

ment of our coastwise shipping and lumbering, mining and fishing generally.

Is Public Enterprise.—If these private interests are left to provide their own terminal facilities it will mean a vast expenditure and duplication of works that will have to be repaid by the people in higher freight or terminal charges, and a sacrifice of the industrial interests to the commercial interests of the port. To prevent this conflict and arrange for the development of the port on proper and economical lines requires organization. Hence the need of a harbor commission.

In planning for the future the existing conditions have to be considered as well as the future. In the case of Vancouver we have a good natural harbor to start with, the fact that nearly all the waterfront is privately owned, and a large portion of the development due to the Canadian Pacific Railway.

In the past the interests of the Canadian Pacific Railway and the city have been in a great measure identical but in the future there will be several other large corporations to be provided for as well as the industrial functions of the harbor.

Two Main Functions.—A harbor such as Vancouver has two main functions to perform, industrial and commercial. An industrial harbor best serves its purpose when it extends far inland and spreads out over a large area of the city, enabling ships and railways to reach many widely scattered factories bringing cargoes of raw material and fuel and carrying away their finished products. The industrial functions deal mainly with local industries and distribution and it is this function that especially serves the interest of the city.

The commercial function, on the other hand, deals mainly through freight coming down or going into the interior and merely passing between rail and water carrier.

In general, good harbor organization would place the through freight terminals at relatively outlying parts of the harbor. The passenger traffic should be as central as possible. In Vancouver the Canadian Pacific Railway wharves and railway stations are admirably located for passenger traffic—the south shore of Burrard Inlet affords many excellent sites for industries, with rail and deep-water facilities.

Ideal Sites Available.—False Creek provides sites for industries with rail and light draft water navigation. Up to the present these facilities have been nearly equal to the requirements but in the near future further sites will be required for industries as well as for deep-water terminals for railways. The present sites on Burrard Inlet are more limited than generally supposed. In many places the deep-water channel is too close to the railway to permit of suitable wharves, and the land rises abruptly on the land side of the railway.

Where are these sites best obtained?

A considerable area can be obtained at Port Moody by reclamation, which will be an admirable site for grain elevators and the Heaps' mill property at Cedar Cove, permits of land being reclaimed for industrial sites. Next there is the north shore of the Inlet which at present lacks railway connection. This can be made available for full use by railway tracks connected with a belt line railway on south side by car ferry.

North Shore Sites.—There is a considerable area of suitable sites for large industries adjacent to North Vancouver and extending east to the North Arm of the Inlet. In the past there is no doubt that several industries have been prevented from locating on Burrard Inlet by the

high price asked for water front property and if the harbor commission provides railway and harbor facilities without any control on the price of water front, the city will fail to secure its full share of these industries in the future, as in the past.

It is, therefore, a matter of necessity that the commissioners should have possession of water front that can be leased at a sufficient price to pay reasonable interest on the cost. It is easy to understand that an industry may often be deterred by having to add \$100,000 to its capital for land purchase that would not feel a rental of \$6,000 per annum. By a selection of property that can be extended by reclaiming, the price per acre can often be considerably decreased. The property proposed to be purchased by the harbor commissioners is generally the most suitable for this purpose and should be obtainable at the present time at a less cost than at any future time. The water front that can be made available on Burrard Inlet is not sufficient to provide both the freight terminals and industrial sites that will be required in the next few years, especially as the freight terminals require to be directly connected with the railways by which they will be used, and some other site has to be sought. The harbor commissioners have decided upon the Kitsilano Reserve site. Mr. Nichol Thompson is in favor of a site further west with a breakwater at Spanish Bank with a railway along the North Arm of the Fraser around Point Grey from New Westminster.

Favors Kitsilano Site.—Against the Spanish Bank scheme can be put its enormous cost. The breakwater to be efficient would have to extend into very deep water, about 150 feet, and would cost enough without wharves to provide extensive docks at the Kitsilano site and it does not fulfill the requirements for extension of Vancouver harbor unless railways were extended direct from Vancouver. If it is not directly connected with Vancouver's railways why build the railway around Point Grey? A harbor on Lulu Island would serve Vancouver equally well. The objections made to the Kitsilano site are not well founded. The breakwater required will be moderate in cost as the depth of water would not exceed 40 or 50 feet. The wharves can be placed far enough out to avoid rock dredging and land behind reclaimed to provide room for trackage. The Kitsilano site is very centrally situated as regards Vancouver, can be easily connected with a belt line railway and can be designed so that when in future the growth of business warrants an extension westwards or the harbor requires the proposed breakwater at Spanish Bank, the breakwater at Kitsilano can be utilized as part of the wharf construction and no expenditure wasted. The Kitsilano site possesses the further advantage of being capable of extension after the first unit is constructed as required until some six miles of wharf face are provided.

A belt line railway connection between water and connecting railways and, as far as possible, the local industries, is an essential to a properly equipped harbor and it is very desirable that this belt railway should be independent of any of the connecting railways. With freight terminals and industrial sites at Kitsilano it becomes almost a necessity that such a railway should be operated by the harbor commissioners.

Space for Double Tracks.—The route proposed for the belt railway is at present to a great extent occupied by railway spurs owned by the Canadian Pacific Railway and Great Northern Railway. As these spurs are utilized to reach industries and not as direct dividend payers it should be possible to make reasonable arrangements for use of the right-of-way for a double track. Some addi-