

northwesterly & westerly between the lines of the C.P.R. on the south & the Manitoba & Northwestern & the Great Northwest Central on the north, to near Hamiota, thence northerly & northwesterly to or near Birtle, thence northerly to the north boundary of the Province; & a branch running from the main line, in range 18 or 19 west, to Brandon. It is said this application is in the interest of the N.P.R. It is also said that at a recent meeting of the N.P. directors it was decided to build at least a part of these proposed lines this year, for which it is expected that the Province will give a cash bonus of \$1,750 a mile. In addition to building from Portage la Prairie to Hamiota, it is said the N. P. Co. also proposes to build a short branch from Portage la Prairie northerly to Clandeboye Bay, or some other point on Lake Manitoba.

But if a recent report from Winnipeg is well founded there is likely to be a race for possession of the above mentioned territory. It is said the C.P.R. is surveying a line from its main line at McGregor, 22 miles west of Portage la Prairie, to Rapid City. This would make an almost air line between Portage la Prairie & Rapid City & would leave no room for any other line to get business. The impression is gaining ground that the Great Northwest Central will be merged in the C.P.R. system, & if so the projected line from McGregor could connect with it at Rapid City. C.P.R. officials disclaim any connection with the survey referred to, mention of which will be found under the head of the G.N.W. Ry., on page 134.

The N.P. Souris River branch, which was built last year from a point on the Brandon branch, 3 miles from Belmont, is likely to be extended this year to the C.P.R.'s Souris River branch, which it is likely to strike at Hartney or between there & Lauder. This branch will undoubtedly be pushed on further west, though perhaps not this year. (Feb., pg. 40.)

Nova Scotia Southern.—It is said J. J. Taylor, C.E., is about to start a survey for this line from Shelburne via Liverpool to New Germany on the N.S. Central Ry. The Co. was incorporated by the N. S. Legislature in 1888 as the Annapolis & Atlantic Ry. Co., the name being changed to the N.S. Southern in 1894. By the Dominion Subsidy Act of 1892 a subsidy, taking the place of one previously granted, was authorized for 75 miles from Sand Point, Shelburne Harbor, to Annapolis Royal and to a junction with the N.S. Central at or near New Germany, the subsidy limit being \$240,000.

Ontario and Rainy River.—The rock work on the contract for the first 20 miles from Stanley west, on which work has been proceeding all winter, is nearly finished, & the contractor is building camps to open out the whole work remaining on the contract as soon as frost is out of the ground. The pier & abutments for the bridge across the Kaministiqui River are all but completed, & a large quantity of timber & ties has been taken out. No decision has yet been come to as to whether the line will run south or north of Shebandowan, but the survey to determine this is being pushed. West of the height of land 3 parties are locating along the Atikokan & Seine Rivers. Soundings have been made across Rainy Lake to determine the depth & description of bottom, & several crossings of Rainy River in the townships of Worthington & Attwood have been surveyed & sounded to determine where the best crossing is to be had. Further examinations of crossings are being made near the mouth of the river.

At Rat Portage it is rumored that Rainy Lake will be crossed at Squall Point, & that the line will continue through Indian Reserve B. 18, on a line with the northern boundary of the township of McIrvine, thence northerly & westerly, through the townships of Carpenter & Dobie, to the township of Attwood, near Beaver Mills, passing 2½ miles north of Fort Frances. It is also rumored that Rainy River will be crossed, & connection made with the Manitoba & Southeastern extension in Minnesota, near Beaudette River.

The Ontario Legislature has voted the Co. a cash bonus of \$4,000 a mile for the whole line from Stanley to Rainy River, about 280 miles. It also has a Dominion subsidy of \$3,200 a mile for 80 miles, this to be increased to a further subsidy of 50% on so much of the average cost of the mileage subsidized as is in excess of \$15,000 a mile, the whole subsidy not to exceed \$6,400 a mile. It is understood the Co. is now seeking Dominion aid for the whole 280 miles, & that it wants \$6,400 a mile irrespective of the cost of construction. (Mar., pg. 72.)

It is expected contracts for 80 miles, beyond the 20 already under construction, will be let this month, to be completed this year.

Orford Mountain.—The Quebec Legislature has extended the time for the completion of this line from Kingsbury to Richmond until Dec. 31, 1902. The present line, from Eastman to Kingsbury, was built in 1892. On the route of the proposed extension the St. Francis River will have to be bridged at a cost of some

\$75,000. The management is not prepared to make any statement as to when work will be gone on with.

Ottawa & Gatineau Valley.—It is doubtful if the proposed extension from the present terminus at Gracefield, 60 miles from Ottawa, to Maniwaki, 28 miles, will be gone on with this year. (Feb., pg. 40.)

Ottawa & New York.—On Apl. 22 the Chief Engineer advised us that the work of completing the bridge over the north channel of the St. Lawrence, at Cornwall, had not been started.

Work has started on the reconstruction of the south channel bridge which collapsed with such fatal results last fall. A Cornwall correspondent says:—"It is now generally known that the cause of the disaster was that too many chances were taken, & that the nature of the bottom was not fully & thoroughly ascertained before loading it with the tremendous weight involved in a concrete & stone pier & a span of steel. The investigations in the north channel go to show that the action of the current for unnumbered years has scoured the clay thoroughly, & the piers are standing on a solid rockbed. But in the south channel the same thing did not occur, as the current is much slower. When the cribs for holding the concrete were anchored on the site of piers nos. 2 & 3 a diver was sent down, who tried the bottom with a crowbar & maul to an extent that was considered satisfactory, & the sub-structure was begun & ended on that information. Subsequent investigations developed the fact that there was only a thin crust of hard bottom, 18 inches or so, & under it a mass of blue clay, the shifting nature of which caused the collapse of the pier & bridge. It was also found that pier no. 3, although it appeared all right, was in such a condition that it would be unsafe to trust it, & it will have to come down & be rebuilt on a plan dictated by recent experience. The depth of blue clay at the site of the piers is variously estimated at from 20 to 30 ft., & the contractors will have to go down until they get bed-rock, & this they purpose to do by the pneumatic process, which is in brief the sinking of an air-tight chamber, in which the work of excavation is done by men furnished by compressed air. There is about 30 ft. of water in the channel, & the current runs at the rate of about 9 miles an hour. To protect the caissons it is proposed to drive piles above them & make a breakwater. This is a plan that has not yet been tried in the St. Lawrence. The reconstruction of pier no. 2 will first be undertaken, & it is expected it will be com-

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