

# Civil Engineers: Designers and Builders of the Quality of Life

Every day, every Minnesotan is impacted by the work of a civil engineer. From the roads we travel to the buildings we inhabit to the water we drink, engineers improve and protect the public's health, safety, and quality of life.

The **American Society of Civil Engineers** (ASCE) is a nonprofit professional organization with over 140,000 members worldwide. Founded in 1914, the Minnesota Section's members work in all levels of government, academia, and the private sector to design, construct, and maintain Minnesota's infrastructure.

ASCE upholds a vision of civil engineers as global leaders building a better quality of life. Our objective is the advancement of the science and profession of engineering by:

- Providing tools for lifelong learning
- Promoting the profession throughout society to enhance the stature of civil engineers and to influence public policy
- Developing and supporting civil engineers
- Advocating infrastructure and environmental stewardship to protect the public health and safety, and improve quality of life.

ASCE holds regular meetings, sponsors student groups in Minneapolis and Mankato, and provides scholarships, mentorship, and networking for students of all ages.

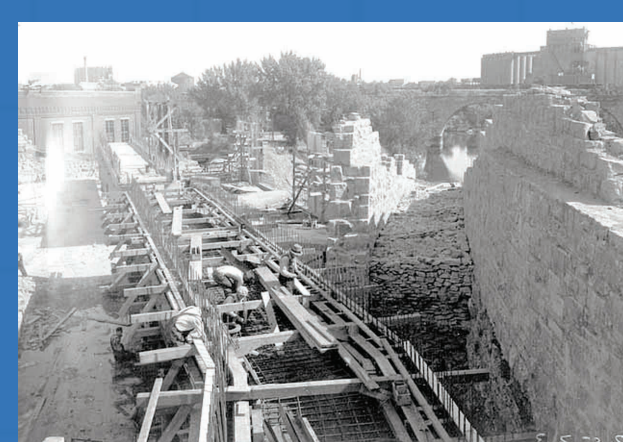
To learn more or to get involved, visit us online at [www.asce.org](http://www.asce.org).

## Saint Anthony Falls Laboratory

The Saint Anthony Falls Laboratory (SAFL) is an interdisciplinary fluid mechanics research and educational facility of the College of Science and Engineering at the University of Minnesota. It was designed and built in the 1930s under the direction of Lorenz G. Straub with funds from the Works Progress Administration and the University of Minnesota. The building was dedicated on November 17, 1938, and the laboratory began its work in hydraulic and river engineering research.



The SAFL under construction in the 1930s.

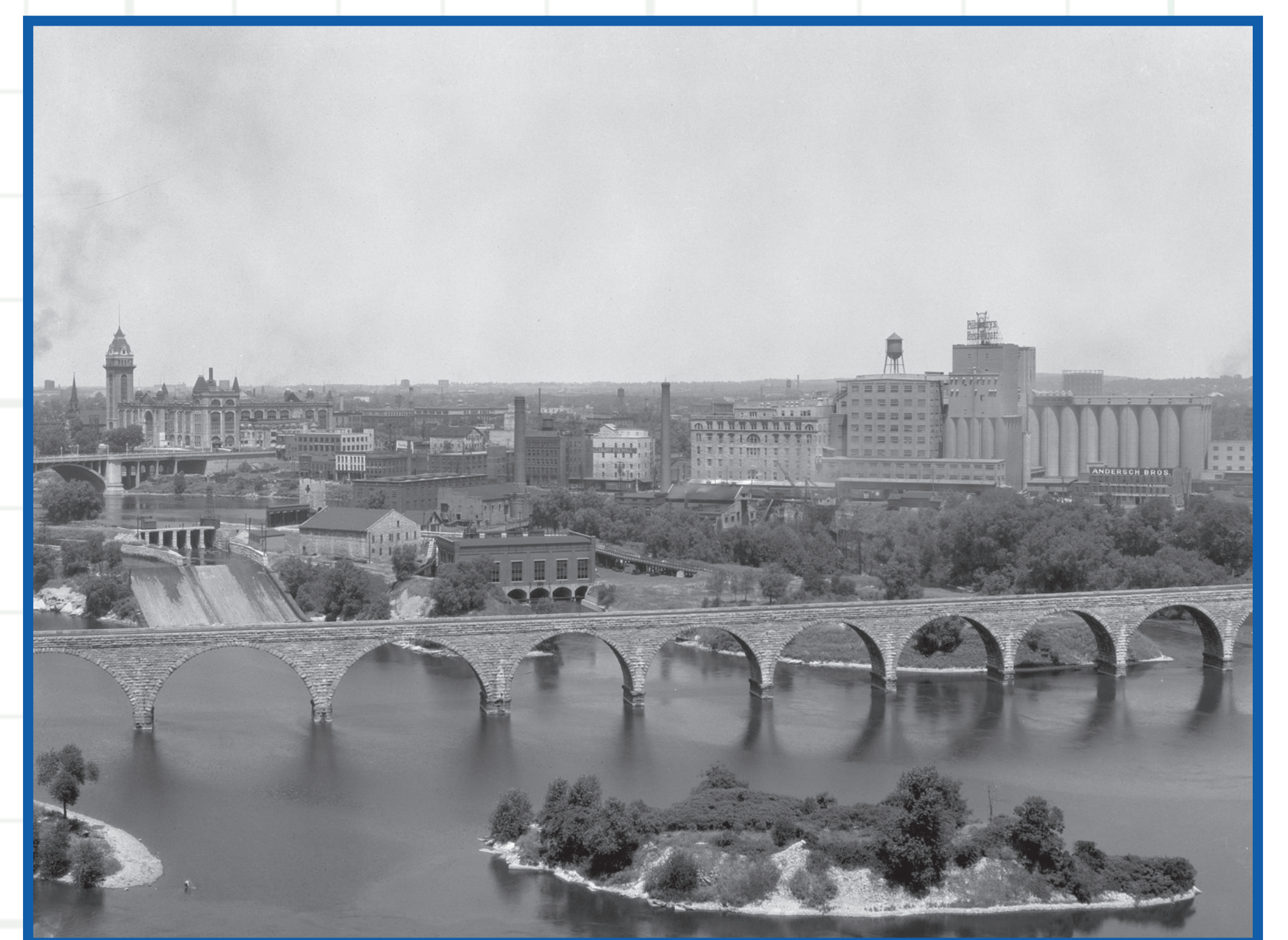


Today, the SAFL is also the headquarters of the National Center for Earth-surface Dynamics, a National Science Foundation Science and Technology Center. Research includes the work of many fields, including civil engineering, hydraulic engineering, hydrology, ecology, and geology.

## Minnesota's National Civil Engineering Landmarks

### Stone Arch Bridge

Built in 1883 by railroad magnate James J. Hill, the Stone Arch Bridge once provided a vital transportation link between the milling districts on the east and west sides of the Mississippi River. The bridge is known as one of the finest stone viaducts in the world due to its massive masonry, lofty arches, and graceful curvature. Designated in 1974 and refurbished in 1994, the bridge is now a pedestrian and bike path offering panoramic views of the St. Anthony Falls, the west side milling district, and the Minneapolis city skyline.



Minnesota Historical Society

### Seventh Street Improvement Arches

Designed by William A. Truesdell, a railroad engineer, the Seventh Street Improvement Arches are a skewed, double-arched, masonry bridge constructed according to the helicoidal method, involving complex mathematical calculations, all with a slide rule. The arches are historically significant for their rarity and the technically demanding nature. Constructed in 1883-84 and designated in 1999, the arches are one of the only documented examples of helicoidal arch construction in the United States and the only known example in Minnesota.



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### Peavey-Haglin Experimental Concrete Grain Elevator

Built in 1899-1900, the Peavey-Haglin Experimental Concrete Grain Elevator was the first cylindrical concrete grain elevator in the United States. Although not an architectural beauty, it is the forerunner of a building type that dominates the landscape in grain-growing regions of the country. It provided proof that the newly evolving engineering material of reinforced concrete could economically sustain the loading conditions created by fluctuating levels of granular materials. The elevator was designated as a National Historic Civil Engineering Landmark in 1983, and bears an iconic advertisement for NordicWare, a Minnesota company.



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