and, as will be seen by an advertisement on another page, tenders are invited for building 51/2 miles from Gertrude Mine to the crossing of Vermillion river, in continuation of the line built last year. The distance from the C.P.R., Sault Ste. Marie branch, to the north channel of Georgian Bay, is 174 miles. Foley Bros., Porter and Whalen have about completed a contract for the first 1½ miles from the C.P.R. to the falls of the Spanish river, at the site of the Spanish River Pulp and Paper Co.'s mill. Tenders were recently asked for the remaining 1614 miles from the falls of the Spanish river to the north channel of Georgian Bay. When the sections now under contract, and for which tenders have been asked, are completed, there will only remain 6½ miles from the crossing of the Vermillion river to the Sault Ste. Marie branch of the C.P.R., to complete a through line from Sudbury to the north channel of Georgian Bay. (May, pg. 156.)

Michigan Central.—Several sections of the main line on the Canada Southern division are being double-tracked this year.

Midland of Nova Scotia .-- Provincial Government Engineer Murphy, in his annual report for the year ended Sep. 30, 1900, says: "This line, the trunk line of our provincial system, is on the brink of completion. Traffic operations hang on the completion of three spans of the Shubenacadie bridge. The piers of this bridge erected under great difficulty and at great expense, are now ready to receive the steel trusses, yet, owing to the ab-normal tides and heavy drifting ice-floes, they cannot be safely approached or covered by the superstructure until the ice-drift leaves the stream. However, the work of erection is in good hands. A recent visit to the bridge works showed that practical pre-parations were being provided to get the metal-work into place as soon as it can be effected with safety. Although the great bulk of the work is virtually completed, still, before traffic operations can be efficiently pro-ceeded with, there will be considerable work to do, such as trimming up and clear ing of cuttings from earth slips, clearing of water-tables and grading approaches to level crossings. Embankments recently constructed, more especially through soft intervale or marsh-lands, will be found to have taken the subsidence due to such soils as have been run into them, and will require in some places to be raised or levelled up. again, where such depressions from subsidence occur the ballast will subside with the prism of bank and will need renewal. These remarks cannot be said to be made with the view of imposing onerous conditions; these works, although of a trivial nature, are essenworks, atthough of a trivial nature, are essential to safety and can be easily carried out with a ballast train and a small force of men after the frost dies out. The line between Shubenacadie River and Truro has not been examined since the rails were laid over it. Rolling stock, some sidings and buildings at terminal stations, and signals are yet to be provided.

"The Midland Ry., now on the verge of completion, is the result of the co-operation of a few enterprising gentlemen living in its immediate neighborhood, and at Montreal. The Co. consists of active business men who had the works carried through in their own business-like manner. The project was financed ness-like manner. The project was financed by the Co. itself without the aid of any inflated The best engineering skill was employed and the works were conducted throughout under skilful supervision. Nothing was slighted or left undone that was essential to permanency and successful opera-The rails were purchased on favorable terms when prices were low, at cash prices. There was no friction of any kind between employers and employed; the work is being completed, I hope, to the satisfaction of all concerned. The cost was heavier than expected, chiefly owing to the very expensive bridges required to span the Shubenacadie and Kennetcook rivers. Even without those two bridges, the cost of structures absorbed a large proportion of the expenditure. The aim of the Co. being permanency, reduction of operating expenses and a more direct route for through traffic, the cost was necessarily heavy. From Windsor to Truro by the I.C.R. and Windsor branch is 80 miles, by the Midland it is only 57½ miles. If we add to these 22½ miles saved by distance what will be gained in operation, on account of easier gradients, we will find that freight over the Midland from Windsor to Truro, can be moved 100% cheaper than over the I.C.R."

GRADIENTS FROM TRURO TO WINDSOR.

Denomination of grade.	Ascending from Truro.	Descending from Truro. Miles.	Total Miles.
Under 10 ft. per mile		5.35	£ 25
From 10 to 20 ft. per mile	2.18	4.49	5.35 6.67
" 20 to 30 " "	1.57	3.43	5.00
" 30 to 40 " "	1.12	1.59	2.71
" 40 to 50 " "	1.78	0.66	2.44
" 50 to 55 " "	6.98	6.35	13.33
" 55 to 60 " "			
" 60 to 70 " "			
Level miles			21.90
		1	57.40

ALIGNMENT FROM TRURO TO WINDSOR.

No. of tangents.	No. of curves.	Degree of curvature.		
121]		36.73	
	11	Under 1°	2.33	
	17	t° to 2°	3.06	
	23	2° to 3°	3.64	
	32	3° to 4	5.03	
	13	4° to 5°	2.08	
	23	5 to 6	4.27	
	2	6° to 6° 30′	0.26	
	1			
	1	t i	57.40	

Midway and Vernon Ry. Co.—J. H. Senk-ler, E. Bloomfield and A. P. Judge, of Van couver, were incorporated at the last session of the B.C. Legislature, for the purpose of constructing and operating a standard gauge railway from Midway to near the mouth of Rock Creek, thence northeasterly to the west fork of Kettle river, thence following the west fork of the river via Okanagan Mission Valley to Vernon. The capital is fixed at \$2,000,000 and power is given to issue bonds to the extent of \$35,000 a mile.

Minnesota and International.—Forty miles of this line have been completed from Bemidji, Minn., and the line is being pushed on to Koochiching, from which point, it is reported, a connection will be made with the Canadian Northern at Fort Frances, Ont.

The Montreal Bridge Co. is anxious to proceed with its preparations for the construction of the bridge and is pressing the Montreal Harbor Board to pass the plans, Mr. Kennedy, the Board's engineer, has approved of the plans and specifications as submitted by Mr. Shanley, the Co.'s engineer, but recommends the lengthening of the span between Montreal Island and Ile Ronde by 50 ft. in order to give the ship channel all the width possible. The plans provide for a bridge 150 ft. above the river, having a total length of 8,440 ft., and sufficiently wide to accommodate a double steam railway track, two lines of rails for electric cars, a double roadway and two foot walks. From the Longueuil side to He Ronde there will be 22 spans of 200 ft. each, and on the Montreal side there will be to spans of a similar length. The anchor spans of the cantilever are to be each 500 ft. The bridge will be reached by an elevated railway passing through the centre

of the blocks, and not interfering with the streets. The piers will require over 100,000 yards of masonry, while the superstructure will require over40,000 tons of steel. The total cost of the bridge is estimated at \$6,000,000, and it is proposed to call it the Royal Albert Bridge. (May, pg. 157.)

Musquodobott.—The charter for the construction of this line was revived at the last session of the Nova Scotia Legislature. Over \$100,000 of the capital having been subscribed and paid in, the first meeting of the shareholders was held at Halifax, May 22, when the following were elected: President, J. W. Greer, Montreal; Vice-President, M. H. Fitzpatrick, New Glasgow; Treasurer, W. C. Trotter, St. John's, P.Q.; Secretary, Dr. H. H. McKay, New Glasgow; Directors, J. W. Greer and W. E. McNally, Montreal; J. White, Orillia, Ont.; D.W. B. Reid, Musquodoboit; Hon. W. Chisholm, Halifax; H. R. and W. H. Fitzpatrick, New Glasgow. A subsidy of \$128,000 was voted at the recent session of the Dominion Parliament for the construction of 40 miles of railway from near Windsor Jct. to Upper Musquodoboit. (Oct., 1899, pg. 295.)

New York & Ottawa.—Stations have been established at the following points: Edwards, Russell, Embrum, Cornwall, Crysler, Berwick, Finch, Newington, Black River and Cornwall Jct. Enameled iron plates with white letters and dark blue ground, supplied by the Acton Burrows Co., Toronto, have been adopted as the standard for station names on this line, instead of painted wooden signs.

Nipissing and James Bay.—A contract has just been let by Mackenzie, Mann & Co. for the construction o a section of this railway to T. W. Depencer. The line will start from North Bay, and will be continued northerly. A survey party under the charge of H. K. Wicksteed, C.E., started from Toronto, June 14, to take charge of the work and to fix the terminal point of Mr. Depencer's contract. A Dominion subsidy of \$64,000 was voted in aid of the construction of 20 miles of this railway in 1900. (Aug., 1900, pg. 240.)

Northern Colonization Ry.—A survey is being made by H. D. Lumsden, of the C.P.R. engineering staff, for a section of the Northern Colonization Ry. from Labelle, Que., the terminus of the Labelle branch of the C.P.R., 100.3 miles from Montreal, to Nomininque, and it is probable that construction will be undertaken this year. The N.C.R. Co., which was incorporated by the Dominion Parliament in 1899, has a subsidy from the Dominion of \$3,200 a mile for 22 miles from Labelle to Nomininque via Notre Dame de l'Annonciation, and also a subsidy from the Quebec Legislature of \$60,000 payable in 12 annual payments of \$5,000 each. (May, 1900, pg. 144.)

The Northern Pacific is extending its system in Minnesota. By the purchase of the logging road of the Red Lake Transportation Co. in Beltrami county it will be able to connect Bemidji with Red Lake early this summer, 20 miles of the extension of the Minnesota & International branch of the N.P. having already been completed in the direction of Red Lake, from which the logging road extends towards Bemidji for 12 miles.

Norwood and Apsley.—See under C.P.R. Surveys, etc., pg. 178.

Nova Scotia Southern.—The Provincial Government Engineer says in his last annual report: "On April 3, 1900, a contract, promising subvention of \$3,200 a mile, for the construction of 117 miles of railway, was entered into with this Co., from New Germany via Caledonia and Indian Gardens to Sand Point near Shelburne, 77 miles; Indian Gardens to Liverpool, 20 miles; and from the main line at the crossing of Sable River to