

Photographic Sciences Corporation

**23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503**

**CIHM
Microfiche
Series
(Monographs)**

**ICMH
Collection de
microfiches
(monographies)**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

© 1993

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

- ☐ Coloured covers/
Couverture de couleur
- ☐ Covers damaged/
Couverture endommagée
- ☐ Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- ☐ Cover title missing/
Le titre de couverture manque
- ☐ Coloured maps/
Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- ☐ Bound with other material/
Relié avec d'autres documents
- ☐ Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- ☐ Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

- ☐ Additional comments: /
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
						✓					

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☐ Coloured pages/
Pages de couleur
 - ☒ Pages damaged/
Pages endommagées
 - ☐ Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
 - ☒ Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
 - ☒ Pages detached/
Pages détachées
 - ☒ Showthrough/
Transparence
 - ☐ Quality of print varies/
Qualité inégale de l'impression
 - ☐ Continuous pagination/
Pagination continue
 - ☐ Includes index(es)/
Comprend un (des) index
- Title on header taken from: /
Le titre de l'en-tête provient:
- ☐ Title page of issue/
Page de titre de la livraison
 - ☐ Caption of issue/
Titre de départ de la livraison
 - ☐ Masthead/
Générique (périodiques) de la livraison

The copy filmed here has been reproduced thanks to the generosity of:

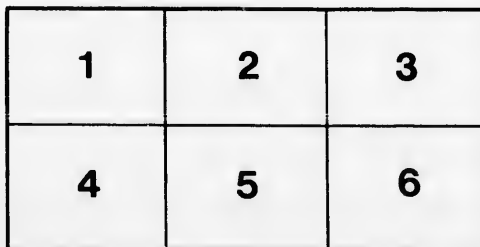
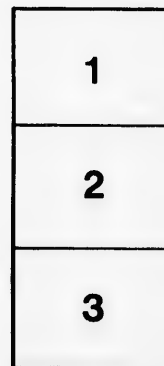
National Library of Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ▼ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Bibliothèque nationale du Canada

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ▼ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

HYDRAULIC POWER
OF
18
THE LACHINE RAPIDS,
NEAR THE
CITY OF MONTREAL.

The want of motive power for milling and manufacturing purposes is beginning to be seriously felt in Montreal. The hydraulic power supplied by the Dominion Government about seventeen years ago, as an experiment from the surplus water of the Lachine Canal, is now fully occupied by mills and factories, and complaint is made by the millers that not more than two-thirds of the water leased to them, can now be obtained. Indeed, a number of new establishments are about being erected on mill streams in different parts of the country, which would be erected in Montreal if water power could be had there. They would prefer that locality on account of the many other facilities for the transaction of a large business, for which the city is unrivalled as the financial capital, the commercial centre for the receipts and distribution of merchandize to all parts of the Province; the head of ocean navigation, the point of commencement of the great inland system of navigation, and the chief station of the Grand Trunk Railway, with its Machine Shops and Factories.

To meet this growing need, there is immediately above the city a hydraulic power which is unquestionably one of the finest and most

valuable in the world. Here the entire water power of the River St. Lawrence, the outlet of the greatest body of inland water in existence, and the greater part of the Ottawa River, which is the outlet for the Thousand Lakes of the immense North West Territory, combine, and in a distance of about a mile make a descent of twenty-five feet, so as to furnish a water power estimated at four millions horse power. This enormous body of water, having its source of supply in the far interior, and not being effected by the droughts or floods which are such serious drawbacks on small or mill streams, might be the means of building up a large city of mills and factories, which is now allowed to run idly to waste. A principal reason for the neglect to utilize this natural force is the magnitude and cost of the undertaking. The development of water power on even small streams is expensive, and where the power is to be leased out to tenants some delay must necessarily take place before the returns from the investment can be made. In this case the expenditure would be large, and some time must elapse before the power could be made available, and mills established to use it. If, however, the scheme could be carried into effect in divisions, so that one portion of the works could be occupied and give a revenue before the others are commenced, it would greatly facilitate the undertaking and render it capable of being taken in hand by a Joint Stock Company of moderate capital.

The water power to be obtained is immense, and admits of being rendered available in divisions, each complete in itself. In this way a comparatively small outlay of capital will be required in the first instance, and a quicker return will be obtained. In the midst of the Lachine rapids is a cluster of islands extending the entire length thereof, which divide the river into two channels, the only navigable channel being on the south side of the islands aforesaid. The north channel, between the islands and the Montreal shore is too rocky to be ever made navigable, but is most favorably situated for hydraulic power. There is also running between the islands before mentioned a natural water course or channel for the whole length of the cluster, and by widening this channel a permanent power can be obtained on the islands alone of seventy-five

thousand horse power, for the distribution of which to mills and factories there is ample space and unusual facilities. It is to be remarked, further, that navigable water for steamboats and river craft extends close up to the lower end of the islands, and that the inundations which take place periodically in Montreal harbour do not extend thither, nor is there any obstacle to the water power being employed all the year round. It is proposed to connect these islands with the north or Montreal shore by a bridge on stone piers sufficiently strong to carry a railway train, and about fifteen feet above the water. There is a shelf of rock running quite across the river, on which the piers of the bridge can be built with great facility, while the stone for them can be had on the island, or on the island of Montreal. This bridge is to be incorporated with and form part of the dam, which is the principal feature of the second division of the scheme, the said dam being extended across the river from the islands in the rapids to the Montreal shore. It will be about two thousand eight hundred feet in length, and will give a fall of water for hydraulic power of about sixteen feet, while the shoal rocky bed of the river immediately below the dam will afford extensive space for mills and factories using the power thus supplied. The amount of hydraulic power obtained by this division of the scheme can only be limited by the want of space on which to erect mills and factories to use the same. The third division of the scheme consists of a mill stream of four hundred and fifty feet wide by fourteen feet deep, taken from the Montreal end of the dam before mentioned, and running inland a few hundred feet and then continuing down parallel with the river bank, supplying hydraulic power thereby to all the mill sites contemplated.

It is believed that the employment of the hydraulic power of the Lachine Rapids, as described, will give an enormous power, and a large return for capital invested.

By this project it is calculated that, besides the immense power obtained on the Island before mentioned, the whole of the water of the north channel, between the Islands and the Montreal shore, will be rendered available for hydraulic power to the enormous extent of half a

million of horses, in immediate connection with the Port and Harbour of Montreal, which forms the connecting link between the Ocean and the whole North-Western interior of the Continent.

From the Islands to the south shore of the St. Lawrence there is a space of about three thousand feet, with shallow water and rocky bottom, the site being admirably adapted for a bridge, with facilities for railway and ordinary traffic.

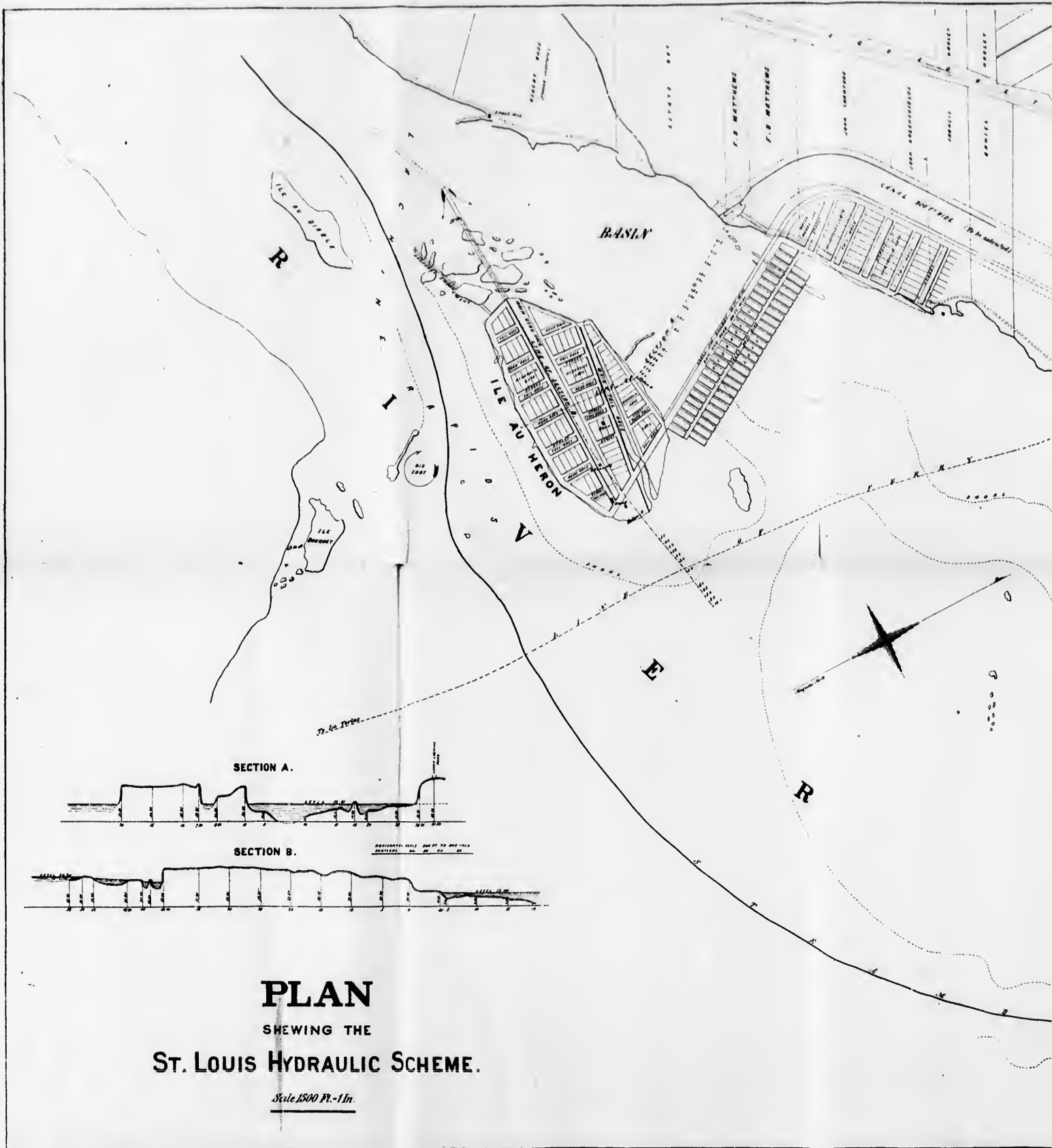
The present appears to be a very favorable moment for the utilization of this property, because the Government of Canada has, for the first time, adopted the principle of protection to home industries. This policy may now be considered as firmly established, and it will unquestionably give such an impetus to the creation of manufactories as, when taken in connection with the opening out of the North-Western Territories of Canada, must cause an enormous demand for all cheaply available motive power.

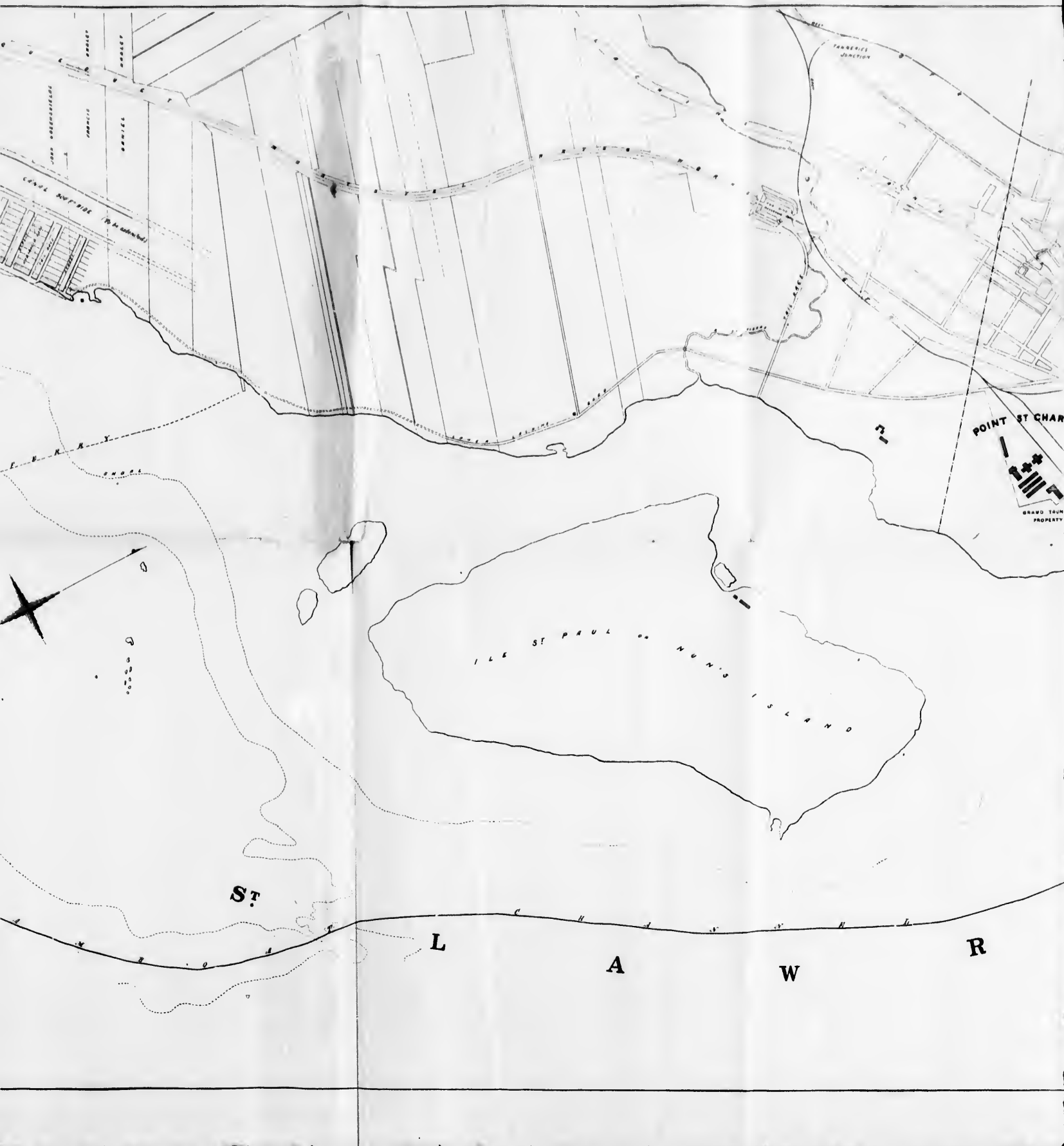
MONTREAL, 1st January, 1880.

bour of
and the

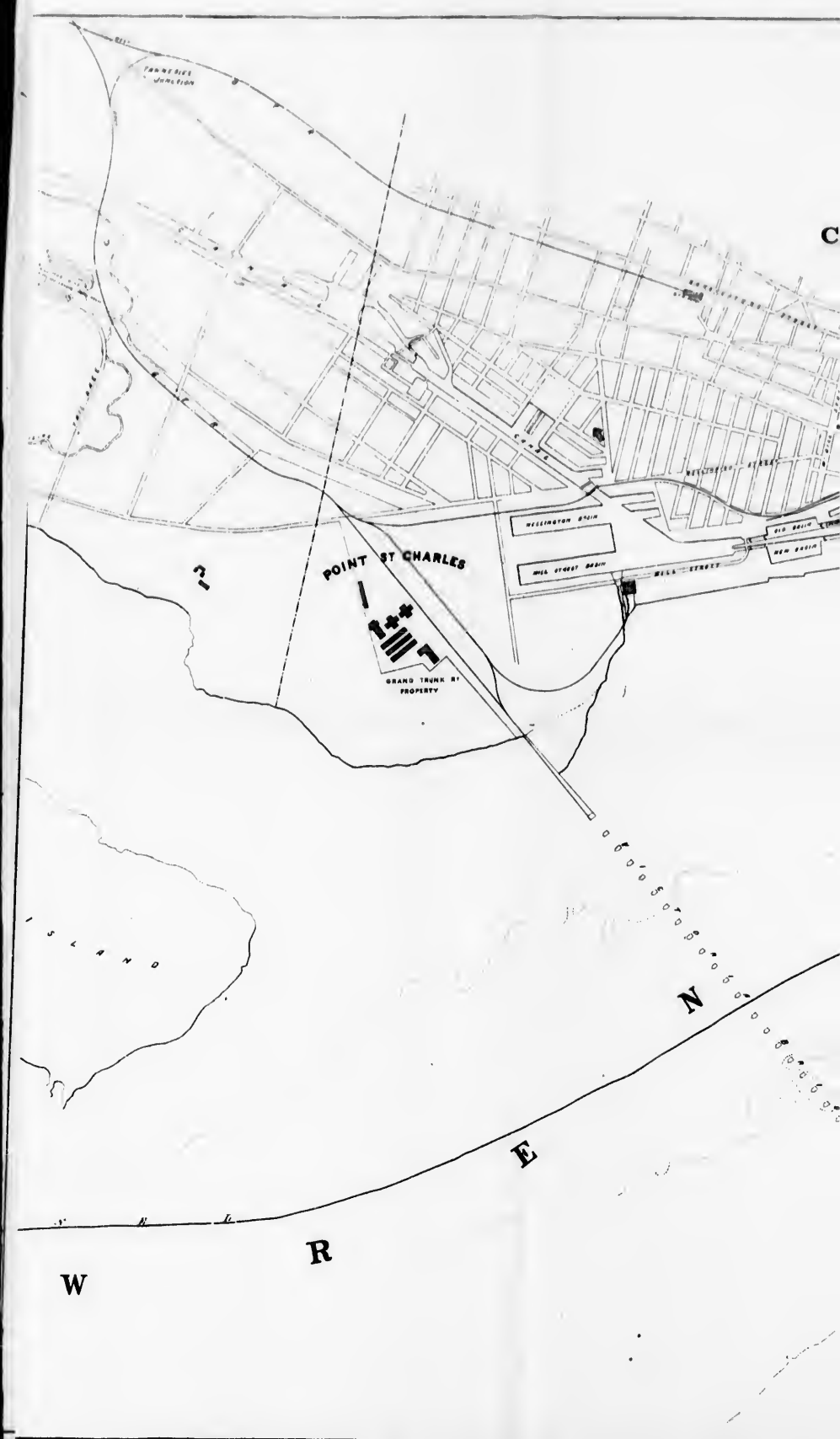
ere is a
bottom,
railway

utiliza-
he first
. This
unques-
, when
ritories
available





AR
TRUM
INTY



W

R

E

N

CITY OF MONTREAL

ST. LAWRENCE RIVER

ST. HELEN'S ISLAND

ST. PETER'S ISLAND

ST. LOUIS RIVER

N

E

S

C



A simple line drawing of the island of St. Helen's, showing its irregular coastline and a small inlet on the left side.

