

RE: ENGINEERING SERVICES FOR A PRELIMINARY DESIGN OF A
PROPOSED VEHICULAR OVERPASS AT BARNET MARINE PARK

ITEM	15
MANAGER'S REPORT NO.	49
COUNCIL MEETING	1979 07 16

Following is a report from the Municipal Engineer regarding proposals for the subject overpass. The proposals were invited in connection with the authorization that was received from Council on 1979 May 28 (see attached Item 4, Report No. 40).

RECOMMENDATION:

1. THAT the recommendation of the Municipal Engineer be adopted.

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TO: MUNICIPAL MANAGER 79 07 11
FROM: MUNICIPAL ENGINEER
SUBJECT: ENGINEERING SERVICES FOR A PRELIMINARY DESIGN OF A
PROPOSED VEHICULAR OVERPASS AT BARNET MARINE PARK

RECOMMENDATION:

1. THAT the Corporation of Burnaby enter into an Engineering Agreement with Associated Engineering Services Ltd. for the provision of engineering services for a preliminary design of a vehicular overpass at Barnet Marine Park for an estimated fee of \$10,900 excluding disbursements, the terms of reference for this project to be in accordance with the Municipal Engineer's letter dated 79 06 20. The Consultant's fee to be financed from the general Municipal Contingency Fund.

REPORT

Council will recall that at their meeting on 79 05 28 they authorized the Municipal Engineer to prepare the terms of reference to invite proposals for the preparation of a preliminary design of the proposed vehicular overpass including a cost estimate as more particularly described in the joint report of the Director of Planning and the Municipal Engineer. In response to this the Municipal Engineer has by way of his letter, dated 79 06 20 (copy attached), invited proposals from four reputable engineering consulting firms who have demonstrated their experience in this field of engineering.

(cont'd)

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We have now received written proposals from each of the four consultants and upon a thorough review conclude that each consultant clearly understood the terms of reference and presented a viable methodology for completing this project. Each proposal also contained an estimated fee structure as tabulated below:

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- | | |
|---------------------------------------------------------------------|----------|
| 1. Associated Engineering Services Ltd. - excluding disbursements - | \$10,900 |
| 2. Underwood McLellan (1977) Ltd. - including disbursements - | \$15,500 |
| 3. N.D. Lea & Associates Ltd. - including disbursements - | \$14,110 |
| 4. DeLCan - including disbursements - | \$14,920 |

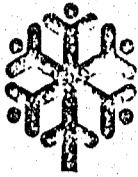
With regard to the matter of disbursements, it is normal engineering practice to accept such items as reproduction of drawings and documents, travel expenses, telegraph, telex and long distance telephone calls, advertising costs, the use of highly specialized equipment and the use of special consultants as approved by the Municipality.

As this project was initiated after the finalization of this year's budget the Engineer would recommend that the consultant's fees for this project be financed from the general Municipal Contingency Fund.

J. Mackenzie Ross
MUNICIPAL ENGINEER

VNW/ch
Atts.

- c.c. () Director of Planning
 () Parks and Recreation Administrator
 () Municipal Treasurer



THE CORPORATION
OF THE DISTRICT OF
BURNABY

4949 Canada Way, Burnaby, B.C. V5G 1M2

Engineering Department

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Telephone (604) 294-7460

79 06 20

Associated Engineering Services Ltd.
1611 West 8th Avenue
Vancouver, B.C.
V6J 1V

Attention: Mr. V.G. Borch, P. Eng.

Dear Sirs:

Re: ENGINEERING SERVICES FOR A PRELIMINARY
DESIGN OF A PROPOSED VEHICULAR OVERPASS
AT BARNET MARINE PARK

As part of the Corporation of Burnaby's ongoing program to develop Barnet Marine Park it has now become imperative that firm decisions regarding the question of vehicular access to the public boat launching and marina facilities be made so that the detailed land use planning of these two areas may be completed.


As part of the preliminary investigation that has been done by staff it has been shown that the Cariboo Road right-of-way is senior to the railway right-of-way and consequently there are certain expectations that the C.T.C. will rule to assess either all or a portion of the costs for construction and maintenance of a proposed vehicular overpass at this location to the C.P.R. Therefore in an effort to properly assess the limits and estimated costs of a vehicular overpass at this location I am hereby inviting your company to submit a proposal for engineering services to prepare a preliminary design and cost estimate for a proposed vehicular overpass between the Barnet Highway and the foreshore access road as shown on Figure 3 of the enclosed report to Council.

The detailed terms of reference for this assignment are contained within the aforementioned report. You will also note that the report makes reference to the fact that a consultant should at all times bear in mind the proximity of both the boat launching and marina areas and that this proposed vehicular overpass will be the sole access to both of these facilities as well as to Allied Chemical which occupies the property between the two park facilities. I would also emphasize that time is of the essence and in this respect I would look for a proposed time schedule to be included in your proposal.

This project will be done under a standard Corporation of Burnaby Engineering Agreement and should be presented in such a format as to be included in a future Council Report. In an effort to get this project started as soon as possible, I would appreciate receiving your proposal not later than 1979 July 09. Should you have any questions regarding any aspect of this invitation please do not hesitate to contact the undersigned.

Yours truly,

E.E. Olson, P. Eng.
MUNICIPAL ENGINEER


by: V.N. Wiebe, P. Eng.
DESIGN ENGINEER

VNW/ch
Att.

c.c. () Director of Planning
() Design Engineer

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RE: BARNET MARINE PARK - ENGAGING AN ENGINEERING CONSULTANT TO UNDERTAKE
A PRELIMINARY DESIGN OF VEHICULAR OVERPASS TO PUBLIC BOAT LAUNCHING
AND MARINA FACILITIES

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Following is a report from the Director of Planning and the Municipal Engineer regarding the proposed vehicular overpass at Barnet Marine Park.

RECOMMENDATION:

1. THAT the recommendation of the Director of Planning and Municipal Engineer be adopted.

* * * * *

TO: MUNICIPAL MANAGER 1979 May 23
OUR FILE: 15.152(1) (d)

FROM: DIRECTOR OF PLANNING/MUNICIPAL ENGINEER

SUBJECT: BARNET MARINE PARK - ENGAGING AN ENGINEERING CONSULTANT
TO UNDERTAKE A PRELIMINARY DESIGN OF VEHICULAR OVERPASS
TO PUBLIC BOAT LAUNCHING AND MARINA FACILITIES

RECOMMENDATION:

THAT Council authorize the Municipal Engineer to prepare the terms of reference and to invite proposals for the preparation of a preliminary design of the proposed vehicular overpass, including a cost estimate, as more particularly described in the following report.

REPORT

BACKGROUND:

On 1978 October 10 Council received a report which proposed certain revisions to the Master Plan for the Barnet Marine Park. These revisions were prompted as a result of the Canadian Transport Commission's concern over the use of the Kapoor level crossing as access to the proposed Marina. After consideration of the ramifications of the proposed change in use of this crossing, Council approved the revisions of the application to the C.T.C. to prohibit the use of this crossing as access to the Marina. Consequently, on 1979 March 30, the C.T.C. authorized the installation of signalized level crossing facilities under Board Order No. 28590.

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Article 6 of the Order states that the cost of construction and maintenance of this crossing and the cost of installation, maintenance and operation of the protection devices are reserved for further order of the Railway Transport Committee. To help expedite the installation of these facilities, the Corporation has issued a work order to the C.P.R. on the understanding that once the C.T.C. has confirmed that the documentation provided by the Planning Department entitles Burnaby to a level crossing to be constructed at C.P.R.'s expense, the C.P.R. would reimburse the Corporation.

The Planning Department has requested the Railway Transport Committee to advise us on the status of the review of the assessment of costs and when we could anticipate a ruling in this regard.

Council further approved the revision of the Master Plan for the Barnet Marine Park as illustrated on the attached Figure 3 entitled "Conceptual Plan of Proposed Vehicular Overpass and Foreshore Access Road". Council also directed staff to prepare and submit a detailed report on the proposed establishment of a vehicular overpass and foreshore roadway to provide access to the proposed public boat launching facility and to the proposed Marina.

Council will recall that, on the basis of certain documentation obtained from the Land Registry records, it is evident that the Cariboo Road right-of-way is senior to the railway right-of-way and therefore, we have requested the C.T.C. to rule on the assessment of costs for the construction and maintenance of the proposed vehicular overpass at this location.

EXISTING SITUATION:

As can be seen on the attached Figure 3, certain lands will need to be acquired from Allied Chemical to permit the construction of the overpass and the foreshore access road. Allied Chemical has advised staff that they agree in principle to the proposed acquisition and they have requested us to advise them of our requirements in this regard. It is necessary to obtain this information at this time as they intend to embark on a rehabilitation program to improve their existing plant and related facilities. Moreover, we need to predetermine the precise requirements for land acquisition, the geometry of the access roads to the overpass and the effect of these structures on the area available for boat launching, parking and access to the Marina.

Council has directed staff to prepare a detailed report on these proposals. This matter has been discussed with the Parks and Recreation Department and the Engineering Department staff with the result that it is our opinion that an engineering consultant should be engaged to undertake a preliminary design of these facilities. His involvement would directly deal with the question of locating and designing the overpass in the most advantageous location keeping in mind the parameters associated with the design of the boat launching and marina facilities. Once this question has been resolved, staff would undertake the more detailed design of the boat launching facilities and the access to the proposed Marina.

Following this undertaking staff would then be in a position to pursue definitive negotiations with the C.T.C. and C.P. Rail for the construction of the overpass. It has been our experience

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that these matters tend to be somewhat protracted and therefore, every effort needs to be made to proceed as expediently as possible.

It is, therefore, recommended that Council authorize staff to prepare the terms of reference and to invite proposals for the preparation of a preliminary design of these facilities, including a cost estimate, according to the following guidelines:

1. Point of Access - access shall be from the Barnet Highway and shall utilize the existing Cariboo Road right-of-way.
2. Overpass Structure - the structure shall provide for a 24 foot (7.32 m) driving surface with a 5 foot (1.5 m) sidewalk with a minimum clearance of 26 feet (7.92 m) from the top of the rail to the bottom of the structure.
3. Alternatives for access to the overpass - the consultant shall investigate the alternatives for providing access to the overpass, recognizing the effects on the area available for boat launching, the extent and desirability of reclamation, and the effect on the Allied Chemical facilities. Consideration should be given to costs of the various alternatives, however, equal weight needs to be given to the land use considerations.
4. The consultant shall investigate the most appropriate form of construction given the access considerations.

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Three possible alternatives are as follows:

- (a) Cloverleaf design to west - as illustrated on the attached Alternative A. This proposal would reduce the effect of the access roads and the structure on the Allied Chemical property. However, it would substantially encroach on the area available for the boat launching facilities and the area available for car and trailer parking. The Parks and Recreation Department have undertaken a preliminary assessment of the area available and they have concluded that while sufficient land is available, it is at a premium and if at all possible, the area required for the structure and the access roads needs to be minimized. If a cloverleaf design is employed as shown on Alternative A, it would necessitate reclamation in the area to the west which would have a dramatic effect on the natural bay to the west.
- (b) T-type design - as illustrated on the attached Alternative B. This proposal seems to minimize the effect on the land available for boat launching to the west and the Allied Chemical facilities to the east. While it may not provide for the most desirable traffic pattern, it could well prove to be the best land use solution.
- (c) Cloverleaf design to the east- as illustrated on the attached Alternative C. This proposal would involve relatively major acquisitions from Allied Chemical. However, staff feels that serious consideration should be given to this alternative as it would provide the greatest flexibility in designing the boat launching and parking facilities. It should be recognized that we would then need to pursue an area for area land exchange with Allied Chemical which would involve lands involved with the Bestwood Industries lease. In our view, this fact need not impede this alternative as we could easily reclaim additional lands to the east of Bestwood for the proposed Marina. In fact, it may be desirable to reclaim additional lands to expand the land base for a Marina.

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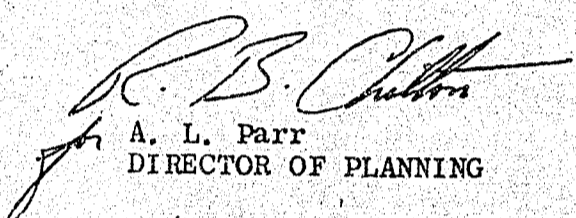
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SUMMARY:

The implementation program for the development of the Barnet Marine Park has advanced to the point whereby firm decisions need to be made on the access to the eastern sector of the parksite. The overriding factor is the design and location of the proposed vehicular overpass which necessitates the employment of a consultant to undertake a preliminary study.

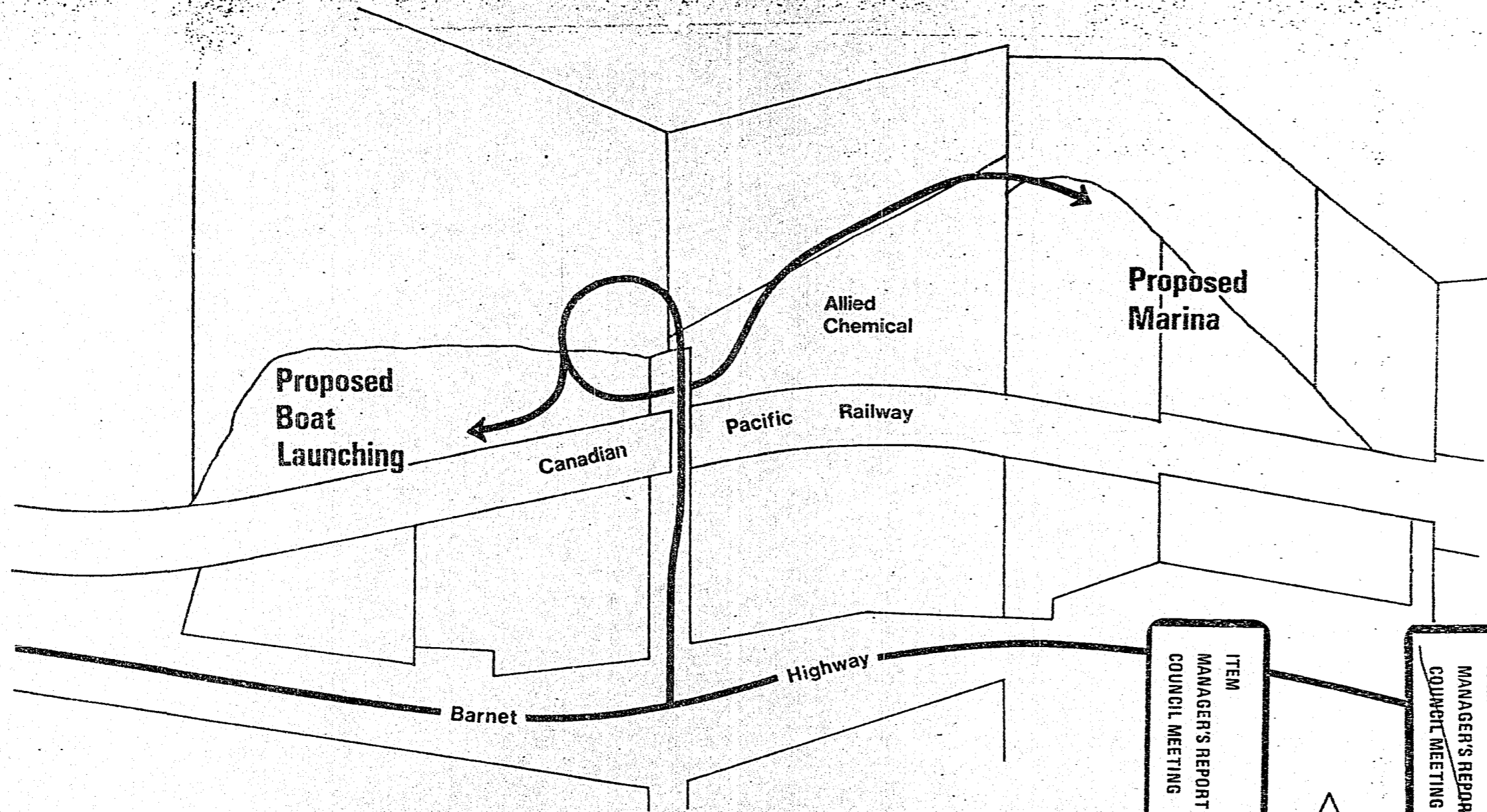
Once this aspect has been satisfactorily resolved, staff can proceed with the further design of the related facilities and with a formal application to the Canadian Transport Commission for the construction of the overpass.


A. L. Parr
DIRECTOR OF PLANNING


E. E. Olson
MUNICIPAL ENGINEER

PB/sam
Attachments

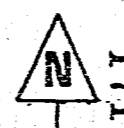
cc: Parks and Recreation Administrator



**CONCEPTUAL PLAN OF PROPOSED VEHICULAR OVERPASS
AND FORESHORE ACCESS ROAD**

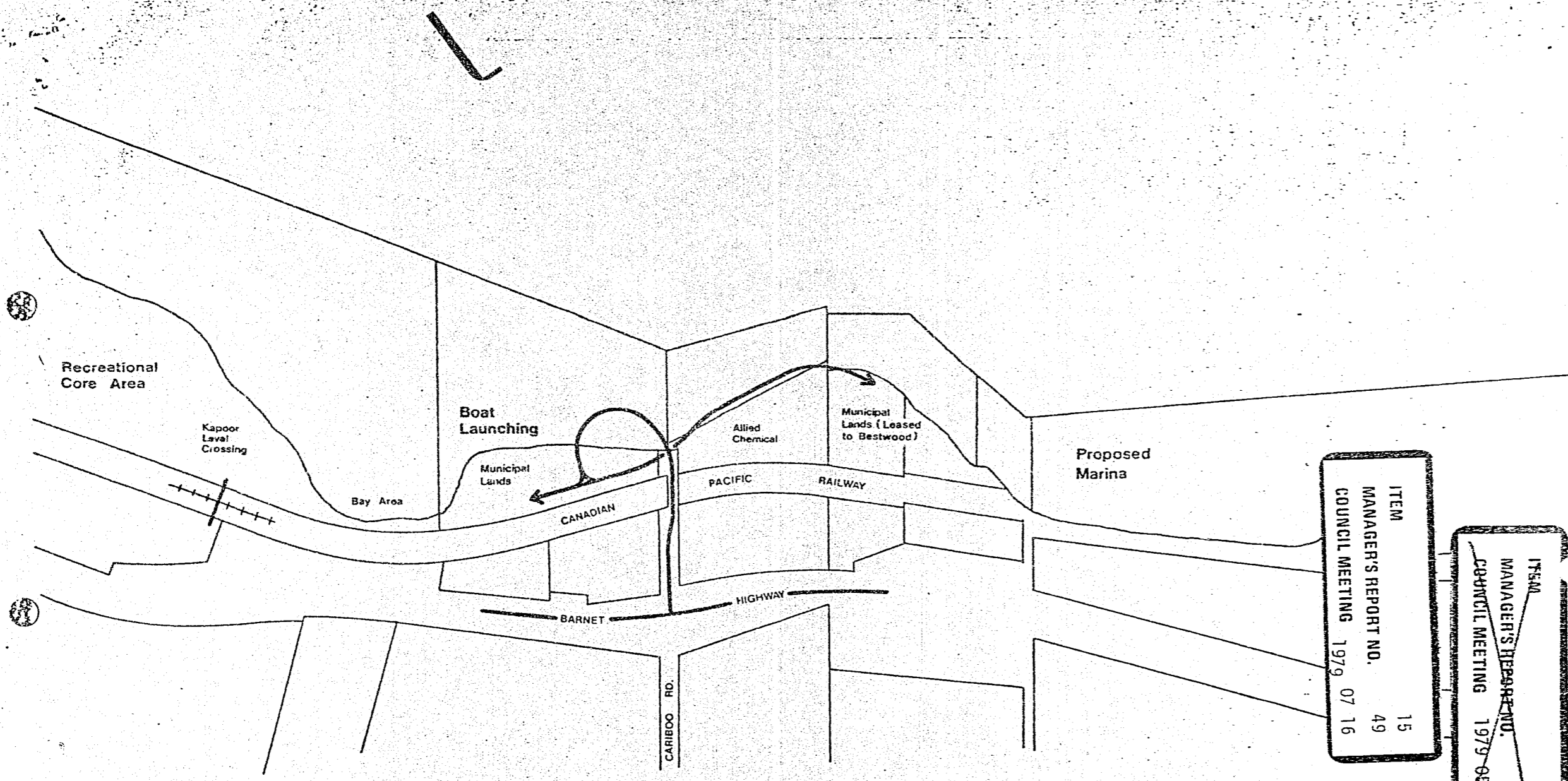
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Figure 3



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ACCESS PROPOSAL TO BOAT LAUNCHING AND MARINA FACILITIES

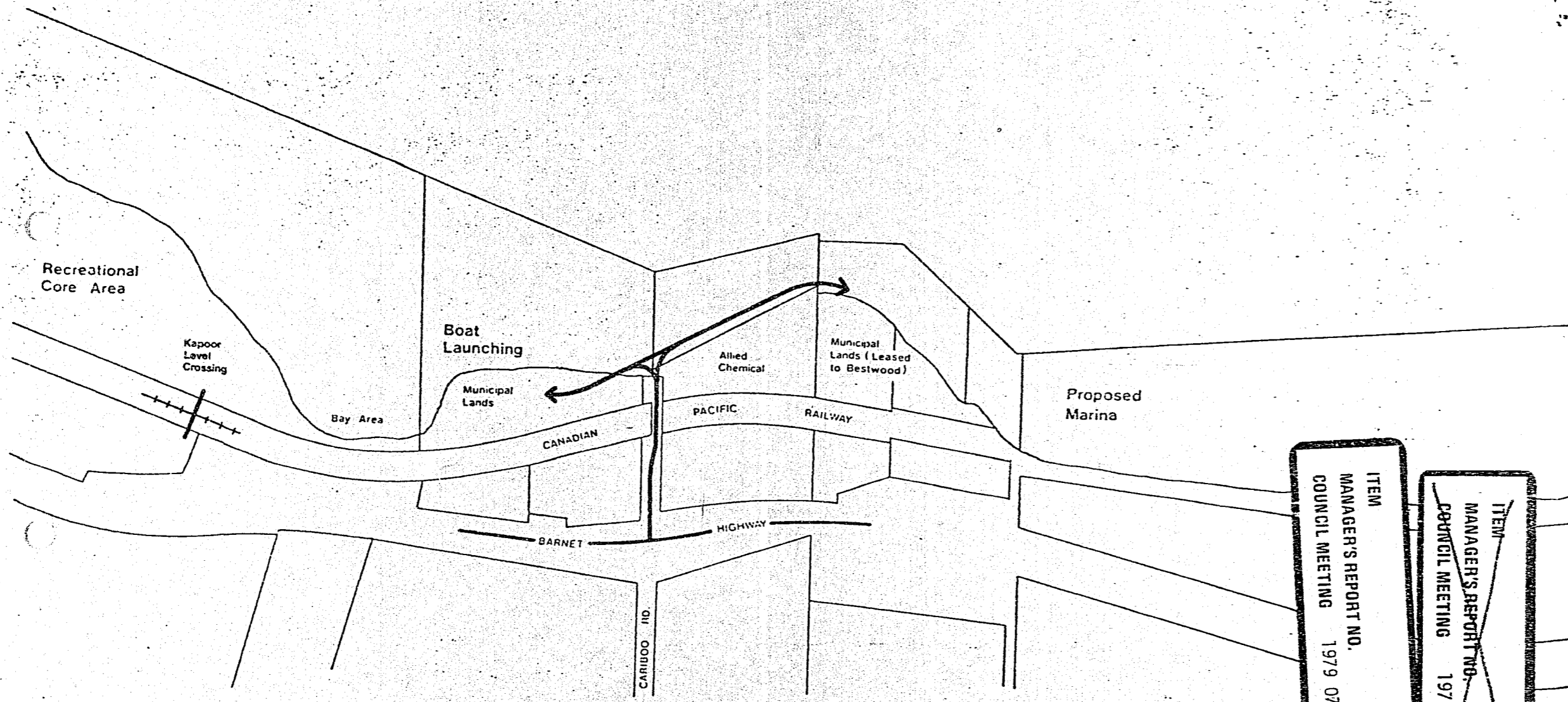
Alternative A

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Scale: 1" = 400'



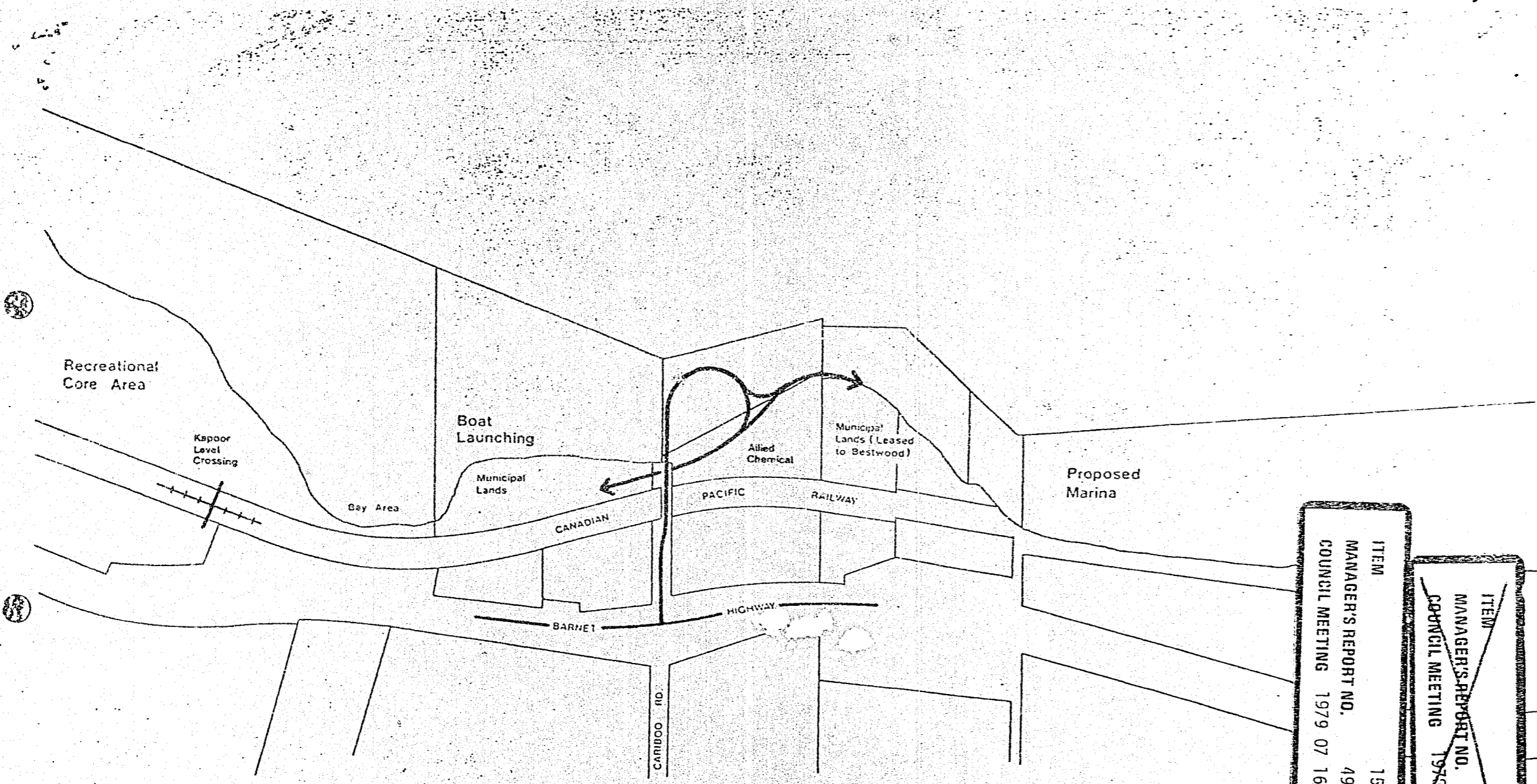
ACCESS PROPOSAL TO BOAT LAUNCHING AND MARINA FACILITIES

Alternative B

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Scale: 1" = 400'



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ACCESS PROPOSAL TO BOAT LAUNCHING AND MARINA FACILITIES

Alternative 'C'

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Scale: 1" = 400'