Minnesota Historical Society photograph collections.

Photo:

Fourth Hennepin Avenue suspension bridge. Gardner, p. 118. See also Minnesota Historical Society photograph collections.

1858 – Minnesota Statehood

Minnesota becomes a state nine years after becoming a territory (1849).

Source:

“Timeline of Minnesota History,” Minnesota Historical Society,
http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

1859 – Minnesota Stage Company

Minnesota Stage Company completes a stage line from St. Cloud to Red River Valley near Breckenridge, MN. The company later completes a line from St. Paul to Superior, WI, operating roughly 1300 miles of roads.

Source:

Denis Gardner, *Minnesota Treasures: Stories Behind the State’s Historic Places*, Minnesota Historical Society, 2004.

1860-1869

1862 – Minnesota’s First Railroad

On June 28, 1862 the *William Crooks*, pulling a few cars, leaves a crude depot at Phalen Creek in St. Paul bound for end-of-track, a spot along the Mississippi River about ten miles away from the Falls of St. Anthony. Thus begins the age of railways in Minnesota.

Sources:

Hofsommer, Don L. *Minneapolis and the Age of Railways*. University of Minnesota Press, Minneapolis, 2005.

“Timeline of Minnesota History,” Minnesota Historical Society,
http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

Photo:

Minnesota Historical Society Photographs | Collections Online | ID Number: HE6.1Gw
p47 Original (Locator Number SV).

1866 – United States Army Corps of Engineers, St. Paul Office

The United States Army Corps of Engineers establishes a district office in St. Paul; the office is headed by Major Governor Kemble Warren, a West Point graduate and Civil War veteran.

Source:

“St Paul District History,” U.S. Army Corps of Engineers,
<http://www.mvp.usace.army.mil/About/History.aspx>, accessed 1/23/2014.

1869 – Eastman Tunnel Collapse

On October 15, 1869, a water diversion tunnel being constructed underneath St. Anthony Falls collapses creating a 90-foot wide cavern and whirlpool that threatens the structural integrity of the entire falls and the region’s water power. Local citizens request federal assistance to fix the falls, and, in 1870, the U.S. Army Corps of Engineers receive \$50,000 to preserve the falls. For the next decade the Corps works on a multi-faceted approach to stabilize and preserve the falls. The key elements of the Corps falls preservation project include construction of a massive 1,850 foot long wall across the face of the falls and a wooden apron to prevent water from undercutting the Platteville Formation and causing further erosion at the face of the falls. When this work is completed in 1880, the appearance of St. Anthony Falls is altered forever.

The reasons for construction of a tunnel underneath St. Anthony Falls date back to 1865 and a legal dispute over who controls water rights to Nicollet Island. Minneapolis lumberman William Eastman and banker John Merriam sue when they purchase Nicollet Island from fur trader Hercules Dousman. Part of the water rights dispute settlement allows Eastman and Merriam to construct a water diversion tunnel beneath St. Anthony Falls. The tunnel is supposed to allow

water to flow underneath the island increasing the water flow and power it could provide. Construction of the ill-fated tunnel begins in 1868 with over two-thousand feet completed by the time it collapses on October 5, 1869.

Sources:

Kane, Lucille M. *The Waterfall that Built a City*. Minnesota Historical Society, 1966.

Huber, Molly. "St. Anthony Falls Tunnel Collapse, October 5, 1869," *MNOPEDIA*, Minnesota Historical Society, 7/9/2014.

Photo:

Tunnel collapse aftermath and construction projects. Kane, p. 66 (photo section). See also Minnesota historical Society photograph collections.

1870-1879

1870/1 – Duluth Ship Canal

Digging a canal across Minnesota Point that separates Lake Superior from St. Louis Bay starts in the summer of 1870. As work on the canal proceeds residents of Superior, Wisconsin succeed in getting the United States Government to issue an injunction to stop the canal excavation. Duluthians get the news on Friday evening, June 9, 1871 but know that the officer who would serve the papers could not reach Duluth before Monday, June 12. Duluth Mayor, J.B. Culver, rallies a group of about 50 volunteers who work through the weekend to dig a ditch across the point. They succeed by Sunday evening when water from the bay flows through their ditch into Lake Superior. By Monday morning the ditch is thirty feet wide, and a small ferry boat makes the first passage through the canal. In 1873 the U.S. Army Corps of Engineers is granted jurisdiction over the canal.

Sources:

Young, Frank A. *Duluth's Ship Canal and Aerial Bridge*. St. Louis County Historical Society, Duluth, n.d.

“Duluth Ship Canal Opening,” MNopedia, Minnesota Encyclopedia,
<http://www.mnopedia.org/event/duluth-ship-canal-opening-1871>, accessed March 14, 2014.

Photo:

Duluth ship canal. Young, p. 3. St. Louis County Historical Society photograph collection, Northeast Minnesota Historical Center, University of Minnesota, Duluth.

1871 – Civil Engineering Program, University of Minnesota

In response to rapid growth and expansion of the United States, the University of Minnesota Board of Regents votes to form a Civil Engineering program at the University of Minnesota. It is organized in 1884 and in 1909 the Regents combine structural engineering, municipal and sanitary engineering, and railway engineering programs to establish the modern department.

Sources:

“Civil Engineering at the University of Minnesota,” Department of Civil Engineering,
http://www.ce.umn.edu/undergrad/civil_engineering.html, accessed 1/9/2014.

“College of Science and Engineering, University of Minnesota,”
http://cse.umn.edu/aboutcse/CSE_CONTENT_200027.html, accessed 1/23/2014.

1873 – Como Park

In 1873 the St. Paul Park Board acquires 300 acres of land to begin developing Como Park. Landscape architect Horace Cleveland is hired to plan the park beginning in 1887. Cleveland is assisted by Frederick Nussbaumer, a European trained gardener, who becomes St. Paul park

superintendent in 1892. In consultation with Cleveland, Nussbaumer lays out the park's winding roads. In 1915, he works with Maximilian Toltz to design and construct the Como Park Conservatory, the park's defining landmark. Based on nineteenth-century English and European precedents, the conservatory is one of only a few historic park conservatories of its size that continues in use in the United States. One of America's great urban parks, Como Park is noted for its zoo, conservatory and several WPA-era structures.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

"Como History," Como Park Zoo and Conservatory, <http://comopark.us/history-of-como-park-zoo/>, accessed 5/22/2014.

Photo:

Como Park Conservatory. Millett, p. 519.

1874 – Washburn A Mill

The first Washburn A Mill is built. It is the largest flour mill in the world until it is destroyed by fire caused by a dust explosion in 1878. The fire kills 18 people and destroys five other mills. The mill, rebuilt with new state-of-the-art safety features, opens in 1880 and, once again, is declared the largest flour mill in the world, a distinction it loses the next year when the Pillsbury A mill opens across the river. Since 2003 the mill's ruins have housed the Mill City Museum, a Minnesota Historical Society site.

Sources:

"Mill City Museum," <http://www.millcitymuseum.org/>, accessed 4/3/2014.

"Timeline of Minnesota History," Minnesota Historical Society, http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

Photo:

Explosion at the Washburn A Mill, 1878, Minnesota Historical Society photographs, ID number: 6331-A, Accession number YR1933.34.

1875 – Minneapolis/St. Paul Streetcar System

From the late 1880s to the late 1950s, streetcars provide transportation for citizens of Minneapolis and St. Paul and suburban areas. Beginning with horse-drawn and steam-powered cars, electrically powered streetcars are introduced in 1889/1890, and major Minneapolis thoroughfares are electrified in 1915. Minneapolis and St. Paul are linked by the "Como-Interurban-Harriet" line in 1898. In the 1950s the lines begin to be abandoned, and, by 1958, the conversion to buses is complete.

Sources:

Diers, John & Isaacs, Aaron. *Twin Cities by Trolley*. University of Minnesota Press, Minneapolis, 2007.

“HHC’s Spotlight on Early Minnesota Streetcar Lines,” ASCE-Minnesota Section Records, Dept of CE, U of MN.

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

“Timeline of Minnesota History,” Minnesota Historical Society, http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

Photo:

Twin City Rapid Transit Main Steam Station, 1951, stone arch bridge in background, Minnesota Historical Society photographs, MHS ID Number: 104292 (Negative Number).

1879 – James J. Hill’s Railroad Empire

James J. Hill, who becomes known as “The Empire Builder,” purchases the St. Paul and Pacific Railroad in 1879. By 1893 his Great Northern Railway reaches the Pacific Ocean.

Sources:

Hidy, Ralph W., Hidy, Muriel E., Scott, Roy V. and Hofsommer, Don L. *The Great Northern Railway, a History*. University of Minnesota Press, Minneapolis, 2004.

Wood, Charles, Wood, Dorothy. *The Great Northern Railway, A Pictorial Study*. Pacific Fast Mail, Edmonds, Washington, 1978.

“Timeline of Minnesota History,” Minnesota Historical Society, http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

Photo:

James J. Hill, Hidy, pp. 16, 67. Wood, (see Foreword).

1880-1889

1881 – Pillsbury A Mill

The Pillsbury A Mill is completed. It is the world's largest flour mill and remains so for forty years. It operates two direct-drive waterwheels, each generating 1,200 horsepower (895 KW). It is built to put out 5,000 barrels of flour a day, an output that is ten times the average of flour mills at the time.

Sources:

Minneapolis Riverfront Development Coordination Board. *St. Anthony Falls Rediscovered*. Minneapolis, 1980.

Kane, Lucile M. *The Waterfall That Built a City*. Minnesota Historical Society, St. Paul, 1966.

“Timeline of Minnesota History,” Minnesota Historical Society, http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

“Pillsbury A Mill,” Twin Cities Urban Recon, <http://tcur.org/?p=85>, accessed 4/3/2014,

Photo:

Pillsbury A Mill. *St. Anthony Falls Rediscovered*, p. 93.

Photo:

Pillsbury A Mill. Kane, p. 66 (photo Section). See also Minnesota Historical Society photograph collections.

Photo:

Pillsbury A Mill, 1919 (1a) Minnesota Historical Society photographs, ID number: MH5.9 MP3.1P r96, Accession number: AV2005.84.23.

1882 – First Hydroelectric Power Station

Minnesota Brush Electric Company builds the country's first hydroelectric power station on a sawmill platform at St. Anthony Falls.

Sources:

Minneapolis Riverfront Development Coordination Board. *St. Anthony Falls Rediscovered*. Minneapolis, 1980.

Kane, Lucille M. *The Waterfall That Built a City*. Minnesota Historical Society, St. Paul, 1966.

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

“Timeline of Minnesota History,” Minnesota Historical Society,
http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

Photo:

First hydroelectric power station. Kane, p. 66 (photo Section). See also Minnesota Historical Society photograph collections.

1880s – Upper Mississippi River Reservoir Dam System

As early as 1869 the U.S. Army Corps of Engineers proposes construction of a series of dams to control Mississippi River flooding and improve river navigation north of the Twin Cities. Funding for six dams is approved by Congress in 1880, and construction of the first dam at Lake Winnibigoshish begins in 1881. In 1882 work on dams at Leech Lake and Pokegama Falls begins. In 1884 construction begins on the Pine River Dam. The Lake Winnibigoshish and Leech Lake dams are completed in 1884. The Pokegama Falls Dam is completed in 1885, and the Pine River Dam is finished the following year. A few years later, between 1892 and 1896, another dam is constructed at Sandy Lake. The final Mississippi River Headwaters Dam is completed at Gull Lake in 1912. Between 1899 and 1908 renovations to the various dams also are completed. This is the first major reservoir system in the country.

Sources:

Carroll, Jane Lamm. “Dams and Damages: The Ojibway, The United States, and the Mississippi River Headwaters Reservoirs”. *Minnesota History*. 52, no. 1 (1990): 2-15.

A History Tour: Upper Mississippi River Headwaters Reservoirs Damsites, n.d.

2009 ASCE calendar on Minnesota River Headwater dams – April, May, July, August, September, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Leech Lake Reservoir Dam, Mississippi River Headwaters Reservoirs, HAER No. MN-67, nd.

“The Headwaters of the Mississippi,” unidentified article in ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

A History Tour: Upper Mississippi River Headwaters Reservoirs Damsites.

Photo:

Leech Lake Dam ca. 2010, Leech Lake Dam and Reservoir,
http://www.waymarking.com/waymarks/WM9DN0_Leech_Lake_Dam_and_Reservoir_Federal_Dam_MN, accessed 4/2/2014.

Photo:

Lake Winnibigoshish Dam, “Lake Winnibigoshish,” U.S. Army Corps of Engineers,
<http://www.mvp.usace.army.mil/Missions/Recreation/LakeWinnibigoshish.aspx>, accessed 4/2/2014.

1882 – Stone Arch Bridge

The Stone Arch Bridge, earliest National Civil Engineering Landmark in Minnesota, is built by James J. Hill as a railroad bridge spanning the Mississippi River below St. Anthony Falls; it serves as a railroad bridge until 1965. Engineer Charles C. Smith designs the bridge with twenty-three arches to accommodate a necessary curve to enter Minneapolis' grand new depot on Hennepin Avenue. It was built by contractor Edward Darragh in nineteen months for \$690,000. It is listed in the National Register of Historic Places in 1971 and designated a National Civil Engineering Landmark in 1974.

Sources:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, Minneapolis, 2008.

“Civil Engineers: Designers and Builders of the Quality of Life”

http://www.ascemn.org/PDFs/ASCEMN_Intro_Panel.pdf, accessed 1/8/2014.

List of Bridges on the National Register of Historic Places in Minnesota,

http://en.wikipedia.org/wiki/List_of_bridges_on_the_National_Register_of_Historic_Places_in_Minnesota, accessed 1/8/2014.

“Timeline of Minnesota History,” Minnesota Historical Society,

http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

“History,” Stone Arch Bridge, <http://stonearchbridge.com/>, accessed 4/3/2014.

“Stone Arch Bridge, Minneapolis,” MNopedia, <http://www.mnopedia.org/structure/stone-arch-bridge-minneapolis>, accessed 4/3/2014.

Photo:

Stone Arch Bridge, 1885, Minnesota Historical Society photographs, MHS ID Number: MH5.9 MP4.23 p5 (Locator Number SV).

1883/1884 – Seventh Street Improvement Arches

Designed by railroad engineer William A. Truesdell, the Arches are one of the only documented examples of helicoidal arch construction in the United States and the only known example in Minnesota. They are listed in the National Register of Historic Places in 1989 and designated as a National Civil Engineering Landmark in 1999.

Sources:

“Civil Engineers: Designers and Builders of the Quality of Life”

http://www.ascemn.org/PDFs/ASCEMN_Intro_Panel.pdf, accessed 1/8/2014.

List of Bridges on the National Register of Historic Places in Minnesota,

http://en.wikipedia.org/wiki/List_of_bridges_on_the_National_Register_of_Historic_Places_in_Minnesota, accessed 1/8/2014.

Photo:

Seventh Street Improvement Arches, interior showing structural elements (6a) Minnesota Historical Society SHPO Collection, November 1987,
<http://www.mnhs.org/places/nationalregister/bridges/nrassa/crassa5.html>, accessed 4/2/2014.

1884 – Minnesota Iron Ore Mining

The first shipment of iron ore from the Soudan Mine on the Vermilion Iron Range signals the beginning of the state's iron ore mining industry.

Sources:

Lamppa, Marvin G. *Minnesota's Iron Country*. Lake Superior Port Cities, Inc., Duluth, 2004.

Walker, David A. *Iron Frontier: The Discovery and Early Development of Minnesota's Three Ranges*. Minnesota Historical Society, St. Paul, 1979.

Photo:

Soudan Mine. Lamppa, p. 66. See also Northeast Minnesota Historical Center photograph collections, University of Minnesota, Duluth.

Photo:

Soudan Mine. Walker, pp. 44, 45.

1884 – Brainerd Dam

The Brainerd Dam is built by the Crow Wing Boom Company and later is purchased by the Northwest Paper Company (Potlatch). Potlatch sells the dam to Missota Paper, which then sells it to Wausau Papers. The original timber structure is replaced by a concrete dam in 1915.

Source:

2009 ASCE calendar on Mississippi River Headwaters dams – October 2009, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1888 – Little Falls Dam

Built to provide power to mills, it is converted in the 1890s to produce hydroelectric power. The dam is notable for its pedestrian suspension bridge across the spillway.

Source:

2009 ASCE calendar on Mississippi River Headwaters dams – December 2009, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1888 – Schwab Companies

Schwab Companies is founded in Winona, Minnesota, by Peter Schwab. It is believed to be the oldest continuously-running construction company in Minnesota. Construction of one-third of the buildings at Winona State University and St. Mary's University in Winona is attributed to the company.

Source:

Construction Bulletin. "The First 100 Years: the History of Minnesota Construction." Dec. 1993.

1890-1899

1890 – Park Construction

Park Construction is founded in 1890 by Charles Ludwig Carlson. Carlson arrives in Minnesota from Sweden in 1880. He establishes it as a transfer company but by 1916, led by his sons Walter, Alvin, and Bennet, it has diversified to road building, excavation and earth moving.

Source:

Construction Bulletin. “The First 100 Years: the History of Minnesota Construction.” Dec. 1993.

“Park Construction, Our History, “<http://www.parkconstructionco.com/history.cfm>, accessed 8/10/2014.

1891 – Hugh Lincoln Cooper

Minnesota-born Hugh Lincoln Cooper (1865-1937) becomes interested in hydroelectric power and learns about harnessing water to generate electricity. He eventually designs and builds plants in the United States including the Zumbro Power Plant (1917), Jamaica, West Indies, Brazil, the Horseshoe Rapids above Niagara Falls, Africa, Egypt (Aswan Dam), and the Soviet Union. His work is described as a model for transfer of industrial skills from technologically advanced countries to less advanced or third world nations.

Source:

“Hugh Lincoln Cooper,” ASCE-Minnesota Section Records, Dept of CE, U of MN.

1892 – Mesabi Iron Range

In 1892 the first shipment of iron ore from the Mountain Iron Mine marks the opening of the Mesabi Iron Range that would then produce much of America’s iron ore for many decades.

Source:

Walker, David A. *Iron Frontier: The Discovery and Early Development of Minnesota’s Three Ranges*. Minnesota Historical Society, St. Paul, 1979.

Photo:

Mountain Iron Mine. Walker, p. 122.

Photo:

Open pit iron mine, Mesabi Iron Range, 1925, Minnesota Historical Society photographs, ID number: HD3.112 p121, negative number: 78428, Accession number: YR1962.3918.

1895 – Hastings Spiral Bridge Opens

To accommodate the grade change between the banks of the Mississippi River at Hastings, a bridge is designed with a spiral approach at the Hastings side of the river placing traffic into downtown.

Source:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, Minneapolis, 2008.

1896 - St. Paul Begins Paving Downtown Streets

In 1896, the City of St. Paul begins paving its downtown streets. In 1918, the city announces it has fifty-one miles of macadam roads, twenty-one miles of which have been resurfaced with asphalt. A 1900-era photograph in the Minnesota Historical Society shows the street department washing its asphalt streets.

Source:

Construction Bulletin. "The First 100 Years: the History of Minnesota Construction." Dec. 1993.

Photo:

Street department washing asphalt paved street, Fifth Street West, St, Paul, 1900. Minnesota Historical Society collections, ID Number HE3.82 p16, Negative Number 21892.

1897 – Duluth-Superior Harbor

Work to improve the Duluth-Superior Harbor is authorized by the Rivers and Harbors Acts of 1896 and succeeding years. Between 1897 and 1902 the U. S. Army Corps of Engineers dredges twenty-two million cubic yards from the harbor, opening seventeen miles of channel and 360 acres of harbor basin.

Sources:

Beck, Bill & Labadie, C. Patrick. *Pride of the Inland Seas: An Illustrated History of the Port of Duluth-Superior*. Afton Historical Society Press, Afton, Minnesota, 2004.

"Duluth-Superior Harbor," U.S. of Engineers,
<http://www.lre.usace.army.mil/Missions/Operations/DuluthSuperiorHarbor,MNWI.aspx>,
accessed March 14, 2014.

Photo:

Duluth-Superior Harbor dredging. Beck, pp. 106, 107. Lake Superior Marine Museum Association Archives, Lake Superior Maritime Collection at University of Wisconsin-Superior, Wisconsin.

1897 – Molin Concrete

Molin Concrete is founded in 1897 on Minnehaha Avenue in St. Paul by John Gustav Molin. Its original product was precast sidewalk block, along with masonry work and masonry components. The company adds Flexicore hollow core plank in 1950 and later, other precast elements. Molin Concrete moved to Lino Lakes in 1970.

Source:

Construction Bulletin. “The First 100 Years: the History of Minnesota Construction.” Dec. 1993.

1899/1900 – Peavey-Haglin Experimental Concrete Grain Elevator

This elevator is the first cylindrical concrete grain elevator in the United States. It proves that the newly evolving engineering material of reinforced concrete can economically sustain the loading conditions created by fluctuating levels of granular materials. The elevator is designated as a National Civil Engineering Landmark in 1983 and bears an iconic advertisement for NordicWare, a Minnesota company. It also is listed in the National Register of Historic Places.

Sources:

“Civil Engineers: Designers and Builders of the Quality of Life”

http://www.ascemn.org/PDFs/ASCEMN_Intro_Panel.pdf, accessed 1/8/2014.

“Civil Engineering Landmark nomination records, Peavey-Haglin Experimental Concrete Grain Elevator, March 15, 1983,” 1982-1983 Records – Book 1, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

Re-dedication , ASCE-Minnesota website http://www.ascemn.org/Centennial_Nordicware.html, accessed 3/8/2014.

1900-1909

1900 Minnesota population reaches 1.75 million.

1901 – Claude Allen Porter (C.A.P.) Turner

Claude Allen Porter (C.A.P.) Turner (1869-1955) founds his engineering and architectural firm in Minneapolis. Turner develops and receives many patents for innovations in concrete-steel bridge systems, steel reinforcing in concrete support, and his “mushroom” reinforced concrete flat slab system. He remains well known today for his contributions to the development and use of reinforced concrete.

Sources:

Meghan Elliott, “Square Buildings and Round Bars: C.A.P. Turner and the Minneapolis Warehouse District, Construction History Society of America, No. 13, October 2010, http://www.mbjeng.com/wp-content/uploads/2011/03/NL13_Oct2010-Meghans-article.pdf, accessed 4/3/2010.

D.A. Gasparini, Contributions of C.A.P. Turner to Reinforced Concrete Flat Slabs 1905-1909, <http://engineering.case.edu/eciv/sites/engineering.case.edu.eciv/files/CAPTturner.pdf>, accessed 4/3/2014.

“Biographical Note,” C.A.P. Turner Collection, Northwest Architectural Archives, Manuscript Division, University of Minnesota, Minneapolis, Minnesota, <http://special.lib.umn.edu/findaid/xml/naa137.xml>, accessed 3/14/2014.

Photo:

See photo of C.A.P. Turner in *Men of Minnesota* (1902).

1904 – Frederic Bass and the Typhoid Outbreak in Minneapolis

In 1901, Frederic H. Bass (1875-1953) comes to the University of Minnesota after his graduation with a BS in civil engineering from the Massachusetts Institute of Technology. He becomes a national authority on municipal water and sewer systems, beginning in 1904 when he identifies the cause of a typhoid outbreak in Minneapolis as raw sewage outlets on Nicollet Island contaminating water at the Hennepin Island intake. Backed by University President Northrup, he convinces the city to close the Hennepin Island intake until the problem can be solved. After a second typhoid outbreak in 1909-1910, he helps convince the city to build new waterworks and personally constructs the city’s first hypochlorite plant at the waterworks to purify the water. With this the typhoid outbreak ends. Bass consults on water systems and plants in Minnesota and throughout the country, helps lead installation of the Minneapolis-St. Paul Sanitary system and, from 1906-1952, serves as consulting engineer to the Minnesota Department of Health. From 1919 until his retirement in 1943, he is head of the Civil Engineering Department at the University. He serves as president of the ASCE-Northwest Section in 1925-1926.

Source:

Information File: Frederic H. Bass, University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

Photo:

Frederic H. Bass, ca. 1943. Minnesota Chats, 5/20/43. See Information File: Frederic Bass, U of MN Archives.

1905 – Minnesota State Capitol

Minnesota's third, and current, state capitol building opens. It is designed by Minnesota architect Cass Gilbert, who later designs and builds the Woolworth Building in New York City (the tallest building in the world when completed) and the United States Supreme Court Building among many others. Built at a cost of \$4.5 million, the classically-styled state capitol building has the second-largest self-supported marble dome in the world.

Sources:

Blegen, Theodore C., *Minnesota, A History of the State* (Minneapolis: University of Minnesota Press, 1963).

Lass, William E., *Minnesota: A History*, 2nd ed., (New York: W.W. Norton & Co., 1998).

Minnesota's Capitol, <http://collections.mnhs.org/governors/index.php/10003908>, accessed 6/6/2014.

Minnesota State Capitol History, <http://sites.mnhs.org/historic-sites/minnesota-state-capitol/history>, 6/6/2014.

State Capitol, <http://mn.gov/admin/government/buildings-grounds/building-management/buildings/statecapitol.jsp>, accessed 6/6/2014.

Photo:

State Capitol Dome, 1905, Minnesota Historical Society collections, ID number FM6.131r4, negative number 18998.

1905 –Duluth Aerial Ferry Bridge

In 1905 the Duluth Ship Canal is bridged. Minneapolis engineer Claude Allen Porter (C.A.P.) Turner designs an aerial ferry bridge similar to the only other one of its kind in the world at Rouen, France. Turner designs a vertical steel structure on each side with a connecting truss across the top. A carriage or basket, suspended from rails attached to the underside of the truss, carries passengers, teams and freight back and forth across the canal. Capacity is 125,000 pounds—equivalent to a fully loaded double truck street car, two loaded wagons and 350 passengers. The carriage is operated by a battery-powered motor; if the power fails, a hand winch propels the carriage across. A crossing takes little more than a minute.

Sources:

Young, Frank A. *Duluth's Ship Canal and Aerial Bridge*. St. Louis County Historical Society, Duluth, n.d.

"Timeline of Minnesota History," Minnesota Historical Society, http://www.mnhs.org/about/dipity_timeline.htm, accessed 1/23/2014.

"Duluth Aerial Lift Bridge," <http://www.goduluthmn.com/aerial-lift-bridge.html>, accessed 1/23/2014.

"History of the Aerial Lift Bridge, Duluth, Minnesota," Yahoo Voices, <http://voices.yahoo.com/history-aerial-lift-bridge-duluth-minnesota-534654.html>, accessed 3/4/14.

D.A. Gasparini, "Contributions of C.A.P. Turner to Reinforced Concrete Flat Slabs 1905-1909", <http://engineering.case.edu/eciv/sites/engineering.case.edu.eciv/files/CAPTturner.pdf>, accessed 4/2/2014.

Photo:

Duluth's aerial ferry bridge. Young, pp. 5-9.

1906 – Stockwood Fill

Between 1906 and 1909 the Northern Pacific Railway attempts to construct a 7.3 mile long earthen embankment designed to level out a steep eastbound grade from the Red River valley to the glacial uplands in Clay County, Minnesota. Because of underlying soil and geological conditions, the railroad faces extreme problems with rapid settlement of the fill being used to construct the embankment. Despite three years of work and huge cost overruns, the soil problems that cause the track settlement are never fully resolved.

Sources:

"Toils on Weak Soils: A Photo Essay On The Construction Of The Stockwood Fill (1906-1909)". Department of Geosciences, North Dakota State University, Fargo, http://www.ndsu.edu/nd_geology/stockwood/, accessed 4/23/2014.

Paul D. Schimnowski, "Stockwood Fill," History and Heritage Committee (HHC) vol 2, no 2, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Paul D. Schimnowski, "Stockwood Fill," History and Heritage Committee (HHC) vol 2, no 3, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photos:

Stockwood Fill construction. See "Toils on Weak Soils."

1907 – Statewide Tax Levy

In 1907, the Minnesota legislature levies a tax for support of highway construction.

Source:

Construction Bulletin. “The First 100 Years: the History of Minnesota Construction.” Dec. 1993.

1907 – Lock and Dam No. 2

Also known as the Meeker Island Dam, Lock and Dam No. 2 is completed in 1907. It is demolished five years later when the United States Congress decides to make Lock and Dam No. 1, just downstream, a high dam capable of generating hydroelectric power. Partially removed, its remains continue to pose a navigational hazard to traffic on the Mississippi River in the vicinity of Marshall Avenue in St. Paul. In 2003 the ruins are listed in the National Register of Historic Places.

Sources:

“Meeker Island Lock and Dam Historic Park,” Mississippi Natural River and Recreation Area – Minnesota, National Park Service, <http://www.nps.gov/miss/planyourvisit/meekerisland.htm>, accessed 4/2/2014.

Correspondence, Paul Schimnowski to Carol Reese re: History Committee Citation, April 15, 2004, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Paul D. Schimnowski, “HHC Rediscovered Mississippi Lock & Dam #2,” History and Heritage Committee (HHC) vol 2, no 4, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1907 – Stump Lake Dam

The Stump Lake Dam is located about five miles east of Bemidji. Built between 1907 and 1909 by the Warfield Electric Company, it is the largest of the Mississippi River headwater reservoir dams and the only one to generate electricity. In 1944 the Ottertail Power Company purchases the dam from the Interstate Power Company. As a result, this dam is frequently called the Ottertail Power Dam.

Sources:

Weeks, John A. III. “Stump Lake Dam”. Website: johnweeks.com, accessed 4/29/2014.

2009 ASCE calendar on Mississippi River headwater dams – February 2009, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photos:

See website: johnweeks.com.

1908 – Alvin S. Cutler

In 1908, civil engineer and railway engineering specialist Alvin S. Cutler (1879 -) joins the University of Minnesota civil engineering faculty. He serves as professor of railway engineering and as professor civil engineering, including Head of the Civil Engineering Department from 1943-1945, before retiring in 1947. He is president of the ASCE-Northwest Section in 1926-1927.

Sources:

Information File: Alvin S. Cutler, University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

Alvin S. Cutler Papers, 1947, University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1908- Hennepin Island Hydroelectric Plant

The Hennepin Island Hydroelectric Plant (also known as the St. Anthony Hydro Plant) sits on the site of early sawmills on the west bank of Hennepin Island near the Pillsbury A Mill at St. Anthony Falls. The current structure is constructed in 1908. The plant is listed in the National Register of Historic Places in 1971.

Sources:

Kane, Lucille M. *The Waterfall that Built a City*. Minnesota Historical Society, 1966.

Minneapolis Riverfront Development Coordination Committee. *St. Anthony Falls Rediscovered*. Minneapolis, 1980.

Photo:

St. Anthony hydroelectric plant. Kane, p. 66 (photo section). See also Minnesota Historical Society photograph collections.

Island power building. *St. Anthony Falls Rediscovered*, p. 65.

1909 – Minnesota State Fairground Grandstand

The original wooden grandstand at the Minnesota State Fair is built in 1885. It is razed after the 1908 fair and the current grandstand, constructed of bricks, is built in 1909. Larger bleachers are added in the 1930s and it is renovated in 2002.

Sources:

Construction Bulletin. "The First 100 Years: the History of Minnesota Construction." Dec. 1993.

Grandstand: Minnesota State Fair History,
http://www.mnstatefair.org/pdf/media/MSF_History.pdf, accessed 7/31/2014.

Photo:

Constructing Grandstand, Minnesota State Fairgrounds, 09/09. Note brick construction details. Minnesota Historical Society photograph, ID Number FM6.54 p35, negative number 33361, accession number AV1980.308.26.

1909 – Pennsylvania Through Truss Bridge

Construction of the Third Street Bridge in Cannon Falls begins in 1909 and is completed in 1910. The bridge is a steel Pennsylvania through truss designed by Louis P. Wolff of St. Paul and erected by Alexander Y. Bayne and Company of Minneapolis.

Sources:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, Minneapolis, 2008.

Paul D. Schimnowski, "Pennsylvania Through Truss Bridge," History and Heritage Committee (HHC), vol 3, no 1, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

Third Street Bridge, Cannon Falls. Gardner, p. 63.

1910-1919

1910 Minnesota population exceeds 2 million, 71% are foreign born or children of immigrants.

1910 – Maximilian Toltz

Maximilian Toltz (1857-1932) founds Toltz Engineering. Toltz formerly is chief engineer for the Great Northern Railway. Wesley F. King (1879-1959), a civil and structural engineer, joins him a year later and, in 1913, the company does the engineering work on the Cathedral of St. Paul. Architect Beaver Day (1884-1931) joins the firm in 1919 and it becomes Toltz, King & Day. The firm, which later becomes TKDA, works on many landmark projects including the Robert Street Bridge, the St. Paul Union Depot, the Hamm Building, and Como Conservatory.

Sources:

”Biographical Notes”, Toltz, King & Day Paper, Northwest Architectural Archives, University of Minnesota, Minneapolis, Minnesota, accessed 4/43/2014.

Holly Dolezalek, “TKDA Helped Build Many Landmark Buildings in First Century,” Minneapolis/St. Paul Business Journal, July 18, 2010, <http://www.bizjournals.com/twincities/stories/2010/07/19/focus10.html?page=all>, accessed 4/3/2014.

Photos:

Cathedral of St. Paul,

[http://upload.wikimedia.org/wikipedia/commons/6/67/St Paul Cathedral 2012.jpg](http://upload.wikimedia.org/wikipedia/commons/6/67/St_Paul_Cathedral_2012.jpg), accessed 3/8/2014.

St. Paul Union Depot, <http://www.stpauluniondepot.com/union-depot-images/nggallery/st-paul-union-depot-images/historic/>, accessed 4/8/2014.

1911 – Walter H. Wheeler

Walter H. Wheeler (1883-1974) founds his architectural and engineering firm in Minneapolis. His more than 1,200 projects include the design for the Mendota Bridge spanning the Minnesota River between Fort Snelling and Mendota, the longest multiple arch, reinforced concrete bridge in the world. Wheeler is the inventor of the Wheeler Shear head for flat slab construction, known as the “Smooth Ceilings” system. He serves as ASCE president-Northwest Section, in 1933.

Sources:

“Walter H. Wheeler,” ASCE-Minnesota, <http://www.ascemn.org/WWheeler.html>, accessed 4/3/2014.

“Biographical Note,” Walter Hall Wheeler Papers, Northwest Architectural Archives, University of Minnesota, <http://special.lib.umn.edu/findaid/xml/naa028.xml>, accessed 4/3/2014.

ASCE-Minnesota Past Presidents, http://www.asce.org/Past_Leadership.html, accessed 7/29/2014.

Photo:

Walter H. Wheeler, Minnesota Historical Society.

1911 – Knutson Construction

Thor Knutson founds Knutson Construction as a way to pay off his father’s farm debt in Norway. In 1914, he joins with partners and forms Standard Construction which becomes Knutson Construction in 1966. Simmons School Addition is one of the first projects that Standard Construction builds. It is now one of the oldest buildings in Minneapolis (constructed 1910 and renovated as Simmons Manor Apartments during the 1980s). Other early major projects include the Wold-Chamberlain Field renovations and, in 1920, the cattle barns at the Minnesota State Fair (still standing today). From 1961 to 1975, the company has exclusive rights to a 16-block section of Minneapolis near Washington and Hennepin Avenues. Projects built during this Gateway Revitalization era include the Northwestern National Life Insurance building, Minneapolis Public Library, Federal Reserve Bank Building, the old Sheraton-Ritz Hotel, IBM buildings and the Northern States Power Company building, among others.

Sources:

Knutson Construction, <http://www.knutsonconstruction.com/our-firm/history/> accessed on 7/26/2014.

Knutson Construction, https://www.youtube.com/watch?v=vYfOBIDna_M, accessed on 8/10/2014.

1911 – Northern States Power Riverside Station

Built in 1911, the original coal-powered station is the first in the Northern States Power system. Although construction crews use primitive tools and horse-drawn equipment to build the plant, Unit 1 is up and running within eighteen weeks after construction begins. A second unit comes on line a few weeks later.

Sources:

Xcel Energy website—Riverside Generating Station, http://www.xcelenergy.com/About_Us/Our_Company/Power_Generation/Riverside_Generating_Station, accessed 5/14/2014.

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

Correspondence, Paul Schimnowski to Carol Reese re: History Committee Citation, April 15, 2004, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

Northern States Power Riverside Station, 1931, north wall of turbine and boiler room (1a) Minnesota Historical Society photographs, MHS NP 89835.

1912 – Gull Lake Dam

This dam is located on the Gull River and is built with land and flowage rights provided by John S. Pillsbury of the St. Anthony Falls Water Power Company. It is designed by Col. Francis R. Shunk and George Freeman.

Source:

2009 ASCE calendar on Mississippi River Headwaters dams – November 2009, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1913 - Frederick William Cappelen

Frederick W. Cappelen (1857-1921) becomes the City Engineer for the City of Minneapolis, a post he holds until his death in 1921. A Norwegian immigrant, he studies in Norway, Sweden, and Germany, obtaining a civil engineering degree and graduating with the highest honors ever recorded for a foreign student in the German program. He immigrates to the United States in 1880 and works for the Northern Pacific Railway until he becomes Bridge Engineer for the City of Minneapolis. He holds the City Engineer position twice, the second time from 1913-1921. In this capacity he designs many of the early 20th century monumental bridges and public works structures in that city including the Prospect Park Water Tower, the Kenwood Park Water Tower, and the Franklin Avenue Bridge. He serves as the first president of the ASCE-Northwest Section (later the Minnesota Section). He passes away during construction of the bridge he designed that spans the Mississippi River at Franklin Avenue and it is named in his honor as the Frederick W. Cappelen Bridge.

Sources:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, Minneapolis, 2008.

<http://www.johnweeks.com/bridges/pages/ms12.html>, accessed 6/6/2014.

“F.W. Cappelen,” ASCE-Minnesota, <http://www.ascemn.org/FWCappelen.html>, accessed 6/6/2014.

1913 – Prospect Park Water Tower

Located on the highest point in the City of Minneapolis, the Prospect Park Water Tower is designed by Frederick William Cappelen, Norwegian-born architect/civil engineer and Minneapolis City Engineer. Its nickname, “Witch’s Hat,” comes from its pointed top. It is built

also to serve as a bandstand, but the difficulties of musicians climbing to the top of the tower with their instruments result in only one concert being performed in it.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

“Witch’s Hat Water Tower”, <http://www.pperr.org/history/thetower.html>, accessed 1/11/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Photo:

Prospect Park Tower, 1937, Minnesota Historical Society photographs, MHS ID Number: MH5.9 MP4.1 p96 (Locator Number SV).

1913 – Meeting of the Minnesota Civil Engineers Society

The Minnesota Civil Engineers Society meets at the Hotel Ryan, St. Paul

Photo:

Minnesota Historical Society photograph, MHS Photo GV1.22 m11.

1913 – Minneapolis Street Paving

The Minneapolis City Council announces that one million square yards of creosoted wood block street paving materials is being installed in the city. The city later removes the wood block paving materials and paves the streets with asphalt.

Source:

Construction Bulletin. “The First 100 Years: the History of Minnesota Construction.” Dec. 1993.

Photo:

Removing wood block paving and repaving with asphalt, Minnesota Historical Society photograph, ID number HE3.81 r52, negative number 63267.

1914 – World War I begins in Europe

1914 – ASCE-Minnesota Section

The ASCE-Minnesota Section (originally called Northwestern Association, then the Northwest Section), is founded; F.W. Cappelen is elected President and R. D. Thomas Secretary. James J. Hill, President of the Great Northern Railway, becomes a Fellow member.

Sources:

“Civil Engineers: Designers and Builders of the Quality of Life”

http://www.ascemn.org/PDFs/ASCEMN_Intro_Panel.pdf, accessed 1/8/2014.

Listing of Directors of District 7, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“Year of Office President”, ASCE-Minnesota website,
http://www.ascemn.org/PDFs/past_pres.pdf, accessed 1/8/2014.

“75 Years: 1914-1989,” ASCE-Minnesota Section, 1989 Director, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“F.W. Cappelen,” ASCE-Minnesota, <http://www.ascemn.org/FWCappelen.html>, accessed 4/4/2014.

Photos:
ASCE-Minnesota Section records?

1914 – Shiely Company

The Shiely Company is founded by J. L. Shiely, Sr. It opens the City of St. Paul’s first ready mix concrete plant.

Source:
Construction Bulletin. “The First 100 Years: the history of Minnesota construction.” Dec. 1993.

1914 – Ziegler Inc.

Ziegler, Inc. is founded by William H. Ziegler. He works out a “trade-in” allowance for horses and mules that are exchanged for his motorized tractors and becomes successful by serving as an equipment company that also provides prompt service and reliable parts availability.

Source:
Construction Bulletin. “The First 100 Years: the history of Minnesota construction.” Dec. 1993.

1914 – Panama Canal Opens

The Panama Canal is the largest civil engineering project in the world at the time.

1915 – Clarence Wesley “Cap” Wigington

Clarence Wesley “Cap” Wigington (1883-1967) is the first African American architect to practice for a substantial length of time in Minnesota. After moving his family from Omaha, Nebraska, to Minnesota, he joins the City Architect’s Office in St. Paul in 1915 and, rising to the level of Senior Architectural designer, remains there until his retirement in 1949. He is responsible for the design of some of the most well-known buildings in the Twin Cities including the Highland Park Water Tower, the Harriet Island Pavilion (now the Clarence W. Wigington Pavilion), and the Holman Field Administration Building for the St. Paul Municipal Airport.

Sources:

“Biographical Note,” Wigington Pemberton Family Papers, Northwest Architectural Archives, Manuscripts Division, <http://special.lib.umn.edu/findaid/xml/naa194.xml>, accessed 6/6/2014.

“Wigington, Clarence Wesley” BlackPast.org, <http://www.blackpast.org/aah/wigington-clarence-wesley-1883-1967>, accessed 6/6/2014.

Photo:

See Wigington, Clarence Wesley, BlackPast.org.

1915 – Cathedral of St. Paul

After nine years of construction the first Mass at the Cathedral of St. Paul is celebrated on Palm Sunday, 1915. The interior of this monumental church takes another forty-three years to complete. Twin Cities architect Frank Abrahamson assists Cathedral architect Emmanuel Masqueray, and, after Masqueray’s death in 1917, works with Fred Slifer and Edwin Lundie to complete the remaining design work on hand in Masqueray’s office, including the Basilica of St. Mary in Minneapolis and the interior design of the Cathedral.

Source:

Hansen, Eric C. *The Cathedral of St. Paul, an Architectural Biography*. Cathedral of St. Paul, St. Paul, 1990 (revised 2007).

Cathedral of St. Paul, National Shrine to the Apostle Paul, <http://www.cathedralsaintpaul.org/architecture>, accessed 8/14/2014.

Photos:

Cathedral of St. Paul. See Hansen.

1916 – Blandin Paper Company Dam

Located in Grand Rapids, the Blandin dam is a concrete structure. Built originally in 1901, it fails in 1948 and is rebuilt. As with the other Mississippi River headwaters dams, it continues to operate today.

Source:

2009 ASCE calendar on Mississippi River Headwaters dams – June 2009, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“Blandin Dam,” http://www.johnweeks.com/river_mississippi/pages02/gr_dam.html, accessed 6.5.2014.

Photo:

Blandin Dam washed out, 1948, Minnesota Historical Society photographs, use copy: MI8.9 GR3.1 p9, use and negative number: 10616-A.

1917 – U.S. Enters World War I

In 1917, the United States enters World War I. The war ends on 11/11/1918; the day becomes known as Armistice Day.

1917– William L. Darling

William L. Darling (1856 - 1938) of St. Paul is chief engineer for Great Northern Railway during completion of Glacier Park Hotel at Glacier National Park. He serves as ASCE-Northwest Section president in 1915 and as a Director of District 7.

Sources:

Listing of Directors of District 7, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“W.L. Darling,” ASCE-Minnesota, <http://www.ascemn.org/WLDarling.html>, accessed 4/4/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1917 – Lock and Dam No. 1 and the Mississippi River Lock and Dam System

Also known as the Ford Dam, Lock and Dam No. 1, located just above the confluence of the Minnesota and Mississippi Rivers, is completed. It is an Ambursen concrete overflow structure with a hydroelectric power station and supersedes the role of Lock and Dam No. 2 (Meeker Island) which is then demolished. Lock and Dam No. 1 is reconstructed in 1929, the main lock is completed in 1932, and the lock and dam undergo a major rehabilitation in 1979-1983.

Sources:

“Lock and Dam #1,” U. S. Army Corps of Engineers, <http://www.mvp.usace.army.mil/Missions/Navigation/LocksDams/LockDam1.aspx>, accessed 4/3/2014.

“List of Locks and Dams on the Mississippi River,” http://en.wikipedia.org/wiki/List_of_locks_and_dams_of_the_Upper_Mississippi_River, accessed 1/11/2014.

Paul D. Schinmowski, “HHC Rediscovered Mississippi Lock & Dam #2,” History and Heritage Committee (HHC), vol2, no4, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

Ford Dam construction, Minnesota Historical Society Photographs | Collections Online | ID Number: MR2.9 SP4.2 r127 (Locator Number SV).

1917 – St. Paul Union Depot

Construction of the second St. Paul Union Depot begins. It follows the first depot, built in 1881, which is destroyed by fire. It is completed in 1926 and , at its peak, 300 trains and more than

20,000 people pass through it each day. The last passenger train of the 20th century passes through it in 1971. In the early 2000s, the Ramsey County Regional Railroad Authority (RCRRA) and other community leaders develop a multiple hub transportation plan for the building and it is renovated for this purpose in 2011-2012. It is listed in the National Register of Historic Places in 1974.

Source:

“Union Depot,” <http://www.uniondepot.org/about/history>, accessed 6/6/2014.

Photos:

St. Paul Union Depot/Minneapolis/St. Paul,

<http://search.aol.com/aol/image?q=st.+paul+union+depot%2C+minneapolis%2Fst.+paul&v t=webmail-searchbox>.

1918 – Ralph D. Thomas

Ralph D. Thomas (18XX-1949) begins the first of two terms as ASCE-Northwest Section president. Thomas, a hydroelectric engineer who operates the firm R.D. Thomas and Associates for many years, designs new hydroelectric elements and additions to existing hydroelectric elements in many areas of northern and northwestern Minnesota.

Sources:

“Ralph D. Thomas,” ASCE-Minnesota, <http://www.ascemn.org/RThomas.html>, accessed 4/4/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1918 – Knutson Dam

The J. Neils Lumber Company illegally constructs a timber dam at the outlet of Cass Lake to facilitate logging. It is replaced, again illegally, by another timber dam in 1918 and, legally, by the current structure—built by the U.S. Army Corps of Engineers in 1929.

Source:

2009 ASCE calendar on Minnesota dams – March 2009, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1920-1929

1920 – Charles Lucien Pillsbury

Charles L. Pillsbury (1872-1959), a businessman and consulting and valuation engineer in Minneapolis and St. Paul, begins the first of two terms as president of ASCE-Northwest Section. For a number of years, along with several other business interests, Pillsbury owns and runs the Charles L. Pillsbury Company, a nationally known engineering consulting firm. Pillsbury serves as ASCE-Northwest Section President for two terms from 1920-1922.

Sources:

“Charles Lucien Pillsbury,” ASCE-Minnesota, <http://www.ascemn.org/CPillsbury.html>, accessed 4/4/2014.

Minneapolis Golden Jubilee, 1867-1917: A History of Fifty Years of Civic and Commercial Progress (Minneapolis: University Job Printing Company, 1917):160.

History of Minneapolis, Gateway to the Northwest, Volume I - Shutter (Historical); Volume II - Biographical; volume III – Biographical, Rev. Marion Daniel Shutter, D.D., LL.D., ed. (Chicago-Minneapolis, The S J Clarke Publishing Co, 1923): 589-590.
<http://files.usgwarchives.net/mn/hennepin/bios/1923/pillsbcl.txt>, accessed 6/6/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Photo:

Charles L. Pillsbury engineers in laboratory, Minneapolis, ca. 1920, Minnesota Historical Society photograph, HD7.12p17, ID and negative number 2622-B.

1920 – Wold-Chamberlain Field

The forerunner of the Minneapolis-St. Paul International Airport opens on the site of a former racetrack. In 1923 the airfield is dedicated, named for two Minnesota WWI aviators, Ernest Wold and Cyrus Chamberlain, killed in action during World War I. In 1948 it becomes the Minneapolis-St. Paul International Airport.

Sources:

Johnson, Frederick L. *Richfield: Minnesota's Oldest Suburb*. Richfield Historical Society, Richfield, 2009.

“HHC’s Spotlight on Minnesota Air Transportation” by Paul Schimnowski, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Poster, “Engineering in Minnesota: Inspiring the Next 100 Years.” ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

Wold-Chamberlain Field. Johnson, pp. 47, 48, 49, 50.

Photo:

Wold-Chamberlain Field, ca. 1940, Minnesota Historical Society photographs, MHS ID and negative number: NP 135272.

1920 - Ora Miner Leland

In 1920, Ora Miner Leland (1876-1962) joins the University of Minnesota as dean of the faculties of engineering, architecture, and chemistry. When the Institute of Technology is formed in 1935, he is made Dean of Administration. He becomes Dean of the College of Architecture and Engineering Emeritus in 1944, a position he holds for the rest of his life. Prior to coming to the University, Leland is associated with the Attorney General in the Spanish-American War, and from 1900-1903, he is an aide with the Coast Geodetic Survey on the Behring seacoast and in Puerto Rico. From 1904-1911, he is surveyor and chief of parties under the direction of the US Commission on boundary disputes between Canada and Alaska. He serves in France during World War I, seeing combat duty as a lieutenant colonel with the 303rd Regiment of Engineers. In 1924, in honor of his work on the Alaska-Canada border commission, a mountain on the border is named in his honor (Mount Leland). In 1949 two small islands in Glacier Bay, Alaska, are named for him as well. He serves as the president of the ASCE-Northwest Section in 1935-1936.

Sources:

Information File: Ora M. Leland, University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Photo:

O.M. Leland, ca. 1944. MN Chats, Vol 26, no 12, 6/9/1944. See Information File: Oral M. Leland, U of MN Archives.

1923 – High Bridge Power Plant

The St. Paul Gas and Light Company builds the coal-fired High Bridge Power Plant on the banks of the Mississippi River in St. Paul. It takes its name from the nearby Smith Avenue High Bridge.

Sources:

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

“HHC’s Spotlight on Minnesota Power Generating,” ASCE-Minnesota Section Records, Dept of CE, U of MN.

1924 – Civil Engineering Student Prize

Contest rules for technical papers prepared by Civil Engineers students are inaugurated by the ASCE – Northwest Section. First prize is \$25, and second prize is \$15. This prize is later used to cover admission fee and one year's dues to ASCE.

Source:

ASCE correspondence, ASCE-Minnesota Section Records, 1924, Dept of CE, U of MN.

1924 – Mendota Bridge

The bridge that connects Ft. Snelling and Mendota is constructed according to plans developed by Walter H. Wheeler, consulting engineer for Hennepin County, and C.A.P. Turner Company Associates. It is dedicated to the “Gopher Gunners”, members of the 151st Field Artillery who die in World War I. In 1992-1994 it is rebuilt from the arches up with a new wider deck.

Sources:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, Minneapolis, 2008.

“Fort Snelling-Mendota Bridge,” Minnesota Historic Property Record,
<http://www.dot.state.mn.us/historicbridges/pdf/4190MHPR.pdf>, accessed 4/3/2014.

“Mendota Bridge,” bridgehunter.com, <http://bridgehunter.com/mn/dakota/4190/>, accessed 4/3/2014.

“Biographical Note,” Walter Hall Wheeler Papers, Northwest Architectural Archives, University of Minnesota, <http://special.lib.umn.edu/findaid/xml/naa106.xml>, accessed 4/3/2014.

“Biographical Note,” Frank Horner papers, Northwest Architectural Archives, University of Minnesota.

<http://special.lib.umn.edu/findaid/xml/naa106.xml>, accessed 4/3/2014.

Photo:

Mendota Bridge. Gardner, p. 138.

Photo:

Mendota Bridge, 1930, Minnesota Historical Society photograph, ID number: MD2.1B r15, Accession number: AV1986.13.

1924 – Carl Bolander & Sons Company

The Carl Bolander & Sons Company is founded by Carl Bolander. Its major projects include the first implosion in Minnesota – the Dykeman Hotel in Minneapolis in 1979, and the \$2.8 million demolition of the Armour Meat Packing Plant in 1989.

Source:

Construction Bulletin. "The First 100 Years: the History of Minnesota Construction." Dec. 1993.

1925 – ASCE-Northwest Section Programs

ASCE-Northwest Section programs include "The Metropolitan Plan for St. Paul, Minneapolis, and Surrounding Area" and "Construction of the St. Paul Union Depot".

Source:

Northwest Section of the ASCE, Meetings and Programs, Minutes and Newsletters – Old File (1948-). ASCE-Minnesota Section Records, Dept of CE, U of MN.

1928 – Highland Park Water Tower

The Highland Park Water Tower is completed in 1928. It is designed by St. Paul city architect Clarence "Cap" Wigington, Minnesota's first African-American architect. The Highland Park Water Tower sits on the second highest point in St. Paul. It is constructed of brick and cut stone and holds a 200,000 gallon steel tank. An observation deck is opened to the public on special occasions.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

"Highland Park Water Tower," <http://www.stpaul.gov/index.aspx?NID=3274>, accessed 1/11/2014.

"Cap Wigington: St. Paul's Architect," by Cathy Wurzer, *MPR News*, 4/21/2010, <http://www.mprnews.org/story/2010/04/21/cap-wigington>, accessed 1/24/2014.

Photo:

Highland Park Water Tower. Millett, p. 530.

Photo:

Highland Park Water Tower, 1940, Minnesota Historical Society photographs, ID number: MR2.9 SP4.1 r129, negative number: 89683, accession number: YR1977.1987.

1929/1931 – Ralph Budd

Ralph Budd (1879-1962) of St. Paul is a Director of ASCE District 7. He serves as president of a number of railroads, beginning at age forty with the Great Northern Railway. He is known nationally and internationally as the builder and rehabilitator of railroads.

Sources:

Listing of Directors of District 7, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Ralph Budd: National Railroad Hall of Fame, <http://www.nrrhof.org/pages/budd.php>, accessed 7/31/2014.

1929 – Sorlie Memorial Bridge

Spanning the Red River of the North, this Highway 2 steel beam and truss bridge connects East Grand Forks, Minnesota with Grand Forks, North Dakota. Built in 1929, it has survived several major Red River floods with water that reaches and submerges its deck.

Sources:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, Minneapolis, 2008.

2007 ASCE Calendar on Minnesota bridges– January 2007, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

Sorlie Memorial Bridge. Gardner, p. 77.

1929 – Veit Companies

The Viet Companies are founded by Frank Veit in Rogers, Minnesota, when, as a truck farmer, he rents his fleet of dump trucks to Hennepin County for various county road projects. Later the company performs residential work and then moves into commercial excavation, site grading and demolition.

Source:

Construction Bulletin. “The First 100 Years: the history of Minnesota construction.” Dec. 1993.

1929 – Duluth Aerial Lift Bridge

By the early 1920s Duluth's 1905 aerial ferry bridge, designed by Claude Allen Porter (C.A.P.) Turner, no longer is able to accommodate the volume of traffic that needs to cross the Duluth Ship Canal. The bridge is reengineered into a vertical lift span in 1929 by the Kansas City-based firm of Harrington, Howard and Ash. Modifications include raising the two vertical steel towers and the horizontal truss to a height of 172 feet to allow better clearance for ships. The counterweighted elevating roadway replaces the traveling carriage, and the bridge serves without change to this day.

Sources:

Young, Frank A. *Duluth's Ship Canal and Aerial Bridge*. St. Louis County Historical Society, Duluth, n.d.

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, Minneapolis, 2008.

Photo:

Duluth Aerial Lift Bridge. Young, pp. 8, 9, 10, 11.

Photo:

Duluth Aerial Lift Bridge. Gardner, pp. 102, 103, 104, 105, 106.

1929 – Foshay Tower

At 447 feet the Foshay Tower is the tallest building in Minnesota until completion of the IDS Center in 1973. The Foshay Tower is designed by Leon Eugene Arnal, chief designer for architects Magney and Tusler. In 1992 Setter Leach and Lindstrom Architects oversee a renovation. In 2007-2008 the building is converted into a luxury hotel by Leo A. Daly Architects and Engineers. The Foshay Tower is listed in the National Register of Historic Places in 1976.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

“Foshay Tower,” Minnesota Historical Society,
http://nrhp.mnhs.org/property_overview.cfm?propertyID=27, accessed 3/2/2014.

Photo:

Foshay Tower. Millett, p. 31.

Photo:

Foshay Tower, Minnesota Historical Society photographs, MH5.9 MP3.1F r42, Accession Number AV1985.218.3.

1929 – Stock Market Crash

In October 1929, the United States stock market crashes, setting in motion events that lead to the Great Depression. The Great Depression finally subsides in the early 1940s during the beginning years of World War II.

1930-1939

1930 – Upper Mississippi River Nine-Foot Channel Project

In 1930 Congress authorizes construction of twenty-four locks and dams between Red Wing, Minnesota, and St. Louis, Missouri, but fails to appropriate construction funds. In 1933, President Franklin D. Roosevelt signs the National Industrial Recovery Act (NIRA) that, among other things, appropriates \$51 million for the Upper Mississippi River nine-foot channel project. This vast undertaking transforms the Upper Mississippi River. The impact is immediate and great as new locks and dams are completed.

Sources:

Dakota County Historical Society archives, South St. Paul.

Poster, “Engineering in Minnesota: Inspiring the Next 100 Years.” ASCE-Minnesota Section, Dept of CE, U of MN.

Photos:

Dakota County Historical Society archives, South St. Paul.

See also Minnesota Historical Society archives and photograph collections.

1930 – Lorenz G. Straub

In 1930, Lorenz G. Straub (1901-1963), after working with the U.S. Army Corps of Engineers in Kansas City for a year, joins the engineering faculty at the University of Minnesota. He serves as Assistant Dean of the Institute of Technology, Director of the St. Anthony Falls Hydraulic Laboratory (SAFL), and as Head of the Civil Engineering Department from 1945 until his death in 1963. Straub is known throughout the world as an expert on dams and waterways. He becomes involved with the SAFL in 1935 when he sees the potential for a hydraulic laboratory at that location and he oversees its construction on land donated by Northern States Power Company with funds from the University of Minnesota and the Works Progress Administration (WPA). It becomes known as the clinic for “sick rivers.” During WWII, on leave from University, Straub serves with the Office of Scientific Research and Development coordinating research on weapons for undersea warfare and rocket weapons, and in 1959, he consults on construction of the Aswan Dam in Egypt. In 1961, with Prof Alvin G. Anderson, he is given the Norman Medal ASCE for their technical paper on hydraulics, which is judged to be of special merit as a contribution to engineering science. He serves as president of many national and international organizations and is given numerous awards for his work. He serves as president of the ASCE-Northwest Section from 1937-1938. After his death, the Lorenz G. Straub Memorial Library at the St. Anthony Falls Hydraulic Laboratory is dedicated in his honor. The Lorenz G. Straub Award, sponsored by the St. Anthony Falls Laboratory, is an international competition for a Ph.D. thesis in hydraulic engineering, ecohydraulics, or related fields. Recipients are presented with a Straub Award medal and a monetary gift.

Sources:

Information File: Lorenz G. Straub, University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

St. Anthony Falls Laboratory, Recognizing Academic Excellence, <http://www.safll.umn.edu/about/awards>, accessed 7/25/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Photo:

Lorenz G. Straub, ca. 1963. St. Anthony Falls Laboratory, <http://www.safll.umn.edu/about/awards>, accessed 7/25/2014.

1931 – Stillwater Lift Bridge

The Stillwater Lift Bridge is completed in 1931 after two years of construction. It is designed by Ash, Howard, Needles and Tammen, the successor to the firm that altered the Duluth Aerial Lift Bridge from an aerial ferry structure into a vertical lift bridge.

Source:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, Minneapolis, 2008.

Photo:

Stillwater Lift Bridge. Gardner, p. 108.

1931 – Twin Cities Skyway System

The first skyway is built in St. Paul in 1931. By the late 1960s downtown St. Paul has five miles of skyway connections and Minneapolis has eight miles of skyways.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

Correspondence, Paul Schimnowski to Carol Reese re: History Committee Citation, April 15, 2004, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“The First MN Skyway,” History and Heritage Committee (HHC) vol3, no3, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“Minneapolis/St. Paul Skyway History,” <http://www.skywaydirectory.com/history.php>, accessed 1/11/2014.

Photo:
Minneapolis and St. Paul skyways. Millett, pp. 32, 317.

Photo:
Minneapolis Skyway, 1969, Minnesota Historical Society photographs, MHSID Number: NP 310537 (Negative Number).

1933 – ASCE-Northwest Section Programs

ASCE –Northwest Section programs include “Recent Federal Public Work and Emergency Unemployment Relief Measures” and “Design and Construction of Locks and Dams on the Upper Mississippi by means of the Pumpcrete Process.” The Pumpcrete Process is a predecessor to the articulated boom concrete pump and the truck-mounted concrete pump in the United States. It is introduced in the United States in the early 1930s. Pumpcrete equipment is used on major construction projects including the Hoover Dam

Sources:
Northwest Section of the ASCE, Meetings and Programs, Minutes and Newsletters – Old File (1948-). ASCE-Minnesota Section Records, Dept of CE, U of MN.

See http://www.youtube.com/watch?v=GpXi_kZN25g, accessed 3/8/2014, for information about the Pumpcrete Process.

1933/1939 – Public Works Administration (PWA)

Created by the National Industry Recovery Act (NIRA), the Public Works Administration is designed to support construction of public works as a means of helping alleviate unemployment and stabilizing the economy. Its many projects include construction of airports, electricity-producing dams, schools, and hospitals. In the Twin Cities, the Metropolitan Wastewater Treatment Plant is a PWA project.

Sources:
Public Works Administration, <http://www.gwu.edu/~erpapers/teaching/glossary/pwa.cfm>, accessed 8/15/2014.

Society for Industrial Archeology 42nd Annual Conference, 2013,
<http://www.siahq.org/conference/twincities/fridaytour3.html>, accessed 8/15/2014.

1933/1942-Civilian Conservation Corps (CCC)

In Minnesota this Great Depression New Deal program, designed to employ young men while conserving natural resources, builds hundreds of dams, constructs 149 fire lookout towers and 795 buildings and structures including bridges, strings 3,338 miles of telephone lines, builds 4,500 miles of new roads and does maintenance on another 23,000 miles of roads, inventories 3,729,500 acres of state forest land, performs fish surveys or counts on 336 lakes, plants 123,607,000 trees, and installs farming conservation practices on 160,000 acres. They do this

work in Minnesota's two national forests, in 21 of its state forests, 22 of its state parks, on private farm land primarily in southeastern Minnesota, and on American Indian reservations across the state. Most of these projects involve planning or design teams that include architects, landscape architects, and engineers, many of whom are based in the National Park Service Minnesota Central Design office in the Landmark Center in St. Paul.

Sources:

Barbara W. Sommer, *Hard Work and a Good Deal: The Civilian Conservation Corps in Minnesota*. St. Paul: Minnesota Historical Society Press, 2008.

"HHC's spotlight on the Civilian Conservation Corp," History and Heritage Committee (HHC)1, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

Water tower construction, Gooseberry Falls State Park, Minnesota Historical Society photographs, MHS ID Number: E445.2 r25 (Locator Number SV).

Photo:

Fire tower, Minnesota Historical Society photographs MHS ID Number: SC4.1 r9 (Locator Number SV).

1934 –National Gas Pipeline

A natural gas pipeline reaches Minnesota in 1934.

Source:

"Minnesota Energy Timeline," <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

1934/1938 – Metropolitan Wastewater Treatment Plant

The first sewage treatment plant in a major city along the Mississippi River, the Minneapolis-St. Paul Sanitary District Metropolitan Wastewater Treatment Plant, opens in St. Paul in 1938. Constructed as Minnesota's largest Public Works Administration project, it has fifty-two miles of sewers to carry storm and sanitary sewage to the plant.

Sources:

"The Metropolitan Wastewater Treatment Plant," <http://www.metrocouncil.org/Wastewater-Water/Publications-And-Resources/Metropolitan-Wastewater-Treatment-Plant.aspx>, accessed 1/18/2014.

Poster, "Engineering in Minnesota: Inspiring the Next 100 Years." ASCE-Minnesota Section, Dept of CE, U of MN.

Society for Industrial Archeology 42nd Annual Conference, 2013, <http://www.siahq.org/conference/twincities/fridaytour3.html>, accessed 8/15/2014.

Photo:

Dedication program, 5/16/1938, The Minneapolis-St. Paul Sanitary District Dedication Program, 5/18/1938, ASCE-Northwest Section, Volume II, 1938 – (bound file), ASCE-Minnesota Section Records, Dept of CE, U of MN.

1935 – John Frank Stevens

John Frank Stevens (1853-1943) receives the John Fritz Medal from ASCE, AIMME, ASME, and AIEE. Although he has little formal education, Stevens learns surveying and gains experience by building railroads in Michigan, Minnesota, British Columbia, and Mexico. From 1887-1889, he is the principal assistant engineer for the Duluth, South Shore and Atlantic Railway Company in charge of building the railroad from Duluth to Sault Ste. Marie. In 1889, he is hired by James J. Hill as a locating engineer for the Great Northern Railway and oversees its construction through the Cascade Mountains; he later becomes chief engineer for the railroad. Stevens Pass is named in his honor. In 1905 President Theodore Roosevelt appoints him chief engineer on the Panama Canal project, a position he holds until 1907. On this project, he successfully develops the infrastructure on one of the largest civil engineering projects of all time. After he turns the project over to the U. S. Army Corps of Engineers, he is affiliated with a number of other railroads as chief engineer, vice president, and CEO. On July 21, 1925, a statue of Stevens, located where the Great Northern Railroad crosses the continental divide in the Rocky Mountains, is unveiled. Robert Ridgeway, ASCE president, speaks at the dedication.

Sources:

Handwritten notes, ASCE-Minnesota Section Records, Dept of CE, U of MN.

John Frank Stevens (1853-1943), Chief Engineer, Great Northern Railway, [http://www.seattleasce.org/committees/Centennial%20Files/ASCE_Stevens](http://www.seattleasce.org/committees/Centennial%20Files/ASCE_Stevens.png), png. Dept of CE, U of MN.

“Milestones in Northwest Civil Engineering; Significant People and Projects” – poster, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Ralph W. Hidy and Muriel E. Hidy, “John Frank Stevens: Great Northern Engineer,” *Minnesota History*, 41:8 (winter 1969): 345-361.

Photo:

See the Hidy article, *Minnesota History Magazine*.

1935/1943 – Works Progress Administration (WPA)

The Works Progress Administration is the largest federal Great Depression work relief program in United States history. Among its many Minnesota projects is the Hibbing Disposal Plant (1938). The plant is one of the largest federal relief projects in northern Minnesota and is listed in the National Register of Historic Places in 1991. Many WPA projects throughout Minnesota involve design teams of local and state architects, engineers, and landscape architects.

Source:

Notes from Minnesota Treasures by Denis Gardner, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

WPA workers laying a new sidewalk, 1936, Minnesota Historical Society photographs, use copy: HD6.73r5, ID number: 4581 A and ID number, MK8.9 IF5.2 p1, use number: 77019, accession number: YR1943.2738.

Photo:

New stadium, built with WPA funds, in International Falls, 1941 Minnesota Historical Society photographs, use copy: HD6.73r5, ID number: 4581 A and ID number, MK8.9 IF5.2 p1, use number: 77019, accession number: YR1943.2738.

1935/1943-National Youth Administration (NYA)

A Great Depression New Deal work relief program, often called the youth arm of the WPA, it pays youth between the ages of 16 and 25 years of age (high school and college) for work projects and education. Minnesota projects include constructing or repairing 1,527 buildings and recreational structures, working on 790,020 linear feet of road and street work, construction of 14,211 water supply/storage/sanitation structures and construction of 29,616 linear feet of sewer lines. Many of these projects include design and supervisory teams of architects, engineers, and landscape architects.

Source:

“The National Youth Administration for Minnesota: Origin, Development and Accomplishments,” September 1935-June 1943, Minnesota Historical Society collections.

Photo:

NYA-built Bandshell, Worthington, MN. (eligible for listing on the National Register of Historic Places), Barbara W. Sommer photograph.

Photo:

Young woman in the NYA working on machinery, NYA Final Report, Minnesota Historical Society, NYA report cited above.

1936 – Rural Electrification Act (REA)

The Rural Electrification Act provides federal loans to support rural electrification throughout the country. In Minnesota, many local electrical cooperatives are founded and begin putting up electrical lines to serve rural customers.

Source:

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

Photo:

REA line crew, Iron Range, 1939 , Minnesota Historical Society ID Number: HD1.2 r2, AV1978.1.23, 27178.

1937 – Miles S. Kersten

In 1937, Miles Stokes Kersten (1913-2005) joins the engineering faculty at the University of Minnesota. Prior to coming to the University, Dr. Kersten works at the United States Geological Survey (1934) and the Minnesota Department of Highways (1935-1937). He leaves the University to work with the Transportation Research Board in Washington, D.C. from 1944-1945 and then returns to the University to spend the rest of his career. Dr. Kersten works on programs for soil mechanics and highway engineering related to soils and pavement design and, in 1954, is part of a study of the design of foundations for buildings in permafrost regions. In 1962, he leads a delegation to Russia to study soil mechanics. In 1995, he receives the first Richard P. Braun Distinguished Service Award from the University of MN Center for Transportation Studies. He serves as president of ASCE-Northwest Section in 1952-1953.

Sources:

Information File: Miles Kersten, University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

“In Memoriam: Miles Kersten.” College of Science & Engineering, University of Minnesota, http://cse.umn.edu/admin/comm/features/2005_08_IN_MEMORIAM_MILES_KERS.php, accessed 7/29/2014.

Photo:

Miles Kersten, 1962. Minnesota Technology. See Information File: Miles Kersten, U of MN Archives.

Photo:

Miles Kersten, ca. 1995. Inventing Tomorrow, Winter 2006. See Information File: Miles Kersten, U of MN Archives.

1937 – Upper Minneapolis Harbor Development Project

Planning for this project, which begins in 1937, is designed to extend navigation above St. Anthony Falls in Minneapolis. It is delayed during World War II. Construction resumes in 1948 with the building of the Upper Lock and Dam (1963) and the Lower Lock and Dam (1956) along with dredging a channel nine feet deep and 150 feet wide. Its completion in 1963 by the U. S. Army Corps of Engineers, St. Paul District, makes navigation possible around St. Anthony Falls.

Sources:

“Upper St. Anthony Falls Lock and Dam,” <http://www.nps.gov/miss/planyourvisit/uppestan.htm>, accessed 1/23/2014.

Lower St. Anthony Falls Lock and Dam,
<http://www.mvp.usace.army.mil/Missions/Navigation/LocksDams/LowerStAnthonyFalls.aspx>,
accessed 1/23/2014.

1937 - Kraus-Anderson Construction Company

Krause Anderson Construction is incorporated by Lloyd Engelsma after he purchases the company, which had been building gas stations, from Matthew Kraus and Amos Andersen. Early projects include the KSTP tower, Christ Lutheran Church, Minneapolis, (Eliel Saarinen's simple, modern design has influenced church design for more than half a century), Lutheran Brotherhood, Minneapolis, (becomes the city's first modern office building downtown since 1930, and its first modern curtain wall building). More recent projects include the Minneapolis-St. Paul Airport (Kraus-Anderson has provided construction management services on over 400 Minneapolis/St. Paul International Airport projects, totaling over \$1.4 billion in construction value), the 340,000 square foot Macy's department store at the Mall of American, Bloomington, Minnesota; the Phillips Eco-Enterprise Center, Minneapolis which wins an Earth Day 2000 Award and becomes a pilot project for Leadership in Energy and Environmental Design (LEED) and University of Minnesota Amplatz Children's Hospital.

Sources:

Construction Bulletin. "The First 100 Years: the history of Minnesota construction." Dec. 1993.

<http://www.krausanderson.com/construction-company-history.html> accessed 7-26-2014.

1938 – Joint Meeting, ASCE-Northwest Section and the Student Chapter

At the end of the school year, the Northwest Section of the ASCE holds a joint meeting and picnic with the student chapter.

Source:

ASCE Student Chapter Minute Books 1934-1954, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1938 – Great River Road

In 1938 planning begins for development of the Great River Road, designed to follow the Mississippi River from its source at Lake Itasca to its mouth near New Orleans. The Minnesota stretch of the road runs 572 miles from Lake Itasca State Park to the bluff region along the river in southeastern Minnesota.

Source:

Paul D. Schimnowski, "The Great River Road," History and Heritage Committee (HHC) vol 2, no 3, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1938 – St. Anthony Falls Laboratory

Located on Hennepin Island in the Mississippi River, the St. Anthony Falls Laboratory is constructed between 1936 and 1938 under the direction of Lorenz J. Straub (president of the ASCE-Northwest Section in 1937) using funds from the Works Progress Administration (WPA) and University of Minnesota. The St. Anthony Falls Laboratory is the only fluid-mechanics laboratory in the world that utilizes a natural waterfall as its prime water source. Throughout its history the laboratory makes significant contributions to fluid mechanics, hydraulic engineering, and water resources. The laboratory continues to be managed by the university and conducts research aims at developing innovative engineering solutions to major water resources and to energy and environmental problems.

Sources:

Kane, Lucille M. *The Waterfall That Built a City*. Minnesota Historical Society, 1966.

“Civil Engineers: Designers and Builders of the Quality of Life”

http://www.ascemn.org/PDFs/ASCEMN_Intro_Panel.pdf, accessed 1/8/2014.

St. Anthony Falls Laboratory National Historic Civil Engineering Landmark Nomination, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“ASCE-Minnesota Past Presidents,” ASCE-Minnesota,

http://www.ascemn.org/Past_Leadership.html, accessed 4/5/2014.

Photo:

St. Anthony Falls Laboratory, 1938, Minnesota Historical Society photographs, ID number: FM6.818 r4.

1938 – Charles W. Britzius

Charles W. Britzius (1911-2004) founds Twin City Testing specializing in concrete and structural steel testing. During World War II, the firm does tests on federal defense items. The company is now known as Element Materials Technology. Britzius serves as ASCE-Northwest Section president from 1950-1951 and District 7 Director from 1959-1961. He receives many awards and has one named after him – the Charles W. Britzius Distinguished Engineer Award which recognizes lifetime achievements in engineering and contributions to the engineering profession.

Sources:

“Charles W. Britzius,” ASCE-Minnesota, <http://www.ascemn.org/CBritzius.html>, accessed 4/4/2014.

Listing of Directors of District 7, ASCE-Minnesota Section Records, Dept of CE, U of MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1940-1949

1940 – Armistice Day Blizzard

In 1940, Harry L. Wilson is an engineer in the Physical Plant Department at the University of Minnesota. On November 11, when the Armistice Day Blizzard hits, he deals with the collapse of the roof and wall of the heating plant on the St. Paul campus as a result of the snowfall. In later years, he also deals with floods on campus and with a snowslide off the Williams Arena roof just before the start of the annual basketball tournament. Before joining the University, he oversees design and construction of many buildings in Minneapolis and, while at the University, he designs and oversees construction of Delta Field and directs the remodeling of Williams Arena into the nation's largest basketball and skating arena in the country. Wilson serves as president of the ASCE-Northwest Section in 1947-1948.

Sources:

Information File: Harry L. Wilson, University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1941 – ASCE-Northwest Section Programs

ASCE-Northwest Section programs include “Defense Contracts Priorities”.

Sources:

Northwest Section of the ASCE, Meetings and Programs, Minutes and Newsletters – Old File (1948-). ASCE-Minnesota Section Records, Dept of CE, U of MN.

1941 – Lake Itasca

Civilian Conservation Corps (CCC) enrollees haul in 40,000 cubic yards of fill to create one of Minnesota's iconic structures, a 44-foot dam topped with stepping stones across the headwaters of the Mississippi River. As with many CCC structures, it is designed by a team of architects, engineers, and landscape architects.

Sources:

Barbara W. Sommer, *Hard Work and a Good Deal: The Civilian Conservation Corps in Minnesota*. St. Paul: Minnesota Historical Society, 2008.

Copy of original plans, CCC dam, Itasca State Park.

Photo:

Mississippi headwaters, ca. 1945, Minnesota Historical Society photographs, ID number: SD11tM r12, accession number: AV1987.21.51.

1941 – The United States Enters World War II

Following the bombing of Pearl Harbor, Hawaii, on December 7, 1941, the United States enters World War II. Many ASCE-Northwest Section members serve in various capacities throughout the world during the war. The war ends in 1945.

1941/42 – William N. Carey

William N. Carey (1887-1980) of St. Paul is a Director of District 7. During his years in Minnesota, Carey is superintendent of construction for Toltz, King & Day and, during the Great Depression, is state engineer for the Public Works Administration where he supervises government design and construction of the sewage treatment plant for the Minneapolis-St. Paul Sanitary District. In 1942, he becomes chief engineer for the Federal Works Agency and serves in that capacity during World War II. In 1945, Colonel Carey is named secretary of the ASCE.

Sources:

Listing of Directors of District 7, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“George Seabury dies: William N. Carey Succeeds Him,” Institute of Electrical and Electronics Engineers, July 1945, p. 280. <http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=6441160>, accessed 8/15/2014.

1942 – George M. Shepard

George M. Shepard (1888-1974) serves as president of ASCE-Northwest Section. He holds a number of engineering positions over the years, including several decades as chief engineer with the City of St. Paul Department of Public Works. He graduates as a civil engineer from the University of Minnesota in 1909 and receives its Outstanding Achievement Award in 1950. Shepard Road, located along the banks of the Mississippi River in St. Paul, is named for him.

Sources:

“George M. Shepard,” ASCE-Minnesota, <http://www.ascemn.org/GShepard.html>, accessed 4/4/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Information File: George M. Shepard, University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

Mississippi River Field Guide: Shepard Road, fieldguide.fmr.org/site_detail.php?site_id=216, accessed 8/14/2014.

1943 – Okes Construction Company

Okes Construction Company of St. Paul is the managing contractor with fifteen other contractors, thirteen of them from Minnesota, for the St. John-Ft. Nelson segment of the Alcan Highway in Alaska. George M. Shepard, St. Paul City Engineer and ASCE-Northwest Section president in 1942, serves on the Okes staff.

Source:

ASCE-Minnesota Section Records, 1943, Dept of CE, U of MN.

1944 – ASCE-Northwest Section Programs

ASCE-Northwest Section programs include "Logistics, the Key to Quick Victory" and "Outlines and Committee Work for Post-war Plans for St. Paul, Minn".

Source:

Northwest Section of the ASCE, Meetings and Programs, Minutes and Newsletters – Old File (1948-). ASCE-Minnesota Section Records, Dept of CE, U of MN.

1945 – Atomic Age

With the detonating of the atomic bombs, resulting from research done through the World War II Manhattan Project, the world enters the Nuclear or Atomic Age.

1945 – Hibbert M. Hill

Hibbert M. Hill (1900-1983) is awarded the Legion of Merit for his U.S. Army engineering work developing temporary harbors for D-Day invasion supply ships in World War II. Before and after the war, he is a civil engineer with Northern State Power Company and a recognized expert on the construction and operation of dams, locks, and power plants. He also consults internationally and, after he retires, becomes a member of the advisory committee on reactor safety for the Atomic Energy Commission and one of the three founders of the Gray Freshwater Biological Institute at Lake Minnetonka. Hill serves as President of the ASCE-Northwest Section in 1934.

Sources:

"Hibbert M. Hill," ASCE-Minnesota, <http://www.ascemn.org/HHill.html>, accessed 4/4/2014.

Biographical Note: Hibbert Mosse Hill and Rachel Hanna Hill Papers, Minnesota Historical Society, <http://www.mnhs.org/library/findaids/00635.xml>, accessed 4/5/2014.

Information File: Hibbert M. Hill. University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Photo:

Hibbert M. Hill, Minnesota Historical Society collections, Hibbert Mosse Hill and Rachel Hanna Hill Collection.

1946 – ASCE-Northwest Section Programs

ASCE-Northwest Section programs include “Cooperation Between Service Organizations and Scientists During the War in the Development of Radar, Sonar, Jet Propulsion and Rocket Weapons”.

Source:

Northwest Section of the ASCE, Meetings and Programs, Minutes and Newsletters – Old File (1948-). ASCE-Minnesota Section Records, Dept of CE, U of MN.

1948 – KSTP Broadcast Tower

KSTP, the first television station in Minnesota, signs on the air on April 27, 1948. Its transmitter, located behind the station’s offices on University Avenue, is a 571-foot tower that transmits 24,700 watts of radiated power. The tower is built by Knutson Construction.

Source:

“Twin Cities Television Milestones,” <http://www.pavekmuseum.org/tctvchron.html>, accessed 1/23/2014.

Photo:

KSTP Tower, 1948 (3a) Minnesota Historical Society photograph, MHS ID Number: 22913 (Negative Number).

1949 – Archie Newton Carter

Archie Newton Carter (1910-1994), during his service as general chair of the ASCE Annual Meeting, invites President Harry S. Truman to speak at the meeting; this is one of the few times a United States President addresses an ASCE meeting. In his remarks, President Truman states he is a “great admirer” of engineers and that he believes “development of this country, its rivers, its harbors, its highways, its railways, its irrigation and reclamation projects – every one of the things that has contributed to making this great country – has had some great engineer in connection with its construction.” Later, while living in Minnesota, Carter establishes an engineering firm specializing in highway and municipal engineering. He serves as ASCE- Northwest Section president 1968-69, and as a District 7 Director from 1974-1976. From 1985-1994, he is Editor of the ASCE’s Journal of Professional Issues in Engineering Education and Practice and he is remembered in the 1990s through the Archie Carter Publishing Award, American Society of Civil Engineers.

Sources:

Archie N. Carter Has Provided 50 Years of Service to the Engineering Profession, Prior ’69 folder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Northwest Section, ASCE, 1968-9, Prior '69 folder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Public Papers of the Presidents, 1945-1953, "Remarks to the American Society of Civil Engineers," November 2, 1949, Harry S. Truman Library & Museum, University of Missouri, <https://www.trumanlibrary.org/publicpapers/index.php?pid=1330&st=&st1=>, accessed 3/8/2014

Listing of Directors of District 7, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Archie Newton Carter, ASCE-Minnesota, <http://www.ascemn.org/ACarter.html>, accessed 4/4/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1950-1959

1950 – J. Robert Calton

J. Robert Calton (1909-1983), life member of ASCE, joins the St. Paul District Office of the U.S. Army Corps of Engineers; he becomes Chief of Planning in charge of studies that lead to Congressional authorization and construction of twenty-eight major flood control and navigation projects at a cost of \$35 million. He receives the Meritorious Civilian Service Award from the Office, Chief of Engineers, for his help with 1969 flooding and is named St. Paul District Civil Servant of the Year in 1972. In 1960 he serves as ASCE-Northwest Section president.

Sources:

J. Robert Calton Memoir, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“J. Robert Calton,” ASCE-Minnesota, <http://www.ascemn.org/JCalton.html>, accessed 4/4/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1950 – The Minnesota Federation of Engineering Societies

The Minnesota Federation of Engineering Societies sets up a committee on Civilian Defense for Minnesota; George Guesmer represents ASCE-Northwest Section, on the committee.

Source:

ASCE-Northwest Section, meeting minutes, 11/6/1950, Minutes and Newsletters – Old File (1948-). ASCE-Minnesota Section Records, Dept of CE, U of MN.

1951 – Atomic Attack Shelter

ASCE-Northwest Section receives a pamphlet from the Federal Civil Defense Administration on “Shelter from Atomic Attack in Existing Buildings”.

Source:

Thomas R. Klingel, to George O. Guesmer, 8/25/1951, Committees file, ASCE-Minnesota Section Records 1951, Dept of CE, U of MN.

1952 – Black Dog Power Plant

The Black Dog Power Plant is built near Burnsville.

Source:

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

1952 – WCCO Television

Midwest Radio and Television applies for a channel, call letters to become WCCO-TV, with a transmitter on the Foshay Tower and CBS as the affiliated network. The call letters are from the sister radio station owned by the company, they stand for Washburn Crosby Company, General Mills predecessor.

Sources:

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

“Twin Cities Television Milestones,” <http://www.pavekmuseum.org/tctvchron.html>, accessed 4/3/2014.

1952-Minneapolis Aquatennial

Lilyan Joan “Diddie” Odland, daughter of Norwegian immigrants Einar Holman Odland and Inger (Aasen) Odland, is the Northern States Power candidate for Minneapolis Aquatennial Queen. Einar Odland is a civil engineer and a 1937 graduate of the Department of Civil Engineering at the University of Minnesota.

Sources:

“Lilyan Joan Odland,” Aquatennial Exhibit, Hennepin History Museum, Minneapolis, MN.

Graduation Program, 1937, University of Minnesota Archives, conservancy.umn.edu/bitstream/57554/1/1937-commencement.

Photo:

Minneapolis Star and Tribune Portraits-M-P, Box 120, Minnesota Historical Society, St. Paul, MN.

1954 – District 7 Council Meeting

The ASCE-Northwest Section, hosts the District 7 Council meeting at the St. Paul Hotel in St. Paul; the meeting is held jointly with the Society of American Military Engineers (SAME)

Sources:

“Constitution and By-Laws Including Historical Data,” District 7 Council, ASCE, III Edition, 1964, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Committee Report, 1/1/1954, Sept 1,2,3 Convention folder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1955 – John E. “Jack” Meyer

John E. “Jack” Meyer (1923-2013), World War II veteran and 1947 graduate of the School of Civil Engineering at the University of Minnesota, founds his civil engineering firm; it later comes Meyer Borgman Johnson and specializes in structural engineering and works on many Twin Cities projects including Orchestra Hall, Landmark Center, Fort Snelling, and many projects at the University of Minnesota. He serves as ASCE-Northwest Section president from 1958-1959.

Sources:

“John E. Meyer,” ASCE-Minnesota, <http://www.ascemn.org/JMeyer.html>, accessed 4/4/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1956 – Lower St. Anthony Falls Lock and Dam

This gravity-type, hydroelectric dam, is built as part of the Upper Minneapolis Harbor Development Project. It has a concrete spillway with four tainter gates.

Source:

“Lower St. Anthony Falls Lock and Dam,” U.S. Army Corps of Engineers, <http://www.mvp.usace.army.mil/Missions/Navigation/LocksDams/LowerStAnthonyFalls.aspx>, accessed 4/2/2014.

1956-Interstate and Defense Highway System

U.S. Congress authorizes the Interstate Highway System. The first section in Minnesota is a five-mile stretch near Owatonna.

Source:

ASCE-Minnesota Section Records, 1956, Dept of CE, U of MN.

Photo:

New Interstate and Defense Highway #35, 1957, Minnesota Historical Society photographs, ID number: HE3.8 r10, negative number 56393.

1957 – District 7 Council Meeting

The ASCE- Northwest Section, hosts the District 7 Council meeting in Grand Rapids, MN; the boundary limits for District 7 are confirmed at the meeting.

Source:

“Constitution and By-Laws Including Historical Data,” District 7 Council, ASCE, III Edition, 1964, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1957 – Jesse Fant

Jesse Fant (1917-1982) begins his groundbreaking surveying training courses and develops a major program in education of land surveying at the University of Minnesota. As he says, he teaches survey, geodesy, and photogrammetry courses to “prepare surveyors for the twenty-first century.” He serves as ASCE-Northwest Section president in 1956.

Sources:

“Jesse Ernest Fant,” ASCE-Minnesota, <http://www.ascemn.org/JFant.html>, accessed 4/4/2014;

“Jesse E. Fant Memoir,” ASCE-Minnesota Section Records, Dept of CE, U of MN.

Information File: Jesse E. Fant. University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1960-1969

1960 – District 7 Council Meeting

The ASCE-Northwest Section, hosts the District 7 Council meeting at the Curtis Hotel in Minneapolis; during the meeting the Council passes a resolution encouraging ASCE to study and present a policy statement regarding use of consultants vs. employment of engineers at public agencies.

Source:

“Constitution and By-Laws Including Historical Data,” District 7 Council, ASCE, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1961 – Blatnik Bridge

After three years of construction the Blatnik Bridge connecting Duluth, Minnesota and Superior, Wisconsin opens to traffic. This 7,980 feet long span with a roadbed 120 feet above the waters of St. Louis Bay is designed by Howard, Needles, Tammen and Bergendoff of Minneapolis. The project costs \$21 million.

Source:

Gardner, Denis. *Wood, Concrete, Stone and Steel: Minnesota's Historic Bridges*. University of Minnesota Press, 2008.

Photo:

Blatnik Bridge. Gardner, p. 86.

1962 – Civil Defense Fallout Shelters

The national ASCE office sends out a memo to local Sections and branches asking they cooperate with the Office of Civil Defense in conducting workshops on the design of fallout shelters; the shelters were to be designed to shield against radiation from atomic bombs.

Sources:

William H. Wisely to Presidents and Secretaries, ASCE Local Sections and Branches, 11/7/1962, Correspondence ASCE 1962 file, ASCE-Minnesota Section Records, Dept of CE, U of MN.

To Architects, Engineers, Contractors, and Builders from Stuart L. Pittman, 11/2/1962, Correspondence ASCE 1962 file, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1962 – Frank Horner

Frank Horner (1923-1980), World War II veteran and civil engineering graduate of the University of Minnesota, forms his own firm. He goes on to consult on hundreds of Minnesota

projects with Twin Cities architectural firms and is the driving force behind the renovation of the Snelling-Selby neighborhood in St. Paul.

Source:

“Biographical Note,” Frank Horner papers, Northwest Architectural Archives, University of Minnesota, <http://special.lib.umn.edu/findaid/xml/naa106.xml>, accessed 4/3/2014.

1963 – Edward Silberman

Edward Silberman (1914-2011) becomes Director of the St. Anthony Falls Laboratory. He continues until 1974 and then becomes the resident historian. A World War II veteran who serves in the U.S. Army Corps of Engineers and the author of more than fifty publications, he serves as ASCE-Northwest Section president from 1962-1963. He is awarded the Charles W. Britzius Distinguished Engineer Award in 2008.

Sources;

“Edward Silberman,” ASCE-Minnesota, <http://www.ascemn.org/ESilberman.html>, accessed 4/4/2014.

Information File: Edward Silberman. University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Charles W. Britzius Distinguished Engineer Award, Minnesota Federation of Engineering, Science, and Technology Societies, <http://www.mfests.org/index.php/component/content/article/46-awards/301-awards-distinguished-recipients>, accessed 8/14/2014.

1963 – Upper St. Anthony Falls Lock and Dam

The U.S. Army Corps of Engineers builds this horseshoe-shaped hydroelectric dam as part of the Upper Minneapolis Harbor Development Project.

Source:

“Upper St. Anthony Falls Lock and Dam,” Mississippi Natural River and Recreation Area, National Park Service, <http://www.nps.gov/miss/planyourvisit/uppestan.htm>, accessed 4/2/2014.

Photo:

Upper Lock, St. Anthony Falls, 1963, Minnesota Historical Society photographs, ID number: MH5.9 MP4.35 p7, negative number: 80040.

1964 – District 7 Constitution and By-Laws

The Constitution and By-Laws of District 7, ASCE, state the geographical area it encompasses covers the states of Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, and, to the north, Canada.

Source:

“Constitution and By-Laws Including Historical Data,” District 7 Council, ASCE, III Edition, 1964, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1964 – Disaffiliation With Minnesota Federation of Engineering

After forty-three years of participation as one of the founder societies, the ASCE-Northwest Section discontinues its affiliation with the Minnesota Federation of Engineering.

Sources:

1964 Annual Report, Northwest Section, American Society of Civil Engineers, January 1, 1964 through September 30, 1964, p.3, ASCE-Minnesota Section Records, Dept of CE, U of MN.

ASCE-Northwest Section, Minutes: Regular Section Meetings, Minutes: Board of Directors Meetings, Annual Reports, Financial Statements, Jan 1, 1962 thru Sept.30, 1966, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1964 – Upper Lock at St. Anthony Falls

The U.S. Army Corps of Engineers St. Paul District Office receives a Seven Wonders of Engineering Award for its St. Anthony Falls Lock and Dam project.

Source:

U.S. Army Corps of Engineers, St. Paul District Office, ASCE-Minnesota Section Records, 1964, Dept of CE, U of MN.

1965 – ASCE History and Heritage Committee

The national office of the ASCE suggests chapters form a History and Heritage Committee to “help make our members and the public better informed and more appreciative of our profession.”

Source:

William H. Wisely, Exec Secy – ASCE, to Local Section and Branch Presidents, 9/30/1965, 1964-65 bound materials, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1965 – Northwestern National Life Building

Designed by Minoru Yamasaki and opened in 1965, it uses modified Gothic design and incorporates plazas and water features. It now is known as the ING Reliastar Building.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

“Northwestern Life Insurance Building,”

[http://www.placeography.org/index.php/Northwestern National Life Building](http://www.placeography.org/index.php/Northwestern_National_Life_Building), 20 Washington Avenue South, Minneapolis, Minnesota, accessed 2/6/2014.

Photo:

Northwestern National Life Building. Millett, p. 24.

Photo:

Northwestern National Life Building, 1975, Minnesota Historical Society photograph, use copy MH5.9 MP3.1N p74, ID number 01281-13.

1966 – Highway Beautification Act

ASCE-Northwest Section, lends its support to the Bureau of Public Roads in setting standards for highway beautification under the Highway Beautification Act, stating “We, as engineers, recognize the importance of highway aesthetics in highway design, construction, and operation and therefore urge the adoption of such standards as are necessary to create and preserve highway aesthetics.”

Source:

Resolution, 3/15/1966, ASCE-Northwest Section, Minutes: Regular Section Meetings, Minutes: Board of Directors Meetings, Annual Reports, Financial Statements, Jan 1, 1962 thru Sept.30, 1966, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1967 – Jonathan Planned Community

In 1967 development of the planned new community of Jonathan begins near Chaska, Minnesota. By the early 1970s an economic recession and less interest in planned communities slows growth at Jonathan. Today it is a community of about 8,000 people known as Jonathan in Chaska.

Sources:

Caldwell, Dick. “New Town of 50,000 Planned”, *Minneapolis Star*, August, 1, 1967.

The Jonathan Association, www.jonathaninchaska.com/, accessed 6/6/2014.

Photo:

See www.jonathaninchaska.com/.

1968 – ASCE-Northwest Section Meeting

At the regular Section meeting and “ladies nite,” the presenter of the program on “Engineers, Constructors, and Their Public Image” notes that, although civil engineers play a significant role

in scientific achievement, their public image is poor. Thanks to the ASCE, however, this is improving as civil engineers are increasingly being appointed to national boards and public office.

Source:

Meeting minutes, 10/9/1968, 1968-69 binder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1969 – Lyle Perry Pederson

Lyle Perry Pederson (1929-1984), a 1952 graduate of the Department of Civil Engineering at the University of Minnesota, establishes the Minnesota Geotechnical Society. Developing his interest in soils as a student and teaching assistant in the department, he taught in the department before forming his own geotechnical engineering consulting firm in 1980. He serves as ASCE-Minnesota president in 1983. In 1984, the ASCE-Minnesota Section establishes the Lyle Pederson Memorial Fund; all contributions are used for soils laboratory equipment for undergraduate teaching in the Civil and Mineral Engineering Department

Sources:

“Lyle Perry Pederson,” undated notes compiled by Miles s. Kersten, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Annual Report for 1972, Soil Mechanics and Foundation Division, ASCE-Northwest Section, September 1972, ASCE-Minnesota Section Records, 1971-1972.

“Lyle Perry Pederson, PhD. P.E.,” ASCE-Minnesota, <http://www.ascemn.org/LPederson.html>, accessed 4/4/2014.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1969- John Howard Swanberg

In 1969, University of Minnesota Civil Engineering graduate John Howard Swanberg (1899-) is awarded the national Highway Research Board’s Roy W. Crum Distinguished Service Award. Swanberg is a bituminous expert who joins the Minnesota Department of Highways in 1934 and remains with the department, except for military service with the Naval Construction Brigade, until he retires. His research is in flexible and rigid pavements and subgrade soils. He serves as ASCE-Northwest Section president in 1966.

Sources:

Information File: John H. Swanberg. University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

1970-1979

1971 – Joint Engineering Societies Annual Banquet

The Joint Engineering Societies Annual Banquet is held at the Prom Center in St. Paul; the speaker is Harold J. Pluimer presenting a program on “The Challenge of Change.”

Source:

Annual Meeting flyer, ASCE-Minnesota Section Records, 1971-1972, Dept of CE, U of MN.

1971 – Monticello Nuclear Power Plant

The Monticello Nuclear Power Plant, a boiling water nuclear reactor, begins operations.

Source:

“HHS’s Spotlight on Minnesota Power Generating,” ASCE-Minnesota Section Records, 1971, Dept of CE, U of MN.

1972 – Clifford W. Hamblin

Clifford W. Hamblin (1909-1984), General Manager of the St. Paul Water Utility, life member ASCE, is recognized as “Engineer of the Year” by the Minnesota Federal of Engineers’ Societies; he is a camp engineer in the Civilian Conservation Corps for three years during the 1930s and, during the 1960s and 1970s is active in the American Water Works Association (AWWA) in support of clean water.

Source:

“Clifford W. Hamblin Memoir,” ASCE-Minnesota Section Records, Dept of CE, U of MN.

1973 – ASCE-Minnesota Section

ASCE-Northwest Section, becomes ASCE-Minnesota Section, through a vote taken at the ASCE meeting in Chicago; Minnesota is part of the District 7 Council of ASCE along with Michigan, Wisconsin, North Dakota, and Canada. The Minnesota Section covers all counties in Minnesota except Koochiching, St. Louis, Lake, Cook, Itasca, Cass, Crow, Wing, Aitkin, Carlton and Pine which are in the independent Duluth Section. In 2014 the Minnesota Section becomes part of Region 3 along with North Dakota, Wisconsin, Illinois, Michigan, Ohio, and the Duluth Section.

Sources:

Email communication, Melanie Fiegen to Barb Sommer, 1/22/2014.

Correspondence Walter K. Johnson to J.S. Brown, February 16, 1973, “Correspondence,” ASCE-Minnesota Section Records, 1972-1973, Dept of CE, U of MN.

Annual Report, Minnesota Section, ASCE, October 1-September 30, 1973; Constitution and By-Laws for The District 7 Council of the American Society of Civil Engineers, 1974.

C.H. Prior to Walter K. Johnson, January 7, 1973, Minutes, ASCE-Minnesota Section Records, 1973-1974, Dept of CE, U of MN.

Structure and Governance,” ASCE-Region 3, <http://www.asce.org/Regions-Sections-Branched/Region-3/Governance/Structure/Governance/>, accessed 6/7/2014.

“Region 3,” ASCE, <http://www.asce.org/PPLContent.aspx?id=9617#searchtop>, accessed 6/7/2014.

Photo:

Proposed new letterhead, Board minutes, October 3, 1973, ASCE-MN Section Records, 1973-1974, Dept of CE, U of MN.

1973/1977 – Support for University of Minnesota Civil Engineering Building

The ASCE-Minnesota Section supports and lobbies for a new Civil Engineering building on the U of MN campus.

Sources:

Board Minutes, February 8, 1973, “Minutes,” ASCE-Minnesota Section Records, 1972-1973, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Miscellaneous Correspondence, ASCE Support for Civil and Mineral Engineering Building folder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1973 – IDS Center

The 57-story IDS Center, designed by Philip Johnson and John Burgee in association with local architect, Ed Baker, is built. It is the tallest building in Minnesota.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

ASCE-Minnesota Section Records, 1973, Dept of CE, U of MN.

“The IDS Center,” http://www.ids-center.com/?page_id=1284, accessed 1/23/2014.

Photo:

IDS Tower. Millett, p. 27.

Photo:

IDS Tower, 1975, Minnesota Historical Society photograph, ID number: MH5.9 MP3.1I r1, negative number: 96414, accession number: AV1985.179.244.

1973 – Federal Reserve Bank

The first new headquarters building in the Federal Reserve Board System since the 1920s is erected in downtown Minneapolis. Designed by Gunner Birkerts, it is built like a suspension bridge supported by catenary cables and is used until design problems result in the Federal Reserve putting up a new building in 1997. As the remodeled Marquette Plaza, in 2011 it is the first downtown building to earn LEED Platinum certification.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

“Federal Reserve Bank of Minneapolis, Minneapolis, Minnesota,” ca. 1977, OCEA nomination, ’76-’77 file, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“Building Blocks: Marquette Plaza,” Finance and Commerce, <http://finance-commerce.com/2012/11/building-blocks-marquette-plaza/>, accessed 4/3/2014.

Photo:

Federal Reserve Bank. Millett, p. 24.

1974 – Prairie Island Nuclear Power Plant

The Prairie Island Nuclear Power Plant is built. It has capacity to provide electrical power to one million homes, but, as with the Monticello plant, periodically faces questions about disposition of its spent nuclear fuel.

Source:

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

Photo:

Prairie Island Nuclear Power Plant, Minnesota Historical Society photographs, use copy: MG5.3 P26, ID and negative number: 05086-27.

1975 – Stone Arch Bridge Dedication

The ASCE-Minnesota Section, dedicates the Stone Arch Bridge as a National Historic Civil Engineering Landmark. The mayors of Minneapolis and St. Paul arrive for the dedication at the bridge site in red, white, and blue locomotives.

Sources:

“Stone Arch Bridge at Minneapolis Designated National Historic Civil Engineering Landmark,” Engineering in the News, Minnesota Section-ASCE, 1974-1975 Programs folder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Memorandum, May 14th Annual Meeting, Board of Directors Minutes, ASCE-Minnesota Section, May 14, 1975, ASCE-MN, 1974-75 Board Minutes folder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“Stone Arch Bridge Dedication Program,” ‘74-‘75 folder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Photo:

Photos of Stone Arch Bridge dedication are in the dedication day materials.

1975 – ASCE-Minnesota Section, First Honorary Membership

The first honorary membership of the ASCE-Minnesota Section is presented to George J. Schroepfer (1906-1984), retired U of MN Sanitary Engineering Professor. Schroepfer graduates from the University of Minnesota as a civil engineer. He eventually becomes Chief Engineer with the Minneapolis-St. Paul Sanitary District where he is responsible for designing much of the original interceptor system and Metropolitan Wastewater Treatment Plant. He is elected to the National Academy of Engineering and as an honorary member of the Water Pollution Control Federation, which honors him with seven major awards. He is nationally known for his research and writing on water quality and serves as president of the ASCE-Minnesota Section in 1941. The Central States Water Pollution Control Association establishes the George J. Schroepfer Award in 1983; it is given annually for service to the profession. The George J. Schroepfer Classroom/Conference Theater in the CE Building (Room 210) is dedicated in his honor in May 1986.

Sources:

Board of Directors Minutes, ASCE-Minnesota Section, May 14, 1975, ASCE-MN, 1974-75 Board Minutes folder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Walter K. Johnson to Harrison P. Eddy, October 22, 1973, ASCE-Minnesota Section Records, 1973-1974, ASCE-Minnesota Section Records, Dept of CE, U of MN.

Information File: George J. Schroepfer. University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Photo:

Information File: George H. Schroepfer, classroom dedication program. University of Minnesota Archives.

1976 – Power Line Controversy

The construction of a high-voltage power line through central and western Minnesota causes a great deal of controversy. The line, when completed, has 659 towers placed at half-mile intervals. Tower placement involves 459 separate landowners.

Source:

“Power Line Controversy,” Minnesota Historical Society,
http://www.mnhs.org/library/tips/history_topics/23powerline.html, accessed 4/3/2014.

Photo:

High voltage powerline in western Minnesota, cover photo of powerline oral history project, Minnesota Historical Society.

1976 – John Budd

John Budd, the former President of the Great Northern Railway and the first chairman and chief executive officer of the Burlington Northern Railway, is given honorary membership in the Minnesota Section of the American Society of Civil Engineers.

Source:

Correspondence related to honorary membership of John Budd, August-September 1976, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1976 – ASCE-Minnesota Section, Technical Groups

The Minnesota Section recognizes the following Technical Groups: Construction Division, Power Division, Environmental Engineering Division, Geotechnical Division, Structural Division, Transportation Division, and two supplemental groups: Urban Planning Division and Water Resources Division; in 1977, the supplemental groups are included on the list of Technical Groups and in 1978, the Urban Planning Division is removed from the list.

Sources:

Annual Report, Minnesota Section, ASCE, October 1-September 30, 1976, Section 4.2.p.10. Annual Report, Minnesota Section, ASCE, October 1-September 30, 1977, Section 4.2, p.10. Annual Report, Minnesota Section, ASCE, October 1-September 30, 1978, Section 4.2, p. 10.

1976/1977 – Deputy Administrator (Engineering)

The Minnesota chapter of the ASCE lobbies for creation of the post of Deputy Administrator (Engineering) of the Environmental Protection Agency (EPA) with the requirement the office be filled by a registered professional engineer.

Source:

Correspondence related to creation of post of Deputy Administrator, ASCE-Minnesota Section Records, 1976/1977, Dept of CE, U of MN.

1977 – Department of Transportation

The ASCE-Minnesota Section, asks the Minnesota Department of Transportation to maintain the requirement that registered professional engineers be employed in positions requiring “engineering judgment.”

Source:

Dennis R. Martenson to Minnesota Department of Transportation, 5/26/1977, “77 and on file,” ASCE-Minnesota Section Records, Dept of CE, U of MN.

1977 – Transportation Plan

The Minnesota Department of Transportation asks the ASCE-Minnesota Section, Transportation Group to provide input in development of a statewide transportation plan; the ASCE Board with the Transportation Group agrees to provide information of a “technical (civil engineering) or professional nature.”

Source:

Tom Carroll to Dennis R. Martenson, 4/7/1977, ASCE-Minnesota Section Records, 1977, Dept of CE, U of MN.

1977 – ASCE Summer Institute

The ASCE Summer Institute, Introduction to Civil Engineering, developed for high school juniors, is held in June and July.

Source:

Correspondence related to ASCE Summer Institute, Summer Institute folder, ASCE-Minnesota Section Records, 1977, Dept of CE, U of MN.

1977- Underground Space Center

In 1977, Raymond Sterling founds the Underground Space Center at the University of Minnesota. Sterling’s area of specialization is underground space use and development including underground construction, rock mechanics, and energy use. Sterling directs the Center until it is closed in 1995 due to budget cuts. He moves to Louisiana Technical University to continue his work, retiring as Professor Emeritus. He serves as ASCE-Minnesota Section president in 1991.

Sources:

Information File: Raymond Sterling. University of Minnesota Archives, Andersen Library, University of Minnesota, Minneapolis, MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

National Research Council, *Underground Engineering for Sustainable Urban Development* (National Academies Press, 2013):214.

1980-1989

1980 – Civil and Mineral Engineering Program, U of MN

ASCE-Minnesota Section, reviews the Civil and Mineral Engineering Program at the University of Minnesota and makes recommendations for improvement including adding courses in which theory can be applied to real design problems by, among other things, requiring more hands-on reports and making computer interactive graphics facilities available for students; for faculty, recommendations include raising faculty salaries and adding new faculty positions, and, overall, establishing a “close relationship between the department and the profession for studying improvements.”

Source:

D.E. Beskos, L. Cerny, J. Fant, C. Fairhurst, M. Hoffman, E. Silberman, S.M. Starfield, “Review of the Civil Engineering Undergraduate Program at Minnesota in Light of the ASCE-Minnesota Chapter Survey and Recommendations for Improvement,” May 1980, pp. 11-16, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1980/81 – State Energy Policy

Members of the ASCE-Minnesota Section, Energy Committee are asked to participate in formation of an energy policy for the state of Minnesota.

Source:

Rep. Todd Otis to Robert Yourzak, May 28, 1981; Minnesota Section, ASCE Energy Committee minutes, 9/10/1981, 9/16/1981, 1980-1981 binder, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1982 – Waste Engineering Conference

The ASCE-Minnesota Section, working with Minnesota Pollution Control Agency, the Metropolitan Waste Control Commission, University of Minnesota Institute of Technology, and the Central States Water Pollution Control Federation, sponsors the 28th Annual Wastes Engineering Conference at the Earle Brown Continuing Education Center in St. Paul.

Source:

“28th Annual Wastes Engineering Conference” brochure, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1982 – HHH Metrodome

The Hubert H. Humphrey Metrodome is built. Designed by Skidmore, Owings and Merrill, when it opens in April, with its roof of Teflon-coated fiberglass, it becomes the largest air-supported structure in the state and second major air-supported structure in the country. It seats over 64,000 people and is home to the Minnesota Twins and the Minnesota Vikings from 1982 until a new

ball park is built for the Twins and construction of a new football stadium for the Vikings begins. The Metrodome is deflated in January 2014 in preparation for its demolition in the first months of 2014 to make way for the new Vikings stadium on the site.

Source:

Donald Langmead, Christine Garnaut, Encyclopedia of Architectural and Engineering Feats, p. 251, <http://books.google.com/books?>, accessed 2/6/2014.

Photo:

Hubert H. Humphrey Metrodome, 1982, Minnesota Historical Society photographs, ID number: MH5.9 MP8 p288, accession number: 48849, accession number: AV1983.208.14.

1983 – Wind Energy

Studies show Minnesota has good wind energy potential, especially in the southwestern part of the state.

Source:

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

1983 – ASCE District 8

Until 1983, ASCE-Minnesota Section is in ASCE District 7. In 1983 the Minnesota Section becomes part of District 8 in Zone III. District 8 encompasses the Central Illinois, Duluth, Illinois, Minnesota, North Dakota, Quad Cities, and Wisconsin Sections. In 2005 the governance model of ASCE is restructured to eliminate the Zones and combine many of the Districts. ASCE nationally goes from sixteen Districts to nine Regions (Region 10 is the “International Region” consisting of all non-US Sections) and the Board of Directors is reduced from twenty-eight to fifteen members. Minnesota is in Region 3 with Akron/Canton, Central Illinois, Central Ohio, Cincinnati, Cleveland, Dayton, Duluth, Illinois, Michigan, North Dakota, Quad Cities, Toledo, and Wisconsin.

Source:

Email, Eriks Ludins to Melanie Fiegen and Barbara Sommer, 6/10/2014, 2:44 PM.

ASCE REGION 3 BYLAWS, revised 6/29/2005,
http://www.asce.org/uploadedFiles/Regions_Sections_Branches_-_New/Region_3/Region3Bylaws7-20-05final.pdf. accessed 7/30/2014.

1983 – Civil Engineering Building, University of Minnesota Campus

The new Civil and Mineral Engineering Building on the University of Minnesota campus opens; 95 % of its space is underground to save energy and alleviate land constraints on the densely packed campus. The Minnesota Legislature designates it an earth-sheltered, energy-independent demonstration project. The year it opens it receives the prestigious Outstanding Civil

Engineering Achievement from the American Society of Civil Engineers. The building is renamed Civil Engineering in 1994.

Source:

“State-of-the-Art Underground Design,” Dept of CE website,
http://www.ce.umn.edu/about_us/cebldghistory.html, accessed 1/8/2014.

Photo:

8x10 color photo of Civil and Mineral Engineering Building “The Outstanding Civil Engineering Achievement, 1983,” ASCE-Minnesota Section Records, Dept of CE, U of MN.

1983 – Lock and Dam No. 1 Major Rehabilitation

The U.S. Army Corps of Engineers St. Paul District Office receives a Chief of Engineers Award of Excellence for its Lock and Dam No. 1 major rehabilitation project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1983 – Peavey-Haglin Grain Elevator

The ASCE-Minnesota Section, successfully nominates the Peavey-Haglin Experimental Concrete Grain Elevator for National Civil Engineering Landmark. This elevator is the first cylindrical concrete grain elevator in the United States; It proves that the newly evolving engineering material of reinforced concrete can economically sustain the loading conditions created by fluctuating levels of granular materials. The elevator bears an iconic advertisement for NordicWare, a Minnesota company. It also is listed in the National Register of Historic Places,

Sources:

“Civil Engineering Landmark nomination records,” Peavey-Haglin Experimental Concrete Grain Elevator, March 15, 1983, 1982-1983 Records – Book 1, ASCE-Minnesota Section Records, Dept of CE, U of MN

“Civil Engineers: Designers and Builders of the Quality of Life”

http://www.ascemn.org/PDFs/ASCEMN_Intro_Panel.pdf, accessed 1/8/2014.

Photo:

Dedication - see the ASCE-Minnesota website for a photo of its re-dedication.

1984 – Lock and Dam System Rehabilitation Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Seven Wonders of Engineering Award for its Lock and Dam System Rehabilitation Project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1989 – Weaver Bottoms Environmental Rehabilitation Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Chief of Engineers Award of Excellence for its Weaver Bottoms Environmental Rehabilitation Project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1990-1999

1990 – Jack Braun

Jack Braun and his wife, Priscilla, establish the J.S. Braun/Braun Intertec Professorship of Science and Technology at the University of Minnesota to bring a professor of geotechnical, constructions materials, pavement and environmental engineering and testing, and hydrogeology, chemistry, and industrial hygiene technologies to the University of Minnesota. Braun is a graduate of the Department of Civil Engineering at the University of Minnesota; projects of Braun’s company, Braun Intertec, include the Hyatt Regency Hotel, the Eden Prairie Center mall, and the Maplewood mall.

Source:

“From ‘Suits to Boots,’ Jack Braun’s Engineering Vision Continues” by Liz Wortman, The Pocket Consultant, Summer 2010, vol13, issue3, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1992 – Mall of America

The country’s largest shopping mall, the Mall of America, opens in Bloomington, Minnesota. It is designed by the Ghermezian brothers and is the largest retail and entertainment in the country. The mall is built on the site of Metropolitan Stadium, the former home of the Minnesota Twins baseball team and the Minnesota Vikings football team. In 2012, work moves ahead on a \$200 million expansion. Firms involved in the original mall are The Jerde Partnership, Inc., Design Architects, and HGA/KKE, Project Architects . Firms involved in the expansion are Golden Valley-based M.A. Mortenson Co., development partner, and Minneapolis-based DLR Group Inc., architect.

Sources:

“Minnesota Energy Timeline,” <http://www.mncee.org/Innovation-Exchange/Resource-Center/Info-Visualization/Minnesota-Energy-Timeline/>, accessed 1/11/2014.

“History,” Mall of America, <http://www.mallofamerica.com/about/moa/history>, accessed 4/2/2014.

“Mortenson replaces Ryan for MOA expansion,” *Minneapolis/St. Paul Business Journal*, December 18, 2102, http://www.bizjournals.com/twincities/blog/real_estate/2012/12/mortenson-repalces-ryan-for-moa.html, accessed 5/16/2014.

Photo:

Mall of America (1a) photo of Mall of America, Image Gallery, <http://www.mallofamerica.com/about/pressroom/gallery>.

1992 – Bassett Creek Water Management Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Seven Wonders of Engineering Award for its Bassett Creek Water Management Project (received jointly with Barr Engineering Company).

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1992 – Capella Tower

The Capella Tower, designed by Pei Cobb Freed and Partners (James Ingo Freed) with CBM Engineers, Inc. as structural engineers, opens in downtown Minneapolis. Built by Ryan Companies, it challenges the IDS Tower as the tallest building in Minneapolis. In 2011 it was awarded a LEED Gold Certification by the U. S. Green Building Council. In 2015, offices of the Minneapolis *Star-Tribune*, displaced by construction of the new Vikings Stadium, move into the building.

Sources:

“Capella Tower Receives LEED Gold Certification with Help from Ryan Companies, US Inc.” <http://www.ryancompanies.com/ryan/press-and-awards-1/capella-tower-receives-leed-gold-certification-with-Ryans-help/>, accessed 4/2/2014.

“Star-Tribune will move headquarters to Capella Building in 2015,” *Star-Tribune*, 4/14/2014, <http://www.startribune.com/local/253801281.html>, accessed 5/16/2014.

1994 – Buffalo Ridge Wind Farm

The 25-megawatt Buffalo Ridge wind farm opens in southwestern Minnesota. It is built in stages, begun by Kenetech Corporation with the final stage developed by PPM Energy and Excel Energy, and provides enough energy to power 100,000 homes.

Sources:

“Wind Goes BIG in Southern Minnesota,” Murray County, Minnesota, http://murray-countymn.com/mc/index.php?option=com_content&id=952:wind-power-goes-qbigq-in-southern-minnesota&catid=1:latest&Itemid=167, accessed 4/3/2014.

Mary Hoff, “Catch the Wind: Minnesota’s Wind-Power Industry is Picking Up Speed,” Minnesota Department of Natural Resources, <http://www.dnr.state.mn.us/volunteer/novdec03/wind.html>, accessed 4/3/2014.

Photo:

Buffalo Ridge wind farm, www.startribune.com/local/blogs/124725073.html.

1995 – Laura M. Amundson

Laura M. Amundson becomes the first woman to serve as ASCE-Minnesota Section president. She graduates from the University of Minnesota with a degree in Civil Engineering in 1979 and currently serves as vice president at Parsons Brinckerhoff.

Source:

“Minnesota Section ASCE,” ASCE-Minnesota Section Records, 1995, Dept of CE, U of MN.

Photo:

See Laura Amundson LinkedIn site.

1996 – Rochester, Minnesota, Flood Control Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Chief of Engineers Award of Excellence and a Seven Wonders of Engineering Award for its Rochester, Minnesota flood control project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE. U of MN.

1996 – Catherine E. Wolfgram French

Catherine E. W. French, Distinguished Professor in the Department of Civil, Environmental, and Geo-Engineering at the University of Minnesota, joins the faculty in 1984. She serves as ASCE-Minnesota Section president in 1996 and, in 2010, is awarded the Charles W. Britzius Distinguished Engineer Award, one of a number of awards and recognitions she receives.

Sources:

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Charles W. Britzius Distinguished Engineer Award, Minnesota Federation of Engineering, Science, and Technology Societies, <http://www.mfests.org/index.php/component/content/article/46-awards/301-awards-distinguished-recipients>, accessed 8/14/2014.

1997 – Annual Convention and Exposition

The ASCE-Minnesota Section, hosts the ASCE 1997 Annual Convention and Exposition in the Minneapolis Convention Center with the theme “Innovative Civil Engineering for Sustainable Development.”

Source:

“Preview ASCE’s 1997 Annual Convention and Exposition” and ASCE News, August 1997, ASCE-Minnesota Section, 1997 convention files, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1998 – St. Paul, Minnesota Flood Control Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Chief of Engineers Award of Excellence and a Seven Wonders of Engineering Award for its St. Paul, Minnesota flood control project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

1999 – Mississippi Basin Modeling System Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Seven Wonders of Engineering Award for its Mississippi Basin Modeling System project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2000-2009

2000 Minnesota population reaches 4.9 million

2000 – Computer and Information Technology

Computers and information technology emerge as a major impact on civil engineering and the work of civil engineers. The impact is recognized in increased ability to explore many options and to more rapidly develop better and stronger designs. Through writing, research, and application of the technology, ASCE members, including the Minnesota Section, contribute to an understanding of the importance of this work.

Sources:

G. Salazar, “Evolution of Computer and Information Technology and Its Impact on Civil Engineering Education. Computing in Civil and Building Engineering” (2000). pp. 665-672. doi: 10.1061/40513(279)87. ASCE, <http://cedb.asce.org/cgi/WWWdisplay.cgi?122655>, accessed 6/6/2014.

Steven J. Fenves, Honorary Member, ASCE, and William J. Rasdorf, P.E., Fellow, ASCE, “Role of ASCE in the Advancement of Computing in Civil Engineering,” ASCE 150th Anniversary Paper, *Journal of Computing and Civil Engineering*, October 2001, pp. 239-247, <http://repository.lib.ncsu.edu/publications/bitstream/1840.2/660/1/140>, accessed 6/6/2014.

2001/2002 – Refuge Habitat, Emergency Levees, and Pool 8 Island Habitat Project

In 2001 and 2002, the United States Army Corps of Engineers St. Paul District Office receives Seven Wonders of Engineering Awards for refuge habitat in Trempealeau, Wisconsin, emergency levees in Devils Lake, North Dakota, and for Pool 8 Island Habitat project on the bank of the Mississippi River channel in Wisconsin south of Brownsville, Minnesota.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2002 – Proceedings of the 50th Annual Geotechnical Engineering Conference

The *Proceedings of the 50th Annual Geotechnical Engineering Conference*, edited by J.F. Labuz and J.G. Bentler, are published. The conference, which honors the 50th anniversary of the first conference in 1953, is sponsored by the Minnesota Geotechnical Society and the Department of Civil Engineering at the University of Minnesota and is co-sponsored by the Geo-Institute of the ASCE and the Consulting Engineers Council of Minnesota.

Source:

Proceedings of the 50th Annual Geotechnical Engineering Conference, edited by J.F. Labuz and J.G. Bentler, University of Minnesota, 2002.

2003/2005 – Thomas J. Eggum

Thomas J. Eggum of St Paul is a Director of District 8. Eggum is a senior consultant with TDKA and a former Director of Public Works and City Engineer for the City of St. Paul. He regularly speaks on the importance of investing in maintenance and replacement of public infrastructure.

Sources:

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Thomas J. Eggum: Minnesota's Infrastructure Needs Attention Now, *St. Paul Pioneer Press*, 8/12/2013, http://www.twincities.com/ci_23495685/thomas-j-eggum-minnesotas-infrastructure-needs-attention-now, accessed 8/14/2014.

2003 – Pine River Dam and Rapidan Dam Emergency Repair Projects

The U.S. Army Corps of Engineers St. Paul District Office receives a Seven Wonders of Engineering Award for its Pine River Dam project and its Rapidan Dam Emergency Repair project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2004 – Light Rail Transit (LRT)

On June 26, after three-and-one-half years of construction and a cost of \$715 million, Minnesota's first Light Rail Transit (LRT) line opens. The Blue Line, also called Hiawatha Line, runs along Hiawatha Avenue and connects downtown Minneapolis with the Minneapolis-St. Paul Airport and the Mall of America. The first week, 93,000 people ride the line. It is followed in 2009 with the opening of the Northstar Line. Built at a cost of \$300 million, this 40-mile commuter line connects the community of Big Lake with downtown Minneapolis. Both lines terminate at Target Field Station.

Sources:

“Minneapolis's Hiawatha Light Rail: A Success Story over 30 Years in the Making,” http://www.lightrailnow.org/features/f_min004.htm, accessed 6/10/2014.

“Light Rail and Commuter Transit,” <http://www.leg.state.mn.us/lrl/issues/issues.aspx?issue=rail>, accessed 6/10/2014.

“After the Green Line, a Host of Bus and Rail Projects on the Horizon,”
http://www.twincities.com/transportation/ci_25934875/after-green-line-host-bus-and-rail-projects, accessed 6/10/2014.

2004 – Pool 8 Islands Habitat Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Chief of Engineers Award of Excellence for its Pool 8 Islands Habitat project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2004 – Orwell Dam Rehabilitation Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Seven Wonders of Engineering Award for its Orwell Dam Rehabilitation project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2006 – Dennis R. Martenson

Dennis R. Martenson serves as ASCE president. Martenson receives a civil engineering degree from the University of Minnesota in 1967 and a master’s in civil/sanitary/hydraulic engineering from the University in 1968. In 2014, he is a senior water and wastewater engineer with TKDA. He serves as ASCE -Minnesota Section president in 1976 and as a Director of District 8 in 1986/88. In 2012, he receives the Charles W. Britzius Distinguished Engineer Award from the Minnesota Federation of Engineering, Science, and Technology Societies.

Sources:

Listing of Directors, ASCE-Minnesota Section Records, Dept of CE, U of MN.

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Dennis R. Martenson, ASCE, <http://www.asce.org/People-and-Projects/People/Bios/Martenson,-Dennis-R-/>, accessed 8/14/2014.

“Martenson Named to Minnesota Licensing Board,” *ASCE News*, August 2012, <http://www.asce.org/ascenews/people.aspx?id=25769810856>, accessed 8/14/2014.

2006 – Task Force Hope Mississippi Temporary Public Structures Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Seven Wonders of Engineering Award for its Task Force Hope Mississippi Temporary Public Structures project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2007 – I-35 Mississippi River Bridge Collapse

The I-35W Mississippi River Bridge across the Mississippi River in Minneapolis collapses on August 1 during rush hour. A design flaw in the bridge’s gusset plates is later identified as the cause of the collapse which kills 13 and injures 145 people. The replacement bridge is designed and built in eleven months. The new bridge is called a “smart bridge” because of the almost 400 sensors that civil engineers bury in its concrete to measure the impacts of temperature, corrosion, and traffic loads. Civil engineers monitor the sensors and collect and analyze the data with the goal of creating a new construction model that could improve bridge construction and performance throughout the country. Catherine E. W. French, professor in the Department of Civil Engineering at the University of Minnesota and an expert in the study of reinforced and pre-stressed concrete structural systems, helps lead the smart bridge work on the re-built bridge.

Sources:

“I-35W Bridge Collapse, Minneapolis, MN,” U.S. Department of Transportation, Federal Highway Administration, <http://www.fhwa.dot.gov/pressroom/fsi35.cfm>, accessed 4/2/2014.

“Minnesota I-35 Bridge Collapse Anniversary: How Safe are Drivers Now?,” ABC News, <http://abcnews.go.com/Blotter/bridge-collapse-anniversary-safe-drivers-now/story?id=16907710>, accessed 4/2/2014 .

“Smart Bridge Keeping Drivers Safe, *Discoveries and Breakthroughs through Science*, <http://ivanhoe.com/science/story/2009/08/604a.html>, accessed 6/20/2014.

Photo:

Collapsed bridge, 2007 (6a) Minnesota Historical Society photographs, ID number: Collection I.413.12 dig, Accession number: AV2008.1.

2007 – Water Level Management for Ecosystem Restoration Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Seven Wonders of Engineering Award for its Water Level Management for Ecosystem Restoration project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2007 – Target Field

Ground is broken for a new baseball stadium for the Minnesota Twins. Called Target Field, it is designed by HOK Sports of Kansas City and Hammel, Green and Abrahamson of Minneapolis. When it opens in 2010, it is awarded a LEED Silver Certification, the highest LEED certification of any ballpark in the country, by the U.S. Green Building Council.

Sources:

“FAQs,” Minnesota Twins, http://minnesota.twins.mlb.com/min/ballpark/new_faq.jsp, accessed 4/8/2014.

“Twins' Target Field gets highest LEED rating of any ballpark in America,” MLB.com, 4/8/2010, <http://mlb.mlb.com/news/article> accessed 4/8/2013.

Photo:

Target Field, <http://fineartamerica.com/featured/target-field-lyle-huisken.html>, accessed 5/17/2014

2008 – Pool 5, Upper Mississippi River Water Level Management for Ecosystem Restoration Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Chief of Engineers Award of Excellence for its Pool 5, Upper Mississippi River Water Level Management for Ecosystem Restoration project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2008/2009 – Grand Forks, ND/East Grand Forks, MN Flood Damage Reduction Project

The U.S. Army Corps of Engineers St. Paul District Office receives a Chief of Engineers Award of Excellence and a Seven Wonders of Engineering Award for its Grand Forks, ND/East Grand Forks, MN Flood Damage Reduction project.

Source:

“Significant Contributions,” U.S. Army Corps of Engineers, ASCE-Minnesota Section Records, Dept of CE, U of MN.

2009 – MN2050

Fifteen professional and industrial groups including the ASCE-Minnesota Section, establish MN2050; its purpose is to support broad awareness of the “vast infrastructure network that supports the health, safety, and economic well-being of every Minnesotan.” Minnesota 2050 focuses both on building new infrastructure and maintaining existing infrastructure and does this with a three-part plan: document the problem, craft a message, educate the public. Through this plan, in 2014 and 2015, MN2050 and Minnesota public television station tpt team up to present

three programs on the future of Minnesota infrastructure: *State of Repair – Roads and Bridges*, *State of Repair – Airports, Ports and Rail*, and *State of Repair – Our Water Infrastructure*.

Sources:

“ASCE Sections and Branches Develop Innovative Projects,” *ASCE News*, September 2012, <http://www.asce.org/asce/news/featured.aspx?id=25769811516>, accessed 2/12/2014.

MN2050, <http://mn2050.org/>, accessed 2/12/2014 and 8/14/2014.

2010-2014

2010/2012 – Eriks V. Ludins

Eriks V. Ludins of St. Paul is a Director of Region 3. He is assistant transportation engineer with the St. Paul Public Works Department. In 2013 he receives the Charles W. Britzius Distinguished Engineer Award from the Minnesota Federal of Engineering, Science and Technology Societies.

Source:

ASCE-Minnesota Past Presidents, http://www.ascemn.org/Past_Leadership.html, accessed 7/29/2014.

Photo:

See Eriks Ludins LinkedIn site.

2012 – STEM (Science, Technology, Engineering, Mathematics)

The national ASCE Board of Directors adopts Policy Statement 377 supporting STEM (Science, Technology, Engineering, Mathematics) educational programs at the K-12 level. This educational program/curriculum initiative is supported by the Minnesota Department of Education and is adopted in many Minnesota schools. Through MN2050, ASCE-Minnesota helps promote the policy and program.

Sources:

American Society of Civil Engineers -ASCE, <http://www.asce.org/Public-Policies-and-Priorities/Public-Policy-Statements/Policy-Statement-377>, accessed 6/8/2014.

Minnesota Department of Education,

<http://www.education.state.mn.us/MDE/EdExc/StanCurri/K-12AcademicStandards/STEMScienceTechnologyEngineeringandMathematics/index.ht>, accessed 6/8/2014.

MN2050: Collaboration and Education for Long-Term Success, <http://mn2050.org/education/>, accessed 6/8/2014.

2012/2014 – Sulfide Mining Controversy

This proposed northeast Minnesota mining project involves two mining companies, Polymet and Twin Metals, proposing mining operations that could affect water quality in Lake Superior and the Boundary Waters Canoe Area Wilderness.

Source:

“Is Sulfide Mining Right for Minnesota? A Conversation for All Minnesotans” by Paul Austin in the Star Tribune local, May 24, 2012, <http://www.startribune.com/local/yourvoices/153674965.html>, accessed 2/12/2014.

2012 – Minnesota Vikings Stadium

HKS, Inc. is chosen as the lead architect on the new \$975 million stadium for the Minnesota Vikings. In 2013 EVS of Eden Prairie receives one of the largest subcontracts to assist with civil engineering on the project. The stadium will be built on the site of the former HHH Metrodome in Minneapolis.

Sources:

“HKS picked as architect for Vikings stadium,” Minneapolis/St. Paul Business Journal, 9/28/2012, <http://www.bizjournals.com/twincities/blog/>, accessed 4/8/2014.

“Vikings stadium architect names 18 local subcontractors,” Minneapolis/St. Paul Business Journal, 1/18/2013, <http://www.bizjournals.com/twincities/blog/>, accessed 4/8/2014.

2013 – Minnesota State Capitol Restoration

The State of Minnesota begins a three-year, \$272 million restoration of the Cass Gilbert-designed State Capitol building. Primary restoration issues include updating the mechanical, electrical and plumbing systems, and protecting and maintaining the stone exterior for stability and safety purposes. The work is done by Minneapolis-based HGA, an integrated architecture, engineering and planning firm, working with Schooley Caldwell Associates of Ohio.

Sources:

\$272 million project to renovate Minnesota State Capitol clears final hurdle,” Minneapolis Star-Tribune, 7/23/2013, <http://www.startribune.com/politics/statelocal/216512021.html>, accessed 4/5/2014.

“State Capitol Restoration Project,” Minnesota Department of Administration, <http://mn.gov/admin/citizen/buildings-grounds/buildings/capitol/restoration/>, accessed 4/5/2014.

“About Us,” HGA, <http://hga.com/about-us>, accessed 4/45/2014.

Photo:

Minnesota State Capitol, <https://www.facebook.com/minnesotastatecapitol?rf=339835749445433>, accessed 5/17/2014.

2013/2014 – ASCE Younger Member Group

The ASCE-Minnesota Section, Younger Member Group (YMG) charter is written: the purpose of the organization is to support young civil engineers in the profession, ASCE, and the community.

Source:

2013-2014 Charter, Minnesota Section, Younger Member Group, American Society of Civil Engineers, http://www.ascemn.org/PDFs/YMG_Charter.pdf, accessed 2/12/2014

2014 – Central Corridor Light Rail Transit (LRT)

On June 14, Minnesota’s second Light Rail Transit (LRT) line opens. The 11-mile long Green Line, also called the Central Corridor Line, runs down the center of University Avenue from Target Field Station in downtown Minneapolis to the Union Depot in downtown St. Paul. Built at a cost of \$975 million, it is part of the Metro Transit system, an integrated system of buses, light rail, and commuter trains which serves Minneapolis and St. Paul and the surrounding suburban areas. Over 107,000 people ride the Green Line during its first weekend, with ridership on the entire transit system at 392,733 during the opening weekend.

Sources:

“About Metro Transit,” Metro Transit, <http://www.metrotransit.org/about-metro-transit>, accessed 4/5/2014.

“Light Rail & Commuter Transit,” <http://www.leg.state.mn.us/lrl/issues/issues.aspx?issue=rail>, accessed 6/10/2014.

“After the Green Line, a Host of Bus and Rail Projects on the Horizon,” http://www.twincities.com/transportation/ci_25934875/after-green-line-host-bus-and-rail-projects, accessed 6/10/2014.

“Free Rides on Buses , Trains Boost Launch of the Green Line,” *Minneapolis Star Tribune*, June 21, 2014, B2.

2014 – Railroad Passenger Service

The Amtrak “Empire Builder” arrives at the newly-renovated Union Depot in St. Paul, signaling the return of passenger rail service.

Sources:

Millett, Larry. *AIA Guide to the Twin Cities*. Minnesota Historical Society Press, 2007.

“Passenger Rail Returns to Union Depot: Amtrak Arrives May 7,” Union Depot, St. Paul, Minnesota, <http://www.uniondepot.org/>, accessed 4/5/2014.

Photo: Union Depot, Millett, p. 352.

2014/2015 – MN2050 Documentaries

ASCE-Minnesota Section, working with Twin Cities Public Television (tpt) produces two hour-long infrastructure documentaries funded by donations and State Public Affairs Grants (SPAG) from ASCE; they are designed to help distribute the MN2050 message: “Lack of timely attention to reasonable public infrastructure investment hinders economic development, safety, and quality

of life in Minnesota.” The videos, produced and made available in 2014 and 2015 will focus Aviation, Freight & Passenger Rail, Roads & Bridges and Ports & Waterways. As part of the project, tpt will develop STEM curriculum materials.

Sources:

“Home,” “Education,” and “Infrastructure Trailer 2013: A MN2050 and tptmn co-production,” MN2050, <http://mn2050.org>, accessed 2/12/2014

“MN2050 Update,” ASCE-Minnesota, vol. 46, no. 2, Spring 2011-2012.

2014 – ASCE-Minnesota Section, Centennial

ASCE-Minnesota Section celebrates its centennial. Centennial year Board of Directors are Steve Olson, President, Elizabeth Boulton, President-Elect, Seth Spsychala, Past President, and members listed below. Centennial History and Heritage Committee members are Melanie Fiegen, Steve Olson, Eriks V. Ludins, Jody Polsin, Paul Schimnowski, Erik Wolhowe, Bob Callery, Catherine French.

Source:

Board of Directors, ASCE-Minnesota, <http://www.ascemn.org/About.html>, accessed 4/5/2014, 6/7/2014

Photo:

Centennial year Board of Directors
Steven Arthur Olson, P.E., M.ASCE
(President)

Elizabeth Boulton, P.E., M.ASCE
(President-elect)

Joseph Gerhard Bentler, P.E., M.ASCE
(Vice President)

Seth David Spsychala, P.E., M.ASCE
(Past President)

Bruce James Holdhusen, P.E., M.ASCE
(Secretary)

William James Hall, P.E., M.ASCE
(Treasurer)

Joseph Gerhard Bentler, P.E., M.ASCE
(Newsletter Editor)

Tim Davis
(Webmaster)

Mark D Snyder, P.E., M.ASCE
(Construction Chair)

Michelle Lynn Williams, EIT, A.M.ASCE
(Education and Community Service Chair)

Walter Eshenaur, P.E., M.ASCE
(EWB-USA Contact)

Brett Jason Staeden, A.M.ASCE
(Environmental and Water Resources Chair)

Joseph Gerhard Bentler, P.E., M.ASCE
(Geotechnical Chair)

Melanie Fiegen, P.E., M.ASCE
(History & Heritage Chair)

Timothy Harold Lamkin, Jr., P.E., M.ASCE
(House and Hospitality Chair)

Randall Francis Geerdes, P.E., M.ASCE
(Legislative Chair)

Bruce James Holdhusen, P.E., M.ASCE
(Membership Contact)

Jia-Liang Le, Ph.D., M.ASCE
(Professional Services Contact)

Andrew Thomas Nordseth, P.E., M.ASCE
(Structural Chair)

Jason William Staebell, P.E., M.ASCE
(Technical Services Contact)

Christopher Michael Labounty, P.E., M.ASCE
(Transportation Chair)

Timothy Harold Lamkin, Jr., P.E., M.ASCE
(Younger Members President)

Photo:
Centennial History and Heritage Committee members

APPENDIX A

American Society of Civil Engineers-Northwest/Minnesota Section Student Chapter

- 1907 –First graduating class of civil engineers.
Photo: MHS photo FM6.832 m5
- 1910 – Civil engineering department is established.
- 1934 – The chapter hosts a program arranged by Prof. A.S. Butler about the construction of Boulder Dam.
- 1935 – The chapter hosts several programs including those presented by Lorenz G. Straub, secretary of the Northwest Section of the ASCE, on “Government Construction in the West” and Hibbert Hill, ASCE officer, on the “Coast and Geodetic Survey”.
- 1937 – The chapter’s annual “bean feed” takes place in November at the Minnesota Union; 115 members, non-members, and faculty attend.
- 1938 – In October the chapter hosts its annual smoker in the Paul Bunyan Room at the Minnesota Union.
- 1940 – The chapter hosts its annual schedule of programs including a film on the Golden Gate Bridge sponsored by the Northwest Section of the ASCE and a presentation followed by a Q and A from a representative of the Selective Service on “How the Draft Affects Student Engineers”.
- 1942 – In January, the chapter votes to replace Treasurer Adrian K. Stahl after he is called into military service.
- 1944 – The chapter membership changes from a group with a totally civilian emphasis to one composed predominantly of enlisted trainees, the result of loss of deferments for college students along with men leaving for war and veterans returning.
- 1945 – Student membership increases as veterans return home and enroll in CE program.
- 1946 – A year of “rapid growth” in the student organization because of returning GIs; the annual report states the “ex-G.I. is an industrious student, often to the exclusion of” participating in chapter activities; programs include a presentation on Naval Construction Battalions in World War II and one by Hibbert Hill, a colonel in the Army during the war, on wartime engineering problems. In mid-year elections, Alice Jarvis is elected secretary and Luke Krmpotich is elected treasurer; later in the year Jarvis is elected vice president and on March 11, 1947, she is elected student chapter president. Alice Jarvis graduates with a BS in 1947 and an MS in 1949, works as a civil engineer in Minneapolis and Chicago, marries Morrie Klein, raises two sons, and passes away in Chicago in 2008 at the age of 82.
Source: *Chicago Tribune*, Death Notice – Alice Mary Klein, 10/10/08,
http://articles.chicagotribune.com/2008-10-10/news/0810090943_1_brookfield-zoo-active-church-member-donald-jarvis, accessed 1/24/2014
- 1947 – 618 men and 2 women are enrolled in the CE curriculum. “Student apathy” is a problem at the U of MN, “the plague” of all student organizations on campus for the past two years; it is attributed to students living far from campus and having to take streetcars to participate in activities and the “more serious attitude” of older, more mature students,

- many of whom are returning WWII veterans. The chapter presents a pen and pencil set to Professor Cutler in honor of his retirement.
 Photo: p.25 b/w photo of student chapter showing three women
- 1948 – 626 students in CE program at the University; the program schedule includes a talk on “Civil Activities of an Engineer” that stresses human as well as scientific values in engineering thought and practices.
 Photo: p. 25 b/w photo of student chapter showing one woman
- 1948-The Institute of Technology begins the process of becoming a five-year program. The four-year program remains open to veterans only.
- 1949 – The “great need” for CE department building is noted; one is being planned but needs an appropriation from the legislature.
 Photo: b/w photo of student chapter, 1950 – all men
- 1950- The Institute of Technology becomes a five-year program that includes liberal arts courses as well as engineering and business courses that lead to a degree in both fields.
- 1950 – 525 students are in civil engineering curriculum; chapter programs include a presentation by Colonel Harry S. Bronson, Ramsey County Engineer and former commander of the 1195th Engineers (General Patton’s Third Army) about his experience as a student at the university and on “General Engineering”.
 Photos: p.26 b/w photo of student chapter members, all men
 p. 27 photo of E-Day float
- 1951 – Chapter programs include a presentation by Major M.F. Aliotta of the U. S. Army ROTC and Lieutenant L.I. Tracy of the U.S. Navy ROTC on “Engineers and the Armed Forces” and another by Major Paul Loop of the U.S. Army Corps of Engineers on “Airfield Construction in Japan”.
- 1952 – The annual program schedule includes films on “Building for the Nations” and “Building of Hoover Dam”.
- 1953 – The annual field “inspection” trip is to the North Star Concrete Company.
- 1954 – The annual program schedule includes films on “Steel in the Making” and “Construction of the Oakland Bay Bridge”.
- 1955 – Programs include presentation by Ralph Rapson, Dean of School of Architecture, talking about the projects he has worked on, and Mr. Goldsberry from Shell Oil Company talking about opportunities for civil engineers in the oil industry; the annual smoker is held in Game Room of Coffman Memorial Union.
- 1956 – The chapter wins first prize for open house exhibits at E-Day; float theme is “Be on Top – Be a Civil” depicting civil engineer surveying on a mountain peak. Jean Dahlstrom is elected chapter secretary.
- 1957 – CEs are runner ups to Mechanical Engineers in E-Day competition; MEs outnumber CEs at U of MN 5-to-1.
- 1960 – The annual student-faculty smoker is held in Coffman Memorial Union; students and faculty present programs at the smoker that are humorous and satirize both groups.
- 1961 – Chapter members take part in Engineering Day (E-Day) activities at the University including entering a float, also entering softball, tennis, bridge, golf, bowling, and table tennis tournaments; they win 3rd place overall.
- 1965- The Institute of Technology switches to a four-year program (eliminating the fifth year).
- 1965 – Programs include a tour of Mpls.-St. Paul Sanitary District Sewage Treatment Plant under construction and presentation on opportunities for engineers in the Peace Corps.

- 1966 – Programs include a tour of the Allen S. King Power Plant at Stillwater, currently under construction.
- 1967 – The chapter hosts presentations, as it does each year; examples: Larry Kloiber, Sales Engineer of The American Institute of Steel Construction shows a film titled “Fabrication of the John F. Kennedy Memorial Bridge.” Other film titles that year include “Rhapsody in Steel” and several showing engineering work in S.E. Asia, specifically in Viet Nam.
- 1968 – The chapter hosts Frank Newman, National President of ASCE; he speaks on the future responsibilities and leadership roles of civil engineers.
- 1969 – The chapter hosts Mid-western student ASCE conference as it regularly does; programs include a presentation on pre-stressed and pre-cast concrete and, in a meeting with the Northwest Section of ASCE, on nuclear power in Minnesota.
- 1973 – Chapter programs include slide show on “Lake Superior Project” prepared by the Army Corps of Engineers.
- 1974 – Chapter programs include field trip to Twin Cities Air Traffic Control Center in Farmington.
- 1976 – Chapter programs include presentations on U of MN steams tunnels and the experimental underground test room and on “light rail transit”.
- 1977 – Chapter programs include discussion of plans for new CME building.
- 1979 – Chapter programs include a film about design and construction of the St. Louis Arch.
- 1981 – Chapter programs include presentation on construction of a dome stadium.
- 1984 – Chapter programs include tour of HHH Metrodome and of the St. Anthony Falls Hydraulics Lab.
- 1985 – A chapter Recycling Committee made up of seven students sets up recycling program in the new CME building; chapter programs include a presentation on ice castle construction and on experiences of four recent grads (including one woman) talking about being new engineers.
- 1986 – Student projects included working on various aspects of construction of the St. Paul Winter Carnival Ice Castle, often called “A Minnesota Marvel”.
Source: The St. Paul Winter Carnival, “Ice Palaces through the Years”,
http://www.winter-carnival.com/about_us/history/palaces/, accessed 1/9/2014
Photo: MHS photo ID Number: MR2.9 SP9.1 1986 r2, Accession Number AV1986.62.2
- 1987 – Chapter members visit four high schools as part of High School Outreach Program – Wayzata, Apple Valley, Farmington, Anoka.
- 1988 – Chapter programs include tours of the Hennepin Ave Suspension Bridge construction and the Minneapolis Convention Center.
- 1989 – CE students took 4th place in the Steel Bridge Competition and 8th place in the Concrete Canoe National Races.
- 1990 – The student chapter is recognized with an Outstanding Student Organization Award by the U of MN Student Organization Development Center.
- 1991 and 1992 – As a special project, members are involved with the MN Dept of Transportation Adopt-A-Highway program.
- 1994 – As a community service project, members help build playground for children of women in drug treatment.
- 1996 – The chapter slogan is “Expect the Unexpected in Civil Engineering”.
- 2010- The Institute of Technology becomes the College of Sciences and Engineering.

2011-2012 – Students participate in the Regional Concrete Canoe Competition and the National Steel Bridge Competition.

Sources (in addition to those included above):

ASCE Student Chapter Annual Reports, ASCE-Minnesota Section Records, Dept of CE, U of MN.

“U of MN Student Chapter News,” ASCE-Minnesota Section, vol. 46, no. 2, Spring 2011-2012.

Photos:

Color 8 x 10 photos – Concrete canoe competitions, 1991, 2001.

APPENDIX B

ASCE-MINNESOTA PAST PRESIDENTS

<u>YEAR</u>	<u>PRESIDENT</u>
1914-1915	F. W. Cappelen
1915-1916	W. L. Darling
1916-1917	George L. Wilson
1917-1918	P. E. Thian
1918-1919	Ralph D. Thomas
1919-1920	Ralph D. Thomas
1920-1921	Charles L. Pillsbury
1921-1922	Charles L. Pillsbury
1922-1923	George H. Herrold
1923-1924	J. B. Gilman
1924-1925	A. M. Burt
1925-1926	Frederic Bass
1926-1927	A. S. Cutler
1927-1928	Bernard Blum
1928-1929	J. A. Childs
1929-1930	Harry D. Lovering
1930-1931	William N. Carey
1931-1932	George E. Loughland
1932-1933	M. W. Hewett
1933-1934	Walter H. Wheeler
1934-1935	Hibbert M. Hill
1935-1936	O. M. Leland
1936-1937	Henry K. Dougan
1937-1938	Lorenz G. Straub
1938-1939	Henry S. Loeffler
1939-1940	Arndt J. Duvall
1940-1941	William J. Titus
1941-1942	George J. Schroepfer
1942-1943	George M. Shepard
1943-1944	Paul R. Speer
1944-1945	Frederick T. Paul
1945-1946	William B. Irwin
1946-1947	Edwin M. Crime
1947-1948	Harry L. Wilson
1948-1949	Edgar A. Geotz
1949-1950	Frank S. Altman

1950-1951	Charles W. Britzius
1951-1952	George V. Guerin, Jr.
1952-1953	Miles S. Kersten
1953-1954	Thomas R. Klingel
1954-1955	Wilbert F. Arksey
1955-1956	Frederick W. Thorstenson
1956-1957	Jesse E. Fant
1957-1958	Charles H. Prior
1958-1959	John E. Meyer
1959-1960	James A. Lindsey
1960-1961	J. Robert Calton
1961-1962	Norman E. Henning
1962-1963	Edward Silberman
1963-1964	Richard J. Vasatka
1964-1965	Walter R. Bjorklund
1965-1966	Douglas W. Barr
1966-1967	John H. Swanberg
1967-1968	Warner P. Blake
1968-1969	Archie N. Carter
1969-1970	Robert J. Ellison
1970-1971	Emmanuel T. Jensen
1971-1972	J. S. Braun
1972-1973	Walter K. Johnson
1973-1974	Herbert O. Klossner
1974-1975	Clayton O. Anderson
1975-1976	Marty J. Romano
1976-1977	Dennis R. Martenson
1977-1978	Floyd J. Laumann
1978-1979	Eugene L. Skok
1979-1980	Dale J. Holmquist
1980-1981	John H. Dahlmeier
1981-1982	Lawerence A. Kloiber
1982-1983	Thomas F. Carroll
1983-1984	Lyle P. Pederson
1984-1985	Robert J. Struve
1985-1986	Robert L. Callery
1986-1987	Robert J. Yourzak
1987-1988	Thomas J. Eggum
1988-1989	Frederick M. Jenness
1989-1990	Joseph A. Jameson
1990-1991	John P. Berg
1991-1992	Raymond L. Sterling
1992-1993	Mark W. Schumacher

1993-1994	Terry R. Dobie
1994-1995	Alan Fandrey
1995-1996	Laura M. Amundson
1996-1997	Catherine E. French
1997-1998	Kenneth W. Horns
1998-1999	Scott E. Olson
1999-2000	Eriks V. Ludins
2000-2001	Rocky J. Keehn
2001-2002	Christopher I. Ayika
2002-2003	Jeffrey T. Wetmore
2003-2004	Douglas W. Fischer
2004-2005	Jerome F. Hajjar
2005-2006	Bradley E. Severson
2006-2007	Randy Geerdes
2007-2008	Jeff Peltola
2008-2009	Thomas E. Lorentz
2009-2010	Brent Theroux
2010-2011	Don Demers
2011-2012	Bill Arnold
2012-2013	Seth Spsychala
2013-2014	Steve Olson