

At the Nahlin River, Level Mountain or plateau terminates, but the high ground continues northward in a more elevated, irregular & mountainous form; & it is at the foot of its western slope & bordering the eastern edge of an extensive marsh & lake district called Grand Valley that the line is projected in a northerly course to a regular, easy rolling bench area reaching from the Cascades of White Swan River to & along the margin of Teslin Lake. On the section of 67 miles between the Nahlin & Teslin Lake several streams are crossed, but none of such importance as to require more than an ordinary pile structure. The soil is principally of a sandy gravel nature & very little rock will be met with on the location line.

From the Cascades & to the end of a river (which I have named White Swan) flowing in to the extreme South of Teslin Lake, northward for many miles the slightly undulating gravel bench land covered with small spruce, etc., continues; therefore the point for a terminus need not now be defined, beyond the statement that it should be situated north of the shallow narrows & on the open portion of Teslin Lake at least 10 miles beyond where White Swan River enters its estuary-like southern end, thereby ensuring a longer season of navigation, as the shallow, contracted portion doubtless freezes over some weeks before the lake. As Teslin Lake & its outflowing river of same name will form the subject of another section of this report, I will only say that both lake & river are favorable during the open season for navigation by steam & other craft.

Should the Clearwater Valley prove favorable for railway or road construction, a very considerable saving in distance will be effected to Egnalls Mount, where the line may be united with any one of the routes above described, or it can be carried down the Sheslay River, some 10 miles, & through a gap near the north end of Hearts Mountains to the Doo-de-dontooya River, thence to a junction with the first line.

Provided all arrangements are made & the location determined upon by April, 1898, the line of railway by either route shown on the plan can be completed & in operation by September, 1898, at a cost of \$4,000,000, that portion situated on the Stikine River below the crossing, including the bridge, costing \$746,000 of the total amount.

Estimates.

PERMANENT WAY, MATERIALS, &C., REQUIRED FOR 1 MILE OF RAILWAY TRACK, &C., IN POSITION ON FORMATION.

Steel rails, 56 lb. a l. yd., 88 tons, \$30.....	\$2,640 00
Angle plates, 2 ft. long, 18 lbs. each, 176 joints, 4 bolt holes, 704 plates @ 18 lbs., 12,600 lbs. @ 2 cts.....	252 00
Bolts, 3/4-in. round, oval neck, 1 lb. each, 1,408 lbs. @ 3 1/2 cts.....	49 28
Spikes, 5 1/2x9-16 in., 6,000 lbs. @ 2 1/2 cts.....	150 00
Ties, spaced, 2 ft. centre to centre, 3 ft. 6 in. by 8 in. face, 2,040 @ 25 cts.....	660 00
Washers, rubber.....	25 00
	\$3,776 28
Tracklaying per mile.....	\$250 00
Ballasting per mile, 2,000 cubic yds. @ 40 cts.....	800 00
	1,050 00
Total.....	\$4,826 28
Steel rails, 70 lbs., 110 tons @ \$30.....	\$3,300 00
Angle plates, 30 lbs., 704 plates, 21,120 lbs. @ 2 cts.....	422 40
Bolts (6 bolts) 1 lb. each, 2,108 lbs. @ 3 1/2 cts.....	73 98
Spikes, 5 1/2x9-16 in., 6,500 lbs. @ 2 1/2 cts.....	162 50
Ties, 2,640 @ 25 cts.....	660 00
Washers.....	25 00
	\$4,643 88
Tracklaying per mile.....	\$250 00
Ballasting, 2,000 cubic yds. @ 40 cts.....	800 00
	1,050 00
Total.....	\$5,693 88

COST OF CONSTRUCTING ONE MILE OF ROADBED.

LIGHT WORK.	
Clearing 9 acres @ \$25.....	\$225 00
Close cutting 2 acres @ \$35.....	70 00
Grubbing 2 acres @ \$50.....	100 00
Earthwork, 15,000 yds. @ 25 cts.....	3,750 00
Rockwork, 1,000 yds. @ \$1.....	1,000 00
Structures.....	800 00
Engineering, \$600; stations, &c., \$150; water supply, \$150; telegraph line, \$110.....	1,010 00
Sidings.....	350 00
	\$7,305 00
Contingencies 10 per cent.....	730 50
Permanent way: Light rails, 56 lbs.....	\$8,035 50
	4,826 28
Total.....	\$12,861 78
HEAVY WORK.	
Clearing 9 acres @ \$20.....	\$180 00
Close cutting 2 acres @ \$30.....	60 00
Grubbing 1/2 acre @ \$50.....	25 00
Earthwork, 20,000 cubic yards @ 25 cts.....	5,000 00
Rockwork, 20,000 @ \$1.....	20,000 00
Structures.....	1,000 00
Engineering, \$700; telegraphing, \$110; stations, &c., \$150; water supply, \$150.....	1,110 00
Sidings.....	400 00
	\$27,775 00
Contingencies 10 per cent.....	2,777 50
Permanent way, heavy rails, 70 lbs.....	\$30,552 50
	5,693 50
Total.....	\$36,246 00
MEDIUM WORK.	
Clearing 9 acres @ \$25.....	\$225 00
Close cutting, 3 acres @ \$35.....	105 00
Grubbing, 2 acres @ \$50.....	120 00
Earthwork: 4 ft. bank, 15 ft. base, 3,000 ft., 0.330 ft. @ 25c.....	2,332 50
Rockwork: 5 ft. cut, 22 ft. base by 1/4 to 1 slope, 2,300 ft., 10,350 ft. @ \$1.....	10,350 00
Structures.....	1,000 00
Engineering, \$700; telegraph lines, \$110; stations, etc., \$150; water supply, \$150.....	1,110 00
Sidings.....	400 00
	\$15,642 50
Contingencies, 10 per cent.....	1,564 25
Permanent way, light rails, 56 lbs.....	\$17,206 75
	4,826 28
Total.....	\$22,033 03

STIKINE RIVER SECTION—30 MILES, CLASSED AS MEDIUM.

30 miles of railway line complete @ \$22,000.....	\$660,000 00
Dock, sidings and freight house.....	6,000 00
Bridge over river.....	80,000 00
Total.....	\$746,000 00

WHOLE SECTION, STIKINE RIVER TO TESLIN LAKE.

30 miles as above.....	\$746,000 00
125 miles, light, @ \$13,000.....	1,625,000 00
30 miles, heavy, @ \$36,000.....	1,080,000 00
23 miles, medium, @ \$22,000.....	506,000 00
208 miles, say \$19,000 a mile—	
Grand total.....	\$3,957,000 00

STIKINE RIVER AND TESLIN LAKE ELECTRIC RAILWAY. LENGTH—165 MILES.

Five power stations complete with hydraulic plant, &c.....	
Twenty large cars fitted with 4 motors each	
Railway line fitted with feed and other wires, etc.....	\$2,850,000 00
Dynamos and boosters.....	
Railway line-light rail.....	
Wharf at each end and also freight houses	
Two construction engines and 40 cars.....	

ANNUAL COST OF OPERATION.

For 6 months.....	\$ 55,000 00
Interest and depreciation on cost \$2,850,000 at 10%.....	285,000 00
Total.....	\$ 340,000 00
Say 3 steamers ply on Stikine, bringing on average 100 prospectors a day for 4 months—12,000 passengers—	
165 miles rail haul at 5c. a mile—\$8.25.....	\$ 99,000 00
And 1/4 of a ton of freight per man—9,000 tons at \$50 a ton.....	450,000 00
	\$ 549,000 00
Expenses as above.....	340,000 00
Profit and loss.....	\$ 209,000 00

Then follows a report on a track survey & examination of Teslin Lake & Hootalinqua River, by A. St. Cyr, D.L.S., for which we have not room in this issue.

Mr. Jennings also reports on 4 other railway routes as follows:—1. From Chilkat or Dyea Inlets to the Yukon River via Norden-skiold River, 245 miles, the cost of which, with all appliances for business, he estimates at \$5,635,000 or \$23,000 a mile.

2. From Dyea via Chilkoot Pass to Tagish Lake and thence to Hootalinqua River, 111 miles. Estimated cost \$3,030,000 or \$27,318 a mile.

3. From Skaguay via White Pass to Tagish Lake, thence to the Hootalinqua River, 123 miles. Estimated cost \$3,236,000 or \$28,300 a mile.

4. Via Taku Inlet and Nakinka River to Teslin Lake, 145 miles. Estimated cost \$3,485,000 or \$24,034 a mile.

Mr. Jennings also reports on a route for a trail from the Stikine River to Teslin Lake, & gives a lot of valuable information in regard to freighting.

The Contract with Mackenzie & Mann.

On Jan. 25 the Dominion Government, represented by the Ministers of Railways & Canals & of the Interior, entered into a contract with Wm. Mackenzie, of Toronto, & D. D. Mann, of Montreal, for the construction of a railway from the Stikine River to Teslin Lake. Following is a copy of the contract divested of a little of its legal verbiage:—

1. The contractors to lay out, construct, equip & fully complete a railway with proper terminal facilities from the navigable waters of the Stikine River in B.C., at or near the mouth of Telegraph Creek, Glenora, or the mouth of Clear Water River, northward to the navigable waters of Teslin Lake, a distance of about 150 miles, on or before September 1, 1898, the railway when fully completed to be of the general standard & gauge of the Kaslo & Slocan Ry. in B.C., & according to specifications to be approved by the Minister of Railways.

The railway shall be the property of the contractors but shall be subject to inspection & approval by an engineer to be named by the Minister of Railways before being accepted as complete by the Government.

For the purposes of the season of 1898 & of complying with the requirements of this contract in respect to the completion of the line on or before September 1, it shall be sufficient if, on or before that date, the contractors have the rails laid in such a manner as will permit of regular & efficient operation of the railway, although the whole work be not fully completed, & if the railway be sufficiently equipped for such operation. The location of the railway between the points mentioned shall be such as the contractors may decide upon without filing plans thereof prior to completion, provided that the grant of land hereby contracted for shall not be made upon a larger mileage than the Minister of Railways considers reasonably necessary for traversing the distance between the terminal points.

2. The Government shall submit to Parliament at its next ensuing session a measure for the necessary Act confirming this agreement & authorizing the Government & the contractors to carry it out, also incorporating the contractors & such others as may become shareholders into a company under the name of the Canadian Yukon Ry. Co. or other name approved by the contractors, with power to acquire & carry out this agreement, & with all necessary powers to build & operate the railway & an extension thereof northward to Dawson City or thereabouts & an extension southward to a point in B.C. to be designated by the Government & capable of being made an ocean port, also a railway from the waters of Lynn Canal to Port Selkirk or thereabouts,