EXECUTIVE SUMMARY

E.1 INTRODUCTION

The Metropolitan Toronto and Region Conservation Authority initiated the Phase IV - Master Plan for Tommy Thompson Park in February, 1987.

On July 4, 1989 the Authority filed the Tommy Thompson Park Master Plan and Environmental Assessment document for approval under the Environmental Assessment Act, with the Minister of the Environment. However, by the summer of 1991, it was evident that the government review could not be completed, and that an alternative review process would be recommended by the Ministry of the Environment. In a letter dated November 13, 1991, the Environmental Assessment Branch of the Ministry of the Environment, requested that the document be refiled for consideration through an expedited government review process after the outstanding issues were resolved.

Rather than preparing an entirely new submission, it was agreed that the Authority could refile the original Master Plan accompanied by an addendum outlining the public review process, the revised Master Plan, revised capital costs, and phasing.

E.1.1 A Description of the Undertaking

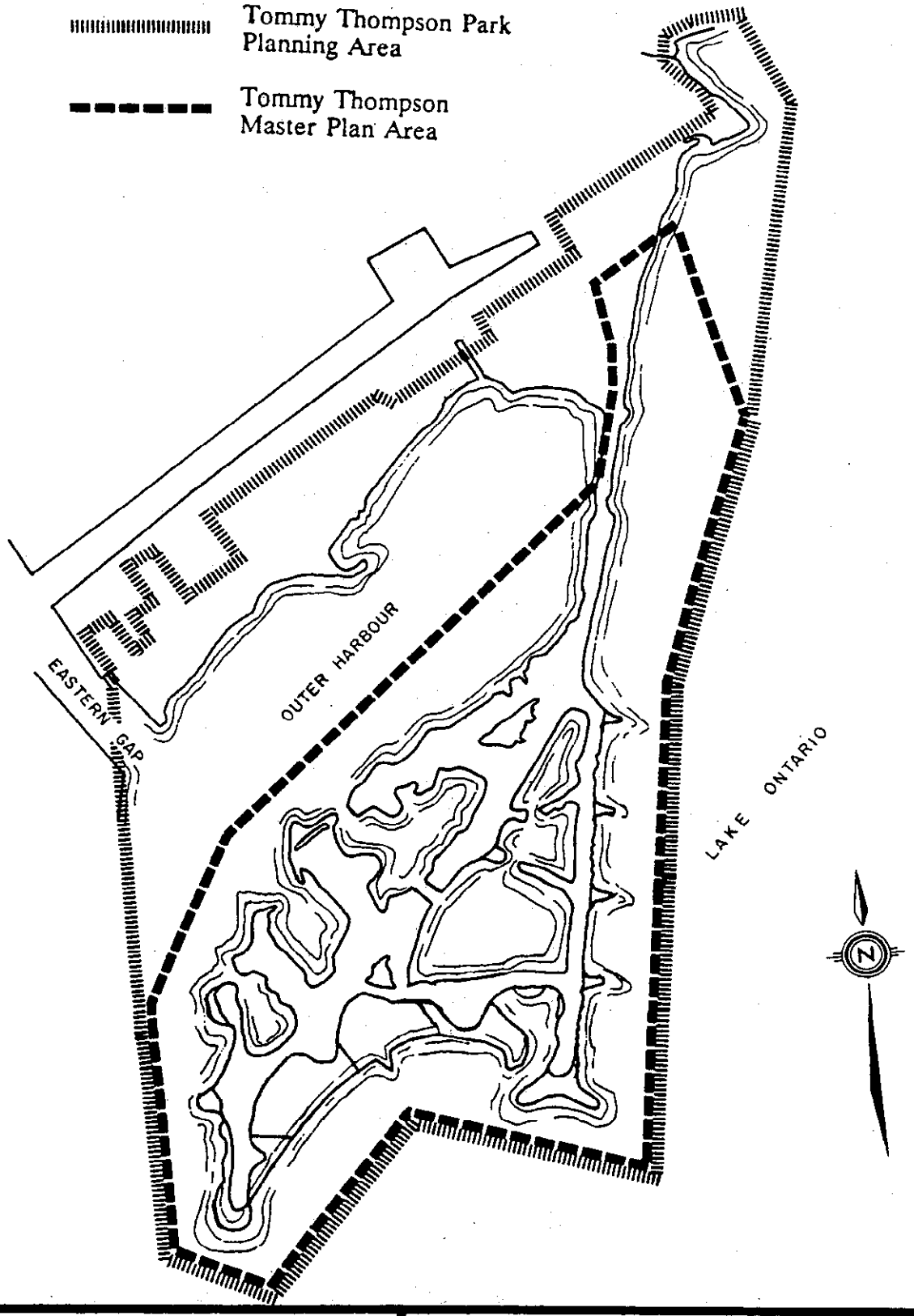
The revised Master Plan for Tommy Thompson Park endeavours to preserve significant species, protect environmentally significant areas, and enhance aquatic and terrestrial habitat through a natural succession or ecological approach, augmented by minimal intervention and management.

In addition, the opportunity to enhance the public's recreational use of the Outer Harbour area is recognized through the provision of components such as an Interpretive Centre, separated bicycle and pedestrian pathways, a park transportation unit, future extension of transit service to the site, and an environmental education/shelter/washroom facility.

E.1.2 Description of the Study Area

The Tommy Thompson Planning Area, (Figure E.1) includes the master plan area and the adjacent land/water area for which future developments will have a bearing on the Tommy Thompson Park Master Plan and ultimate use of the site. This area includes the north shore of the Outer Harbour and the Metropolitan Pollution Control Plant/Coatsworth Cut/Ashbridges Bay.

The Metropolitan Toronto and Region Conservation Authority currently owns 247 ha of the land and water included in Tommy Thompson Park. Those areas still under construction are owned by the Ministry of Natural Resources and are leased to the Toronto Harbour Commissioners.



the metropolitan toronto and region conservation authority

Figure E.1 Tommy Thompson Park Study Areas

The Ministry of Natural Resources indicated the intent to transfer a further 224 ha of land/water to the MTRCA. The MTRCA is also currently responsible for the Interim Management Program which includes both biological and human interest activities.

E.1.3 Purpose and Rationale for the Undertaking

By the early 1970's, it was determined that the Outer Harbour Headland, under construction since 1959, was not required for "port related facilities". In August 1973, the Provincial Cabinet gave the Authority "the responsibility of being the Province's agent with regard to the proposed Aquatic Park (now Tommy Thompson Park) and the preparation of a master plan". In 1977, the Authority's mandate was expanded to include not only the preparation of a master plan, but also development and interim management.

The purpose of the undertaking is to ensure, as stated in the Lake Ontario Waterfront Development Program:

i) the protection and enhancement of environmentally significant areas, heritage resources, and wildlife and fisheries habitat;

ii) the provision of regional access and facilities for water-oriented recreation;

iii) the linking of specific areas both along the shoreline and with valleyland open space corridors; and

iv) consultation with the relevant funding and approval agencies and with public interest groups.

(MTRCA, 1986).

E.2 STUDY PROCESS

In January 1983, The Metropolitan Toronto and Region Conservation Authority determined the need to initiate a new master planning exercise to replace the 1976 Master Plan. To assist in the process, the Authority established a Task Force with representatives from the City of Toronto Planning Department, the Metropolitan Toronto Parks and Property Department, the Metropolitan Toronto Works Department, the Metropolitan Toronto Planning Department, the Toronto Harbour Commissioners, the Ministry of Natural Resources, the Ministry of the Environment, and the Ministry of Tourism and Recreation.

In March 1984, the Authority and the Task Force adopted a study process for the preparation of the Tommy Thompson Park Master Plan. This process was a five phased approach involving a review of background data (Phase I), an evaluation of development components and

identification of constraints (Phase II), examination of concept alternatives resulting in the selection of a preferred concept plan (Phase III), preparation of the Master Plan (Phase IV), and provision for approval of the plan according to the requirements of the Environmental Assessment Act (Phase V). Proceeding concurrently with the planning process was an opportunity for the public to provide their input during each phase regarding the future of the park through public meetings, open houses, workshops, questionnaires, written submissions and deputations before the Water and Related Land Management Advisory Board and Full Authority.

The subsequent preparation of the Revised Master Plan has involved the further review of all background and technical information, and a re-evaluation of the key issues associated with the Tommy Thompson Park Master Plan/Environmental Assessment submitted July 1989.

E.2.1 Public Participation Overview

To receive public input for the revised Tommy Thompson Park Master Plan, the Authority used a number of public meetings to ensure a broad range of input from various interest groups, government agencies and the general public. These included:

- A public meeting of the Water and Related Land Management Advisory Board held May 27, 1992 in the Hart House Theatre at the University of Toronto.
- A Water and Related Land Management Advisory Board meeting held on June 19, 1992.
- An Authority Meeting #6/92 held on July 24, 1992.

All public comments received by the Authority regarding the Tommy Thompson Park Revised Master Plan have been included in Appendix A of the Master Plan/Environmental Assessment Addendum . As a result, this Master Plan/Environmental Assessment Addendum is a product of the collaboration of all these interests.

E.3 BACKGROUND INFORMATION

E.3.1 Waterfront Planning

Since 1957, the Metropolitan Toronto and Region Conservation Authority has been responsible for developing and implementing a program for renewable resource management. A comprehensive statement of this program was adopted by the Authority in its 1980 Watershed Plan, and was updated in 1986.

In 1990, "Watershed", the interim report of the Royal Commission on the Future of the Toronto Waterfront and "Space for All", a report to the Province identifying options for a Greenlands

Strategy for the Greater Toronto Area, made recommendations to conserve and enhance the natural resources of the Greater Toronto Area.

The Greenspace Strategy, Watershed and Space for All are consistent in their proposals for a ecosystem approach to planning the future of the Greater Toronto Area; recognition of the Oak Ridges Moraine and the Niagara Escarpment, river Valleys and the Lake Ontario Waterfront as the principal physical resources of the GTA; recommendations for ensuring an interconnected physical resource system, with access and use for inter-regional trails; and the need for co-operative partnerships to implement long-term greenspace conservation.

E.3.2 Tommy Thompson Park

On January 23, 1987, the Authority approved the Tommy Thompson Park Concept Plan "C", with resolutions that included: the establishment of an Advisory Committee made up of representatives from various municipal, provincial and federal agencies and interest groups.

Staff, in accordance with the Authority's direction, established the Natural Area Advisory Committee in April, 1987, with membership including the Friends of the Spit, Federation of Ontario Naturalists, Field Botanists of Ontario, Toronto Field Naturalists, Botany Conservation Group (University of Toronto), Toronto Ornithological Club, Canadian Wildlife Service, Ministry of Natural Resources, Metropolitan Toronto Parks and Property Department, Aquatic Park Sailing Club/Outer Harbour Sailing Federation, and Chairman - J.C. Mather (M.T.R.C.A.). Invitations were also sent to the Ontario Field Ornithologists and the Nature Conservancy of Canada.

The Tommy Thompson Park Concept Plan was forwarded to Metro Parks, Metro Works, Metro Planning and the Ministry of Natural Resources for staff comment and meetings were held with the City of Toronto on the Central Waterfront Land Use Policies.

The following represents a listing of the remaining key issues with the Tommy Thompson Park Master Plan/Environmental Assessment submitted July 1989:

- Private vehicle access to the endikement and public parking for 100 vehicles.
- Additional lakefilling to create a land base for Outer Harbour Sailing Federation Clubs.
- Relocating community sailing clubs from the Northshore of the Outer Harbour to Tommy Thompson Park versus other preferred locations in Outer Harbour (eg. Northshore or Toronto Harbour Commissioners Marina Arm.
- The location of the Interpretive Centre at the endikement.
- The scale of land based facilities for and vehicle access to Aquatic Park Sailing Club.

- Level of public expenditures with capital costs estimated at $4,850,000 (1987 dollars).

Staff, in preparing the 1992 Revised Master Plan, held discussions with the Ministry of the Environment - Environmental Assessment Branch, the Metropolitan Toronto Planning Department, the Metropolitan Toronto Parks and Property Department, the Metropolitan Toronto Works Department, the Toronto Harbour Commissioners, the City of Toronto Planning Department, the City of Toronto Parks and Recreation Department, the City of Toronto Environmental Protection Office and the Royal Commission on the Future of the Toronto Waterfront.

The Ministry of the Environment indicated that rather than preparing an entirely new submission, the Authority could refile the 1989 Master Plan document, accompanied by an addendum outlining the public process, modified master plan, revised capital costs, and phasing. The Ministry indicated that there were very few problems identified through the government review process, with the original submission and that the review of a revised submission would be expedited.

E. 4 EXISTING CONDITIONS

E.4.1 Physical

Since the late 1950's, the Toronto Harbour Commissioners (THC) have been responsible for the design and construction of the landmass at the foot of Leslie Street. Through the process of dumping earth, brick, and large rubble into Lake Ontario, the THC have refined the technique of deep water harbour mole creation. The THC followed a three phased design in the creation of Tommy Thompson Park; the Eastern Headland was formed first, the peninsulas on the north side of the spine were developed in 1973-74, while the Endikement was initiated in 1979.

The three cells contained within the endikement area have been designed as a Confined Disposal Facility (CDF) for the disposal of dredged material. Cell #1 covers 8.2 ha of water area. In 1987, it was filled to 1.5 m below Chart Datum with a total of 365,441 m^3 (scow measure) of dredgeate.

The disposal operations in Cell #2 commenced in 1987. This cell covers 9.3 ha of water area. As of September 1992, a total of 723,017 m^3 (scow measure) of material was deposited within this cell. This cell has an estimated capacity of 530,000 m^3 when filled to 1.5 m below Chart Datum.

Cell #3 is the largest of the three cells, covering 32.1 ha of water area. Its estimated capacity is 2.2 million cubic meters for disposal operations.

E.4.2 Biophysical

E.4.2.1 Ornithological Summary

The use of the site by a wide range of avifauna has been well documented through various studies by the MTRCA, the Canadian Wildlife Service, local naturalists and interest groups. In this respect the site has become well known as a significant nesting and staging area and is an important component of one of the major migrational corridors through the metro region.

At the present time there are 5 species of colonial waterbirds that nest at Tommy Thompson Park in significant numbers. These include; ring-billed gull, herring gull, common tern, black-crowned night heron and double-crested cormorant . In total, 290 bird species have been observed at the park, of which, 40 have been known to breed at the site.

E.4.2.2 Wildlife Features

The environmental significance of the wildlife features of the site have been determined by applying the environmentally significant areas (E.S.A.) selection criteria, and monitoring the wildlife species and habitat features that are present. The wildlife significance of the site includes the presence of migrant bird staging areas, significant nesting areas and nationally, provincially and regionally rare plant species.

E.4.2.3 Vegetative Summary

One of the most significant biophysical attributes of Tommy Thompson Park has been the colonization and succession of various plant communities. The significance has been due in part to the presence of rare and unusual species, and the successional processes themselves. Over time a number of studies and inventories have documented the community types and species composition of the site, however, continuing natural succession and other disturbances have caused changes in the status of some species. For example, the progressive succession of the cottonwood/willow community and direct competition from ring-billed gulls caused the caspian terns to abandon their former nesting area at the park.

E.4.2.4 Sediment Quality Assessment

The quality of sediment within Tommy Thompson Park has been determined through investigations conducted under the Keating Channel Environmental Monitoring Program. The investigations focused on the following monitoring methods: Ponar Sediment Samples, Sediment Traps and Dredgeate Quality Sampling.

The results of the ponar sediment samples indicate that sediments within the disposal cells are dissimilar to other areas within Tommy Thompson Park and that sediment quality investigations confirm the efficiency and integrity of the disposal cells and the overall containment of the dredgeate during disposal operations.

E.4.2.5 Fish Community

Fish community collections were conducted during the active disposal operation during summer and autumn conditions (Figure 4.6). Fish collections were used to determine the spatial difference in community structure and composition within Tommy Thompson Park associated with the dredgeate disposal operation.

Overall, the fish community and species assemblages associated with Tommy Thompson Park reflect a diverse and well structured community. The community of fish within Tommy Thompson Park does not display any acute impacts from the dredgeate disposal operation, and continues to provide a stable environment that produces a quality fish community. However, the site lacks the physical structure that alone would attract and establish a stable fish community.

E.4.2.6 Benthic Invertebrate Community Assessment

Assessment of the benthic invertebrate community within Tommy Thompson Park has been conducted under the Keating Channel Monitoring Program. Benthic invertebrate samples were collected and identified to determine the spatial difference in community structure and composition within Tommy Thompson Park associated with the dredgeate disposal operation.

In summary, the abundance and diversity of benthic invertebrates in samples from Cell 2 stations (the active disposal cell during the sampling period) were slightly depressed (but not significantly different) from the samples from Cell 1, three Cell 3 stations and two Embayment C stations. The abundance of organisms was significantly higher at the Embayment A and outer harbour stations than in Cell 2 samples although there was no significant difference in diversity. Cell 2 samples had the lowest mean number of species but was not significantly different from all other stations excluding the outer harbour station. The mean percentage contribution of tubificidae to total population numbers was highest in the Cell 2 samples although not significantly different than the other stations excluding Cell 1 (which was predominated by chironomidae overall). Overall, Cell 2 samples ranked lowest for the measured parameters but the differences were minor, suggesting that environmental disturbances may be slightly more influential in Cell 2 than at other locations but not to a significant extent.

E.4.2.7 Biomonitoring Study

Freshwater clams were placed within the Disposal Cells, Outer Harbour, and Embayment "C" (see Figure 4.6), to test for the bioaccumulation of contaminants associated with the dredgeate disposal operation. Spottail shiners have become a standard test medium for determining contaminant compounds within resident biota. The use of organisms to directly monitor toxic contaminant concentrations in water provides an indication of both short-term fluctuations in contaminated levels, and as concentrators of low contaminant levels.

The marked difference in detectable compounds in caged clams and spottail shiners from within the disposal cells in comparison to areas outside, indicate that the effects of the disposal operations are confined to within the disposal cells. The concentration of detectable compounds in caged clams deployed within the disposal cells are above the concentrations observed during the same time period at Colonel Sam Smith park. The compounds detected in spottail shiners within the disposal cells are elevated in comparison to detections from other areas of the waterfront.

E.4.2.8 Water Temperature

Continuous water temperature recorders were deployed within Disposal Cell 3 Embayment "C", and the Outer Harbour to determine the rate of water exchange between the three locations.

The water temperature information recorded in Tommy Thompson Park, identifies the thermal isolation of disposal Cell 3. This supports the results of the other the sediment quality study components which demonstrate gradients in sediment chemistry within the disposal cells compared to locations outside. The water temperature data supports the evidence that the dredgeate disposal operation is effectively contained.

E.4.3 Interim Management Program 1992

By letter dated November 29, 1972, the Honourable Frank Miller, then Minister of Natural Resources, advised the MTRCA that Cabinet had approved of designating the Authority as the agency responsible for planning, interim management and development of Tommy Thompson Park.

The 1992 Interim Management Program at Tommy Thompson Park maintained the basic components of the previous year's program, including:

- year round access of the park to the public;
- a nature interpretive program offered through the summer season;
- a transportation system for use by the public during the spring, summer and fall seasons;

- a wildlife management program (gull control and tern management); and
- a licence agreement with the Aquatic Park Sailing Club for sailing activities.

The 1993 Interim Management Program will be operated on a similar basis, however, falconry will not be used in the 1993 gull control program in order to evaluate the effectiveness of other control techniques on site and reduce operating costs of this program.

Costs associated with the 1993 Interim Management Program have been estimated at $144,000, representing a zero percent increase over the 1992 budget.

E.4.4 Metropolitan Toronto: Official Plan for the Urban Structure

From the Metropolitan Toronto perspective, the revised Plan reflects Metropolitan initiatives as outlined in the December 1991 document - "Metropolitan Waterfront Plan - Planning Directions for the Metropolitan Waterfront: An Overview" and the Draft Official Plan - "The Liveable Metropolis".

The Revised Master Plan also appears to exemplify the draft policy direction of Council as well as the key objective outlined in the Principal Elements of the Metropolitan Green Space System as follows:

> "To promote the planning and management of the Principal Elements of the Metropolitan Green Space System and adjacent lands in a manner that protects and enhances the natural features and processes of the system, while allowing for compatible recreational and leisure activities."

E.4.5 City of Toronto: Central Waterfront Plan

The revised Concept Plan could receive favourable comment from the City of Toronto since it has a higher degree of conformity with the policy directions in the Central Waterfront Plan currently before the Ontario Municipal Board. These policy directions will support proposals which: protect the character of the Environmental Resource Area; provide recreation opportunities; permit public access; provide bicycle and pedestrian paths; and, promote the regulation of private automobile traffic from entering the Outer Harbour Headland.

E.4.6 The Royal Commission on the Future of the Toronto Waterfront

In June of 1992 the MTRCA received a letter from the Royal Commission on the Future of the Toronto Waterfront which summarized its position on the future of the Leslie Street Spit/Tommy Thompson Park. This position was also summarized by the Royal Commission in their "1989 Interim Report" and final report "Regeneration".

The revised Tommy Thompson Park Master Plan incorporates significant changes that are consistent with the Commission's recommendations and should ensure that the Spit remains as urban wilderness and car-free environment. The Commission, now the Waterfront Regeneration Trust, commended the MTRCA on the revised plan and concurs with its proposals.

E.5 REVISED MASTER PLAN - MAY, 1992

E.5.1 Spirit of the Plan

The key premise for the natural area upon which the 1989 Master Plan and this modified Master Plan have been developed, is the adoption of the natural succession or ecological approach which relies on natural processes, augmented by minimal intervention and management of the park to achieve over time, the diversity of community types as outlined in the Master Plan.

E.5.2 Natural Resource Area

The concept plan (Phase III) designated sections of the park into several categories of environmental protection or management. The natural resource area is the largest and most dominant area of the park. The area has a range of community types which will be augmented and assisted by minimal human intervention.These community types are as follows:

- Palustrine Marsh
- Lacustrine Marsh
- Lake/Island Complex
- Dry Meadow
- Wet Meadow
- Shoreline Pond
- Beach/Dune
- Shingle Beach
- Cottonwood/Aspen/Willow

Minimum intervention will involve the establishment of soils for the two meadow communities and the cottonwood/aspen/willow community. As a result of the surface/site preparation, it is presumed that natural succession will be able to quickly occur (for example, in 20 years) and the site will become self-sustaining.

Protection of environmentally significant area amenities, including bird stopover and concentration points, will provide the public, educators, and scientists with excellent opportunities to view regionally rare plant and bird species.

E.5.4 Park Visitors Centre/Environmental Education Program

A focal point with public facilities in the park includes a park visitors centre located at the base of Tommy Thompson Park adjacent to the private vehicle access control point and public parking lot. This facility, in conjunction with the environmental education/shelter/washroom facility will be the focus for the public's use and environmental education regarding ecology and natural succession within the metropolitan area.

The specific location of the park visitor centre and environmental education/shelter/washroom facility will consider the relationship to the Metropolitan Waterfront Trail, public parking area, park trail system and key aspects of the park's ecosystem.

E.5.5 Sailing Uses

At present, the Aquatic Park Sailing Club (APSC) with 100 swing moorings is located at Tommy Thompson Park in Embayment C with temporary facilities on land at the eastern end of the Embayment. The Plan maintains this sailing club in Embayment C along with a land base area consistent with the environmental integrity of the site.

E.5.6 Access/Parking

Private vehicle access, to the Park will be prohibited. Private vehicles will be allowed to drive beyond the Park Entrance to a public parking area at the base of approximately 200 spaces in size. An access road beyond the private vehicle access control point will be maintained for restricted vehicle access for shoreline maintenance, park maintenance and emergency vehicles, school bus access, APSC emergency vehicles and shuttle van and potentially a park transportation service.

Provision of a park transportation service could be accommodated on the existing park service road subject to a review of user demand, cost effectiveness and the approval of the operating agency - Metropolitan Toronto.

E.5.7 Pathways

An extensive pathway system for pedestrians and cyclists has been designed. A two tiered pathway system has been planned for the pedestrian and park user. The combined length of the pathway system is in excess of 12 kilometres. To further enhance the pathway system and to reduce the intrusion of humans into environmentally sensitive areas, 26 lookouts have been proposed at various key places.

The bicycle route has been designed to provide the cycling public with a 7 kilometre long,

car-free, pedestrian-free pathway. The pathway will be of a low speed design and be constructed from asphalt. In order to blend in with the environment no lighting, shoulders, or curbs will line the path. No cycling paths are proposed through the natural resource areas.

E.5.8 Servicing

Municipal services, that is sanitary sewers, water mains, electrical, and telephone services will be extended to the Park Visitors Centre and to the environmental education/ shelter/washroom facility. The Aquatic Park Sailing Club will be responsible for the hook-up and site servicing from the proposed environmental education/shelter/washroom facility.

E.5.9 Design Guidelines

To achieve the Revised Master Plan; that is, natural resource and recreation activities, special attention will be given to design and park development detailing. Guidelines on creating certain site characteristics and integrating facilities for public use in Tommy Thompson Park have been developed for the following:

- Roadway, Bicycle Paths, and Pedestrian Trails
- Construction/Park Service Road/Metropolitan Waterfront Trail
- Parking Lots
- Natural Resource Zone
- Landform, Grading and Drainage

E.5.10 Environmental Enhancement, Impact, and Mitigative Measures

The main thrust of the Revised Master Plan is to provide for environmental benefits to the existing vegetative community (cottonwood/aspen/willow) through the achievement of new community types (eg. palustrine, marsh, lake/island, shoreline/pond, wet meadow).

Public use of the site is encouraged through the Revised Master Plan with the on-going monitoring and control to minimize the public's intrusion into significant nesting areas and maintain a user level consistent with the sites carrying capacity and future ecological diversity and health.

Implementation of the Revised Master Plan will not occur prior to the substantial completion of the final configuration by the Toronto Harbour Commissioners. The Authority will ensure that public safety is maintained with approvals from the Toronto Harbour Commissioners and the appropriate provincial ministries. The Authority will also be pursuing resolution of ownership of the remaining area currently under lease to the Toronto Harbour Commissioners from the Ministry of Natural Resources.

E.6 IMPLEMENTATION

E.6.1 Capital Costs

Cost estimates have been calculated in 1992 dollars. These estimates are broken down into six different components in order to provide greater detail and correlation to the proposed phasing. The total capital costs of implementing the Revised Master Plan over the period 1992 - 2006 is $3,335,000 (see Table 6.1), an average of approximately $225,000 per year.

E.6.2 Phasing

Implementation of the Master Plan will occur in three phases over 15 years. Each phase has been divided into five year periods. However, these projections are subject to change as a result of; delays in the approval process, the availability and scheduling of lakefilling at the site, the long term requirements for dredgeate disposal in Cell 3, and, funding availability for specific components of the plan.

The above potential delays are factors that are beyond the control of the MTRCA. However, every attempt will be made to avoid delays in the implementation of the Revised Master Plan.

E.6.3 Operations

The current Waterfront Agreement (1972) between the Authority and the Municipality of Metropolitan Toronto indicates that:

> "4. Upon the fulfilment of the preceding covenant by the Authority, or as may be mutually agreed, Metro will maintain the said lands for park, recreation and conservation purposes with the necessary administration and supervising accommodation in connection therewith and for no other purpose except with the approval in writing of the Authority".

The Authority's responsibilities relate to the preparation of master plans and the carrying out of development works for the waterfront within the Authority's area of jurisdiction within Metropolitan Toronto.

E.6.4 Funding

The basic funding for waterfront development is raised from a 50% grant from the Province of Ontario (Ministry of Natural Resources) and 50% representing the municipal share. The 50% municipal share for Tommy Thompson Park is funded entirely by the Municipality of Metropolitan Toronto.

The funds would be available for the components of the master plan such as: site services, site facilities (excluding Park Visitors Centre), pedestrian system, and natural area enhancement. Possible other funding sources for certain components of the Master Plan include other provincial and federal agencies, special interest groups and school boards.