

TO: CITY MANAGER

DATE: 1999 FEBRUARY 04

FROM: DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

SUBJECT: **BARNET MARINE PARK - WEST FORESHORE DESIGN**

**PURPOSE:** To request Council to bring down a Capital Reserves Expenditure Bylaw to complete all detailed environmental studies and all detailed plans and specifications for the central and west foreshore area suitable for formal permit application to the Vancouver Port Corporation.

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**RECOMMENDATIONS:**

1. THAT a Capital Reserves Expenditure Bylaw in the amount of \$321,000 (including 7% GST) be brought down to complete all detailed environmental studies and all detailed plans and specifications for the central and west foreshore area suitable for formal permit application to the Vancouver Port Corporation.

**REPORT**

At its meeting of 1999 February 03, the Parks and Recreation Commission received the attached staff report on the above subject and adopted the four recommendations contained therein.

*H. Monroe / For K.F.*  
KATE FRIARS  
DIRECTOR PARKS, RECREATION  
AND CULTURAL SERVICES

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Attachment

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cc: Director Finance  
Director Engineering  
Director Planning & Building

ITEM	2
DIRECTOR'S REPORT NO	2
COMMISSION MEETING	99/02/03

**SUBJECT: BARNET MARINE PARK - WEST FORESHORE DESIGN**

**RECOMMENDATIONS:**

1. THAT the design concept for the central and west portions of Barnet Marine Park be approved in principle, subject to review after a public open house.
2. THAT Commission approve the holding of a public open house on March 10th at Lochdale Community Hall.
3. THAT Commission approve the expenditure of \$309,000 (net of GST rebate) from the 1999 Capital Budget to complete all detailed environmental studies and all detailed plans and specifications for the central and west foreshore area suitable for formal permit application to the Vancouver Port Corporation.
4. THAT Council be requested to bring down a Capital Reserves Expenditure Bylaw in the amount of \$321,000 (including 7% GST) to complete all detailed environmental studies and all detailed plans and specifications for the central and west foreshore area suitable for formal permit application to the Vancouver Port Corporation.

**REPORT**

**EXECUTIVE SUMMARY**

A review of the Barnet Marine Park Masterplan was initiated last year to establish a revised approach for the development of the seawall and the completion of the western portion of the park. The objective of the study was to explore alternative options for the seawall, find a route for pedestrian access from the western end of the existing Urban Trail, and develop revised park concepts that respond to the sensitive habitats and valuable natural features of Burrard Inlet. This review comes as a result of concerns by the Vancouver Port Corporation (VPC) and the Burrard Environmental Review Committee (BERC) regarding the original development plans and a desire to ensure that park development meets the City's current environmental policies and directions.

The review was a useful first step in developing a revised strategy for the completion of the park masterplan. Conceptual park plans have been developed that are more responsive to natural conditions and provide greater opportunities for appreciation of the waterfront. An alternative to the lock block seawall proposed in the 1970's park plans has been put forward that will reduce the environmental impacts on the intertidal area. An alternative overpass route has been identified that will permit completion of Urban Trail access to the park without placing more fill in the inlet. The VPC, who lease a portion of foreshore area to the City and BERC, who review all proposals for work in Burrard Inlet and the foreshore under Burrard Inlet Environmental Action Program (BIEAP) have reviewed the initial concept plans and have provided a positive response on the new design direction.

All design work is currently at a conceptual level. The next step is to proceed with detailed plans and specifications for park development, including a grade separated crossing of the Canadian Pacific Railway (CPR) with connecting trail, for the formal approval of the VPC. Two public meetings are proposed as part of this process. With Commission's approval of the program and budget, work will proceed immediately, with an anticipated completion of plans and their submission to VPC in September. Extensive and thorough site planning and detailed designs are required by the regulatory agencies for their review and approval and for construction to proceed.

### **BACKGROUND**

In August 1997, Commission received a status report on Barnet Marine Park highlighting the need to reconsider continued placement of fill in the west foreshore area as approved in the 1973 Park Master Plan, in light of changing environmental values and concerns from the Department of Fisheries and Oceans (DFO) regarding the protection of productive fisheries habitat as well as to ensure that the development refer to the City's current environmental policies and directions. The report also suggested reconsidering the original intention of providing a multi-use pedestrian and bicycle route between the adjacent neighbourhood and the park's west foreshore. To this end, the City commissioned two studies in 1998; Shoreline Stabilization and Design for the West portion of Barnet Marine Park, and Site Feasibility Study for Overpass of CPR. The Shoreline Stabilization and Design Study assesses alternative park concepts including design solutions for the repair and enhancement of the existing shoreline edge from the old sawdust burner to the west end of the foreshore area leased from VPC. The Site Feasibility Study for Overpass of CPR evaluates multi-use access and trail connections between the foreshore area and the Urban Trail which currently terminates at Bayview Street.

### **SHORELINE STABILIZATION AND DESIGN**

The design review included an initial site analysis and biophysical survey of upper and mid intertidal zones. Overall, the marine habitat of Barnet Marine Park west is healthy and productive, including stable portions of the existing concrete rubble edge which support seaweed and kelp beds and their associated fish and marine communities.

Because of the high existing environmental values, any placement of fill in the intertidal area will be damaging to the marine ecosystem. DFO have indicated that they will only consider allowing filling if suitable compensation is provided in an amount equal to or exceeding the amount of lost habitat. DFO have further indicated their preference for a foreshore design which does not go outside of the natural limits of the existing edge, thereby ensuring the protection of valuable natural resources. Further filling of the intertidal area is not recommended. These conclusions signify a shift in direction away from the original master plan and its expansion of the park through additional foreshore filling, to a plan which respects the park's significant environmental values and attempts to protect and enhance them. These environmental priorities also signify a shift in direction away from the seawall design of the late 1980's to a more natural shoreline edge.

The Preliminary Design Concept (Attachment #1) proposes a variety of possible recreational opportunities along the foreshore west from the old sawdust burner, as well as specific shoreline treatments intended to provide improved access and safety, while retaining or enhancing existing environmental attributes and opportunities. Design principles used to guide this process include the following:

- protect environmental values - avoid interfering with existing habitat
- improve pedestrian access to water and linkages throughout park
- develop site specific water and foreshore activities
- feature interpretation of natural features and site history
- rehabilitate streams and marshes and enhance intertidal habitat wherever possible

Recommended activities and shoreline treatments could include the following:

- a central activity area next to the old Texaco building featuring a formal seawall, pier, small boat launch, beach and children's play area
- a continuous multi-use pedestrian and bicycle trail connecting the existing overpass at the central activity area to the west upland trail head and intersection directly east of Kask
- a combination of shoreline edge treatments, including;
  - \* specially designed and engineered riprap edge in combination with habitat improvements, riparian plantings and intertidal enhancements
  - \* possible lock bloc wall at central activity area, in combination with stair access, boat ramp and perched beach (beaches constructed within existing fill areas).
  - \* improved beach and water connections by stair access, piers & lookouts
  - \* protection of existing natural beaches
  - \* perched and pocket beaches to increase beach area without disturbing the natural shoreline
- habitat enhancement opportunities, including;
  - \* placement of concrete slabs and boulders to promote rockweed growth in the high intertidal
  - \* placement of submerged concrete slabs to promote seaweed and kelp communities and their associated fish and invertebrate communities in the shallow subtidal area
  - \* rehabilitated creek mouths, c/w wooden bridge crossings

### **SITE FEASIBILITY STUDY FOR OVERPASS OF CANADIAN PACIFIC RAILWAY**

The original park masterplan provided pedestrian and bicycle access to the park's western extremity, requiring the installation of fill along the inlet to the end of the lease area, coupled with a grade separated pedestrian crossing of the CPR line. In light of DFO's revised assessments of the sensitivity of the site, alternative options for accessing the park without impacting the waterfront have been evaluated. Two new alternative alignments were evaluated against the original route.

Of three possible overpass alignments reviewed, Option A2 is preferred because of the larger foreshore area presently available for the siting of ramps and bridge foundation, eliminating the need for any further filling (Attachment #2). Option A2 also offers maximum flexibility in the configuration and layout of the north access ramp, and the lowest affiliated cost. An issue to be resolved regarding this option is that it is sited on property which is currently owned by the Ministry of Transport and Highways, requiring either the negotiation of an easement or a property transfer to the City. Option A3, the original foreshore route and most westerly option, was deemed unacceptable due to its requirement of further filling of the foreshore area and the associated environmental impacts as well as elevated costs.

The new proposed alignment for a pedestrian and bicycle overpass provides connections from the multi-use foreshore trail to park and upland trails south and west of there. The trail follows south from the overpass to the signalized intersection on Barnet Road, where it splits into separate bicycle and pedestrian routes, due to steep and difficult terrain on the upland route. From the intersection, bicycles follow existing cycling routes along the highway, linking to the existing Urban Trail at Bayview Drive. Pedestrians continue west from the intersection via a woodland route before linking up with the Urban Trail at Bayview Drive.

As part of the Urban Trail route, the connecting trail from Bayview Drive and the multi-use overpass will be designed and constructed under the direction of the Urban Trail Committee. As with other aspects of the foreshore area, the design of the overpass and upland trail will be subject to environmental review and approval.

### **REGULATORY APPROVAL PROCESS**

Project approvals in Burrard Inlet fall within the jurisdiction of the Burrard Inlet Environmental Action Program (BIEAP) and its committee, Burrard Environmental Review Committee (BERC). BIEAP's mandate is to protect and improve the environmental quality of Burrard Inlet, and to this end all proposals for the area must be formally submitted to BERC for their review and approval. The five organizations comprising BERC are Department of Environment (DOE), Department of Fisheries and Oceans (DFO), Ministry of Environment, Lands and Parks (MOELP), Vancouver Port Corporation (VPC), and the Canadian Coast Guard (CCG).

In instances such as Barnet Marine Park, where a portion of the property is leased from VPC, the project must first be submitted to VPC for their review. Following their initial review and approval of the project, VPC take the role of lead agency and submit the project to BERC on behalf of the City.

The Preliminary Design Concept for the west foreshore design was recently presented at pre-application meetings with VPC and BERC. Both agencies responded positively and commented that the plan appeared to recognize and be responsive to Agency and environmental concerns. The next step by the City in preparation for formal application to BERC is to complete detailed environmental and site assessments, as well as engineering plans and landscape designs for all work associated with the development of the western portion of the park.

The following is a list of requirements for project application to BERC:

- preliminary site analysis and conceptual designs (complete)
- pre-application discussions with Lead Agency (complete)
- pre-application discussions with BERC (complete)
- renewal of VPC lease
- preliminary Site Archaeological review\*
- soils testing - Phase 1: Site Historical review\*
- soils testing - Phase 2: Eco-toxiological assessment\*\*
- detailed biophysical inventory and mapping of marine habitat and shoreline
- habitat balance sheet
- environmental assessment of the overpass and upland trail alignment (by others)
- conceptual design for pedestrian overpass of CP Rail (by others)
- conceptual design of foreshore pier structures
- detailed Geotechnical assessment of shoreline and fill stability
- detailed Engineering and Landscape designs for park development, including shoreline design, trails and recreational features

\* - required for VPC lease renewal

\*\* - to be added only if Phase 1 soil review identifies a need for further testing

VPC has indicated that a condition of their project review is for the City to establish a current lease or property agreement for the relevant VPC waterlots. VPC has indicated that it will shortly be forwarding new lease documentation for the renewal of two water lot leases to the City for review and subsequent approval and execution by Commission and Council.

### **PUBLIC CONSULTATION**

Preparations are currently underway for two public consultations for Barnet Marine Park; a presentation of the Preliminary Concept Plan and questionnaire on March 10th at Lochdale Community Hall, and a presentation of more detailed design when all studies are complete - likely September. These City initiatives will complement the VPC and BERC project review processes, which also provide an opportunity for public review and comment.

### **PROJECT SCHEDULE and NEXT STEPS**


The development of a revised masterplan for Barnet Marine Park will require extensive and thorough analysis and design phases, including comprehensive water and land assessments, environmental studies, detailed engineering plans and landscape design, and construction specifications. Until approval by BERC is granted, no construction can take place, and when it does, it must fall within DFO's allowable timing window for construction which is based on the period of least environmental impact to aquatic habitat/resources.

With approval in principle of this new design direction and approval of the expenditure of \$321,000, the next research and design phase will include;

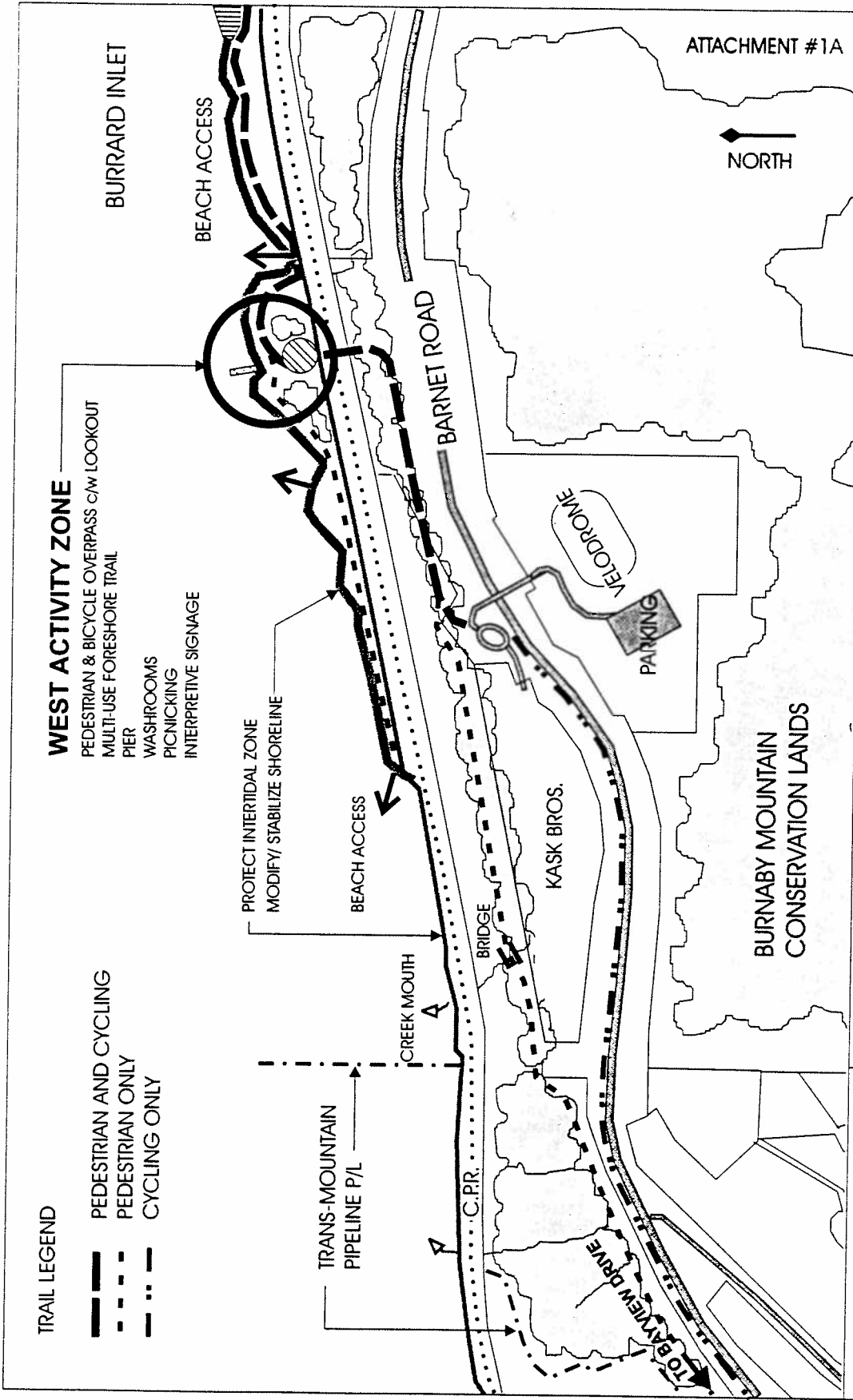
- Site Archaeological and Phase 1 Soil contamination reviews
- hiring of a Consultant team responsible for the preparation of detailed environmental assessments and complete detailed Engineering and Landscape plans and specifications for the central and west foreshore area suitable for submission to BERC for formal permit application
- preparation of materials for March and October Public Open Houses, and
- reporting back to Commission at significant stages of the process

Completion of all detailed site analysis, development plans and specifications for agency submission and review is expected by September. Upon formal application by the City of the proposal, BERC and VPC have indicated that their joint review process will typically take 90 days or longer. As future discussions take place with VPC and BERC, Commission will be informed of the progress and any possible construction phasing in 1999.

Sufficient Capital Reserves are available and the project is included under the 1999 Major Parks component of the 1999-2003 Provisional Capital Program. It is recommended that Council be requested to bring down a Capital Reserves Expenditure Bylaw in the amount of \$321,000 (inclusive of 7% GST) to finance these works.

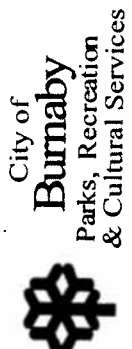
  
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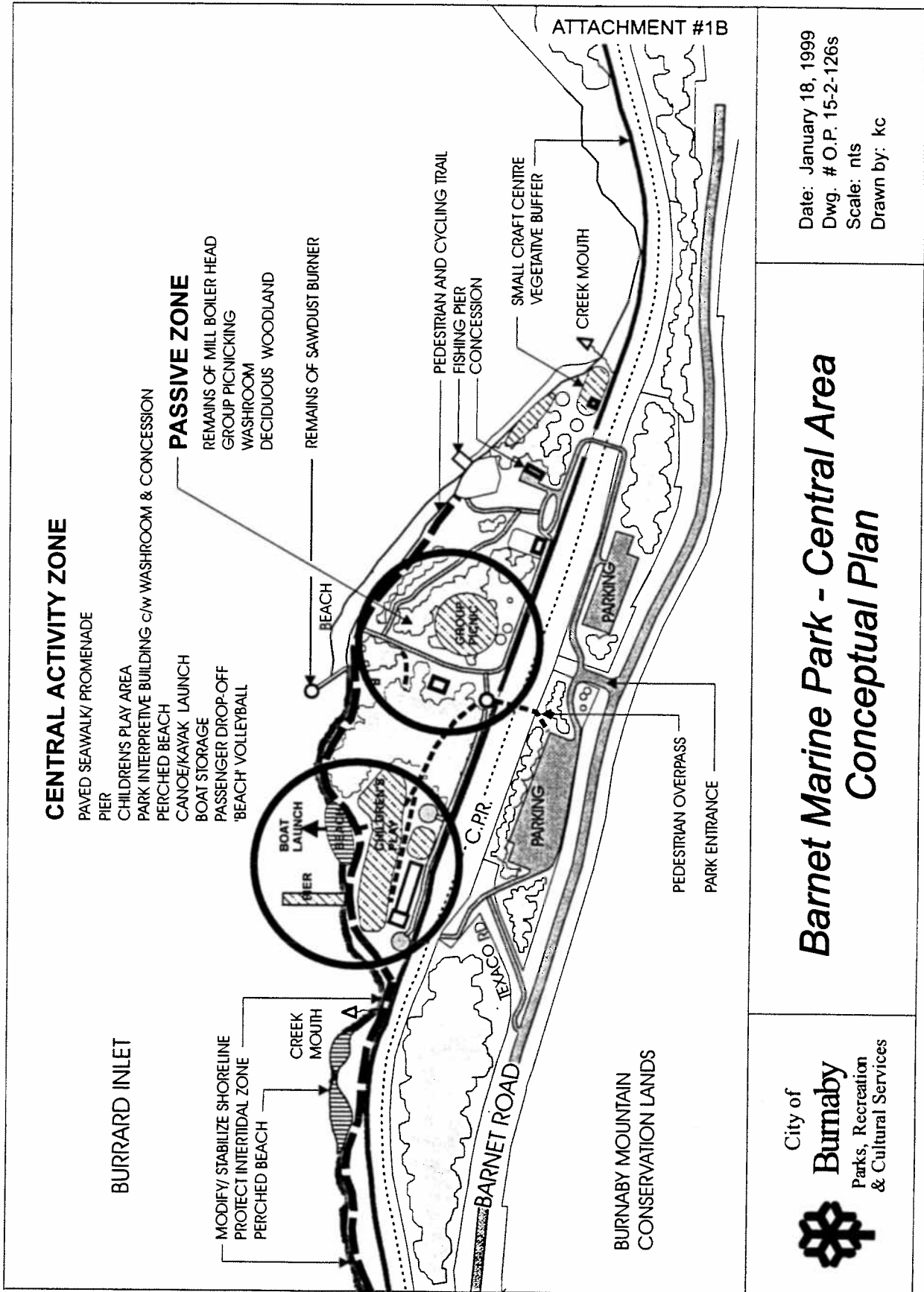
cc: Director Finance  
Director Engineering  
Director Planning



Dwg. # O.P. 15-2-127s  
 Date: January 26, 1999  
 Scale: nts  
 Drawn by: KC

# Barnet Marine Park - West Area Conceptual Plan



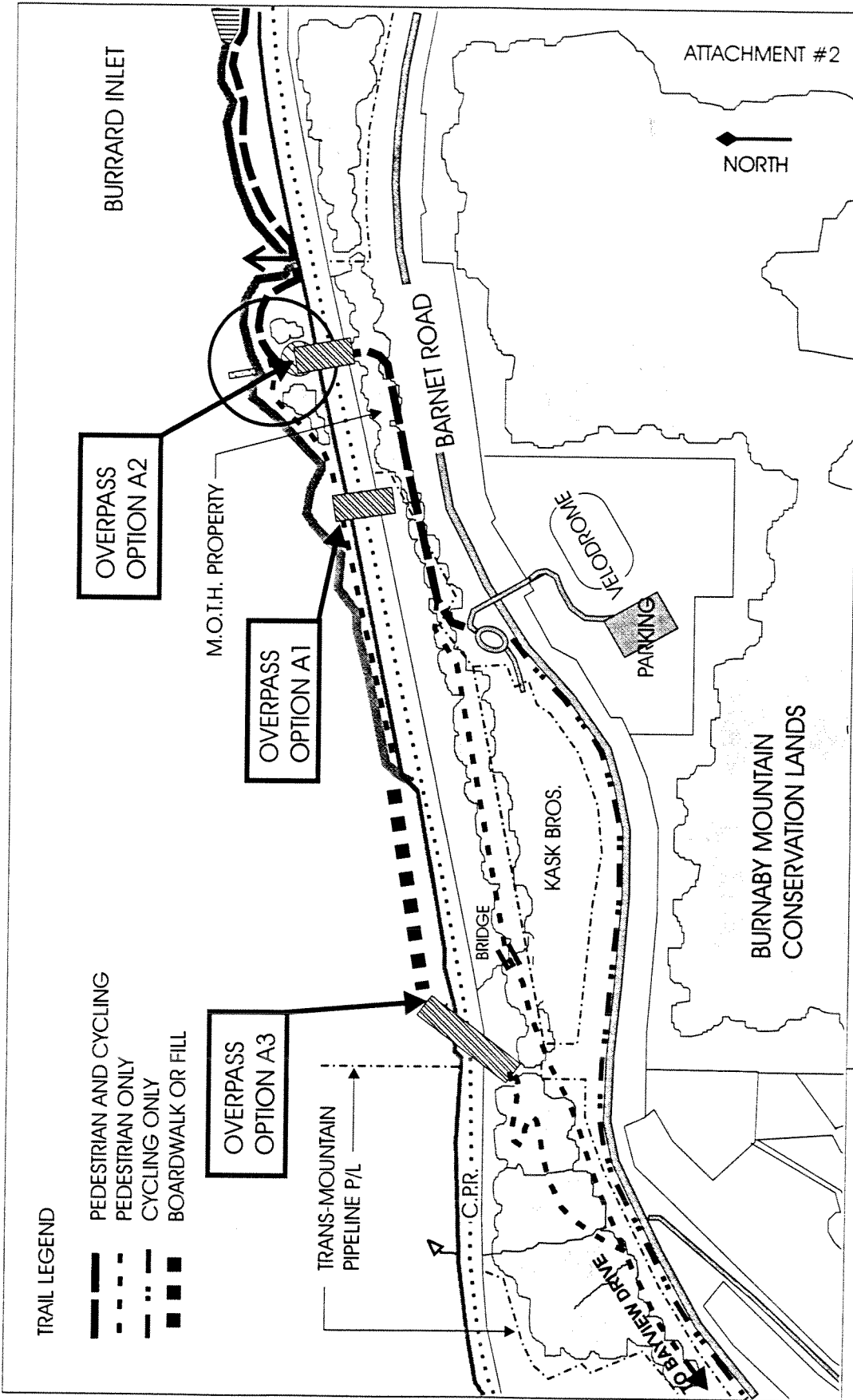


Date: January 18, 1999  
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# Barnet Marine Park - Central Area Conceptual Plan







Dwg. # O.P. 15-2-128s  
 Date: January 28, 1999  
 Scale: nts  
 Drawn by: KC

# Barnet Marine Park Site Options - Pedestrian Bridge

