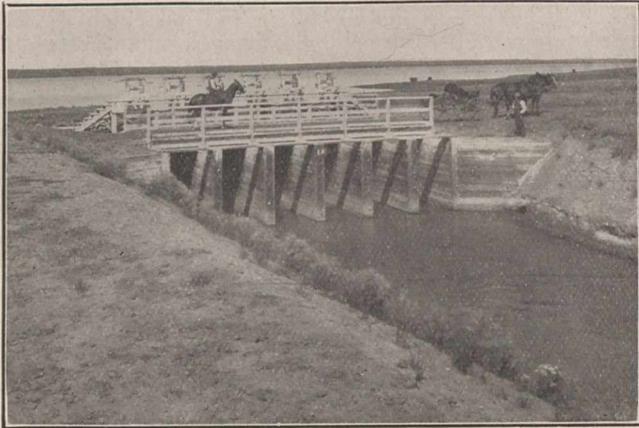


a bluff bordering the bottom. The incline of the bluff was much steeper, however, than the slope of the canal and it was decided that rather than make a cutting reaching entirely to the top, it would be much better to allow this bluff to form one side of the canal and form the other by means of an embankment.

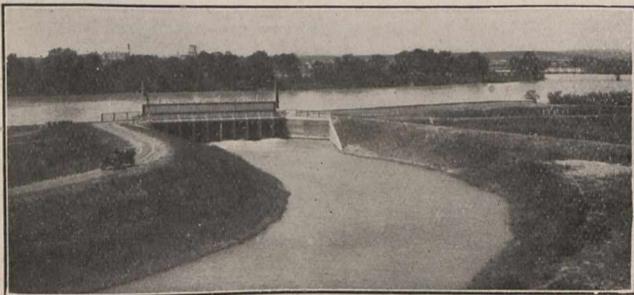
The level of the old river bottom is that which was used in a portion of the work as the bottom for the canal and at the end immediately next to where excavation was again resumed the depth of water carried is twenty-six feet. Where the excavation commenced the grade line was again resumed.



Headgates Secondary Canal Leading from Reservoir.

In the building of this embankment, the greatest care was exercised. Stripping was resorted to in dealing with the surface soil and more of same was allowed to be used. In order that the embankment should be of a maximum strength, successive layers of selected material 10 inches in depth was all that was allowed to be dealt with at one time. This material was evenly distributed over the surface, given an application of water and thoroughly rolled with a three-ton roller.

Owing to the natural slope of the country it was necessary to construct falls or "drops" which carry the water safely to the levels below, without erosion of sides or bed. Along the river's bank and in close proximity to the inlet, piles have been driven with a view to protecting the banks, and situated along the embankment is a spillway which allows only the required amount of water being retained.



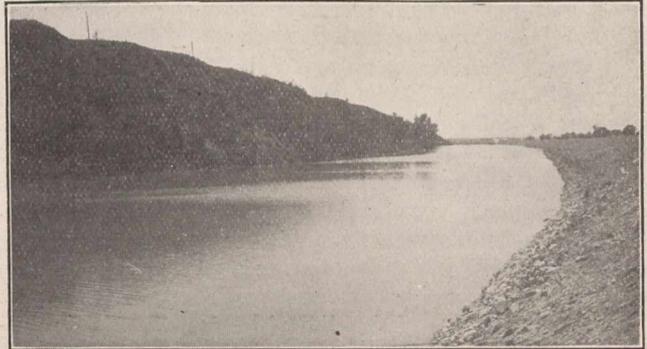
Headgates of the Main Canal.

It will be seen by the above that every precaution has been taken in order that the canals and laterals may be protected to the greatest possible extent, no expense in the construction of same having been spared.

It is with pride that any country points to the work of their civil engineers, works which in the majority of cases are great constructive works of peace. Canada is no exception, her engineers are without peer, and it is to their indomitable pluck and perseverance that we owe our very existence. It would appear that the average individual does not appreciate what a factor the civil engineer is in the up-building of a country or community.

When the irrigation of the Bow River Valley was first proposed, a veritable storm of ridicule was directed at those who were courageous enough to conceive and advocate the

scheme. That ridicule continued even after actual operations were commenced. Now, however, we find an appreciative feeling existing throughout the West and in Calgary especially there is an ever-increasing interest manifested by the prominent citizens who have at last awakened to the fact that with relentless and never-ceasing vigor, the Canadian Pacific is working out the destiny of Calgary, and that destiny is a metropolis of wondrous magnitude. Have the Canadian Pacific failed in any of their ventures? Have they not built cities where they wished them, and have they ever sanctioned any other expenditure for agricultural development, anywhere approaching that being expended on the Bow River project?



Two Miles Below Headgates Looking East.—Showing Pole Line and Rip Rap.

All this is due to the untiring perseverance of those who first considered the scheme possible.

This most successful engineering effort is unique in the fact that it is a great creative factor in the making of a demand for labor. As science advances, channels which were at one time open for individual effort are closed and the demand for labor decreased. By the opening of each fresh channel in the Bow River Valley, however, we find there an immediate demand for labor and an immediate possibility of happy, prosperous home.

RAILWAY ORDERS.

8084—September 14—Authorizing the City of Toronto to construct an additional bridge across the tracks of the G.T.R. and the C.P.R. where the same crosses Dun las Street, Toronto, Ontario.

8085—September 15—Granting leave to the Winnipeg Electric Company to operate their cars and trains over the track of the C.P.R. Company on Logan Avenue, Winnipeg, Man.

8086—September 15—Granting leave to the Mt. McKay & Kakabeka Falls Railway to cross with its tracks the tracks of the C.P.R. at Yonge Street, Fort William, Ont.

8087—September 15—Granting leave to the Mt. McKay & Kakabeka Falls Railway to cross with its tracks the tracks of the C.N.R., Fort William, Ont. (at Yonge Street).

8088—September 14th.—Dismissing application of the corporation of the town of Leamington, Ont., to open up and construct a street over the right of way of the Leamington and St. Clair branch of the M.C.R.R. in the said town.

8089—September 15—Granting leave to the Mt. McKay & Kakabeka Falls Railway to cross with its tracks the track of the G.T.P. Railway, at Yonge Street, Fort William, Ont.

8090—September 13—Granting leave to the corporation of the town of Listowel, Ont., to place certain wires across the track of the C.P.R. at Main Street in said town.

8091—September 14th—Granting leave to the village of Stirling, Ont., to place certain electric light wires across the track of the G.T.R. at William Street in said village.

8092 September 14—Granting leave to the corporation of the town of Listowel, to place certain electric power wires across the track of the C.P.R. at Inkerman Street in said town.

(Continued on page 383.)