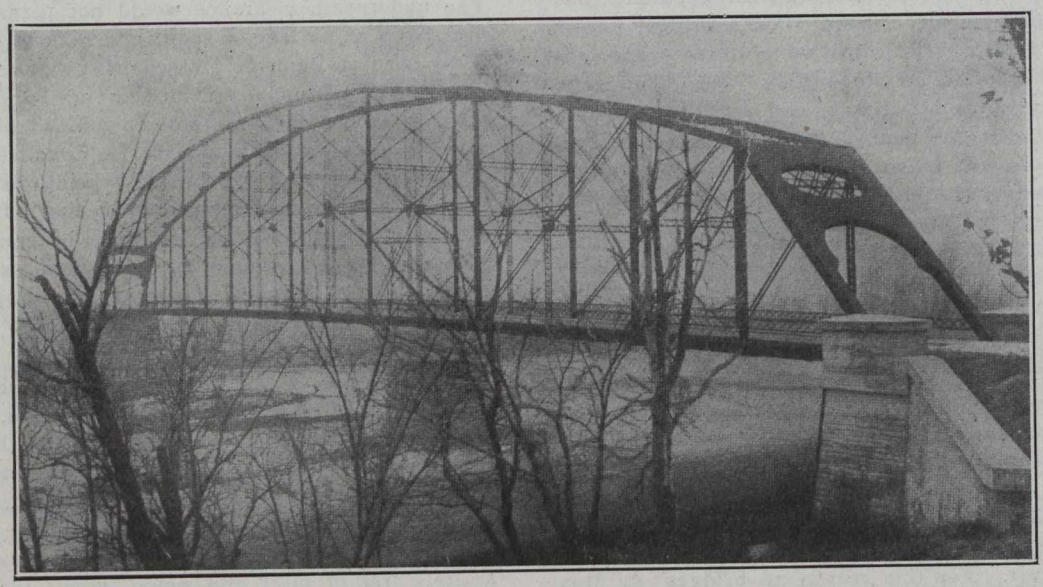
of 3 feet. On each side of the roadway there is a neat railing, made of four angles latticed in box form. This railing lines up with the inner face of the web posts and fastens to them.

The two side lines of heavy floor stringers, which act also as wind truss chords, are rigidly attached by means of bottom bracket angles to the main truss posts. Such portions of the wind chord stresses as are not resisted by these longitudinal side beams, are transferred to the bottom chord eye bars, through these rigid connections.



The Elizabethtown Bridge.

The cross beams, at the panel points, are suspended by two rod hangers 1⅛ inches in diameter each, from the bottom chord pins, and at the same time they are riveted to the bottom angles on the web posts. This gives a rigid beam connection and at the same time reduces the cost of erection. At one end of the bridge are sets of turned rollers, and at both ends the heavy side beams are connected to the shoe boxes, thereby transferring the wind strains as directly as possible to the masonry. The vertical posts are spliced at the joints of the lateral struts. The minimum thickness of metal used is one-quarter inch.

The metal throughout is medium steel of 60,000 to 68,000 pounds per square inch tensile strength, conforming to the Manufacturers' Standard Specifications.

The assumed dead load per lineal foot of bridge used in determining the stresses, was 2,900 pounds. This includes the weight of all steel and lumber, and 300 pounds per lineal foot for snow and ice. The snow load causes no vibration or impact and was therefore classed as dead load. The effect, however, on the web members of a partial snow load, was considered and provided for. Wet lumber was assumed to weigh seven pounds per foot board measure. Seven-tenths of the entire dead load was assumed as acting at points of the bottom chord, and the remaining three-tenths at the points of the top chord.

The assumed live load was 1,000 pounds per lineal foot of bridge, for the trusses, and for the floor and its supports 70 pounds per square foot of roadway, or a ten ton road roller or wagon. These loads are all in addition to the weight of snow and ice as described above.

The wind load was taken at 30 pounds per square foot of exposed surface.

After the completion of the bridge it was the intention to remove the two river piers, one of which was already leaning over and in danger of falling.

This bridge, which resisted the recent floods in Ohio practically without damage, was erected some years ago. Mr. H. G. Tyrrell, consulting engineer of Evanston, Ill., a graduate of Toronto University, was the chief engineer for the design and construction.

WATER SUPPLY AND SEWAGE DISPOSAL.

The town of Swift Current, Sask., has experienced no little inconvenience this winter owing to the Swift Current creek freezing solid to the bottom. The creek is the source of the town's water supply. Fortunately there was no serious fire in the town while the water shortage existed. Plans provide for a three days' reserve supply of water for the town, and the latter will, by forming an impounding reservoir, prevent any possibility of the source of supply failing on a future occasion. The town of Swift Current is very favorably situated for a gravity supply from a service reservoir, the ground to the south of the town rising to a sufficient elevation to give ample pressure for domestic services.

Plans and estimates for the waterworks are at present receiving the consideration of the Bureau, and if they are approved a by-law will be voted on by the ratepayers, which will include the following works to be executed this year:—

Reservoir	$20,000
Pumping and gravity main	34,500
Water extensions on north side of town	16,500

Plans were recently approved of by the commissioner of public health for a system of water supply, sewerage and sewage disposal for the town of Sutherland. The water supply will be obtained from the city of Saskatoon, the latter city pumping its water from the South Saskatchewan River, and treating it by a mechanical gravity filtration plant. The proposed site for the sewage disposal works is on the south bank of the Saskatchewan River at a point where ample fall is obtainable. Provision has been made for chlorinating the effluent before its discharge into the river.