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PARK MASTER PLAN

BIGELOW PARK
(Middlegrounds)

VETERANS MEMORIAL PARK

CITY OF BAY CITY
301 Washington Avenue
Bay City, Michigan 48708

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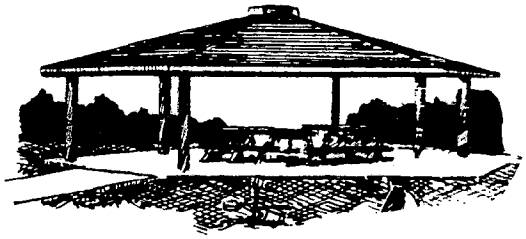

April 1985

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PURPOSE OF STUDY

This plan documents the planning process for a park master plan for Bigelow Park, also known as the Middlegrounds of Veterans Memorial Park. The site is an attractive one for the City and there has been interest in assisting its development. Accordingly, the City of Bay City is preparing this plan to identify an effective, long-range plan for utilization of the unusual island resource so that all individual efforts to develop the site implement a common concept.

LOCATION AND CONTEXT

Bigelow Park is located at the north end of the Middlegrounds, a large island in the Saginaw River. It is part of a larger regional park - Veterans Memorial Park - that extends along the west bank of the Saginaw River from Midland Street to the Middlegrounds. The park is the largest in Bay City and includes a comprehensive range of facilities from athletic fields and other active recreation to passive recreation such as picnic grounds, and arboretum and nature study area. The Middlegrounds is an especially attractive site because it is a key image point for river traffic and also provides exceptional access to the river for park visitors. The location is shown on the opposite map.

The site is relatively small and lacks large, level, open areas that are desirable for most active recreation such as athletic fields, court sports or other extensive park uses. Furthermore, its most unique quality is a high degree of accessibility to the river, which would not be related to most forms of active recreation. Finally, there are many nearby opportunities for active recreation facilities in Veterans Memorial Park less than half a mile to the north. Accordingly, the City envisions the site being most suitable and attractive for passive recreational uses such as picnic areas, playground equipment, boat tie-ups and shore or pier fishing.

Access to the site is via the Lafayette Bridge that connects Salzburg Avenue to the west of the river and Lafayette Avenue to the east. The north end of the Middlegrounds does have municipal water, but it does not have sanitary sewer wervice. Electricity can be made available to the site. Soils underlying the site are generally quite unstable and unsuitable for much development. However, the site has had a great deal of fill that includes stone, inert debris, sand, clay and topsoils. Thus the soil is not uniform and remains unsuitable as is for any intensive development. The river banks are subject to erosion by the Saginaw River from both spring runoff and other storm events and by wave action from winds.

The site itself is approximately nine acres. It includes a portion along the west channel of the river from the bridge to the north and the northern tip of the Middlegrounds. It shares the area north of the bridge with the Bay City Boys Club, which operates an indoor recreation center and two ballfields on City-owned property.

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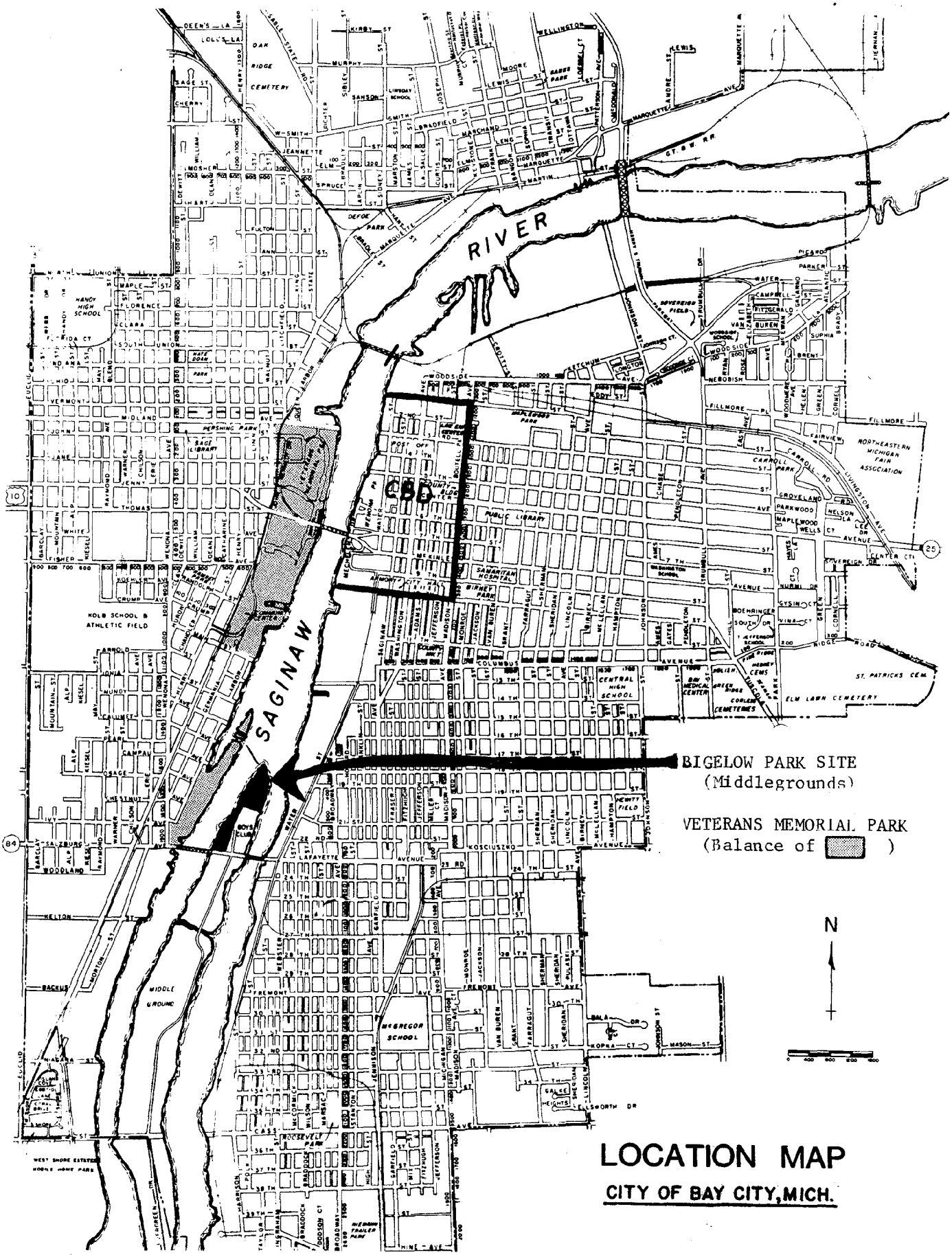


LOCATION MAP

CITY OF BAY CITY, MICH.

S I T E A N A L Y S I S

The principal conditions affecting the site for recreation development can be summarized as below:

- Bigelow Park and the rest of the Middlegrounds can be accessed by vehicles or by pedestrians only via the Lafayette Bridge. Public utilities on the island include municipal water and electricity. Sanitary sewer service is not available.

- Most development on the Middlegrounds will be oriented toward it's west shore, which is the west channel of the Saginaw River. This shore has approximately 2,100 lineal feet of river bank, while the main channel shoreline is only 1,000 lineal feet in length because of the Boy's Club. In addition, the west channel is narrower, somewhat sheltered, and has less wave action or other disturbances.

- The site includes the tip of the island with about 6 acres of area and the southwest corner at the Lafayeete Bridge with about 2 1/4 acres and a linear segment between the two. The southwest corner is low and subject to flooding. The rest of the island is 3 - 4 feet above normal water level and is without significant topographic relief. Most of the northern tip of the island is out of the 100 year flood plain.

- Water quality in the Saginaw River was rated "medium" in 1977 according to the Michigan Department of Natural Resources, although some "poor" readings have been obtained. The water quality is not suitable for body-contact water recreation. There is a Fish Consumption Ban for fish caught in the Saginaw River because of PBB and TCDD levels, but recent testing has the DNR reviewing the ban because of improvements in water quality. Game fish in the Saginaw River near the site includes perch, northern pike, walleyes, and some largemouth bass. Water depths in the west channel area as deep as 8' while the main, navigable channel is maintained at 26'.

- The river banks are subject to scouring and erosion from the river's northerly flow, from wave action and from the wakes of watercraft.

- There is no significant natural flora on-site. It has no wetlands, no significant trees and consists almost entirely of maintained grass. The only site fauna observed were a number of ducks and geese, some of which were apparently domesticated and some wild. It appears that this water-fowl actually lives on the opposite bank of the west channel.

- Views from the site are variable. Toward the west the predominant uses across the channel are City parkland, some residential some small industry. To the north along the River, there is additional City parkland, the Veterans Memorial Bridge, downtown Bay City - including historic City Hall, some industrial uses and some riverfront docks. Views to the east of the site include predominantly industrial uses. The general views of the river afford excellent viewing of commercial shipping and of pleasure craft on the river.

Site conditions are graphically portrayed on the opposite map of the island.

DEVELOPMENT POLICIES

Development goals were formulated by an ad hoc committee that identified the major issues and then formulated development goals and priority ranking for improvements. The committee consisted of City personnel, representatives of the Boys Club, and representatives of the Lions Club, which has indicated interest in assisting with development of the site. The major issues identified by the committee were:

- Ensure that the site is developed for passive recreation uses with a special emphasis on high quality because of the unique character of the site.

- Special concern was noted for shore protection through design or management recommendations.

- Accomodation must be made to permit connection of a foot bridge to three islands northwest of the site and thence to main Veterans Memorial Park.

- Because of the unique character and river access of the site, plans should focus on its water proximity and passive uses.

In consideration of these issues, a list of priority improvements was prepared by the ad hoc committee. The improvements desired for Bigelow Park and their relative priority are as follows:

HIGHEST PRIORITY:

Fishing Pier
Parking Lot, Preferably Paved
Boat Tie-up

Picnic Area(s)
Shelter/Pavillion, Preferably Semi-Enclosed
Toilet Facilities

Electricity, Including Security Lighting

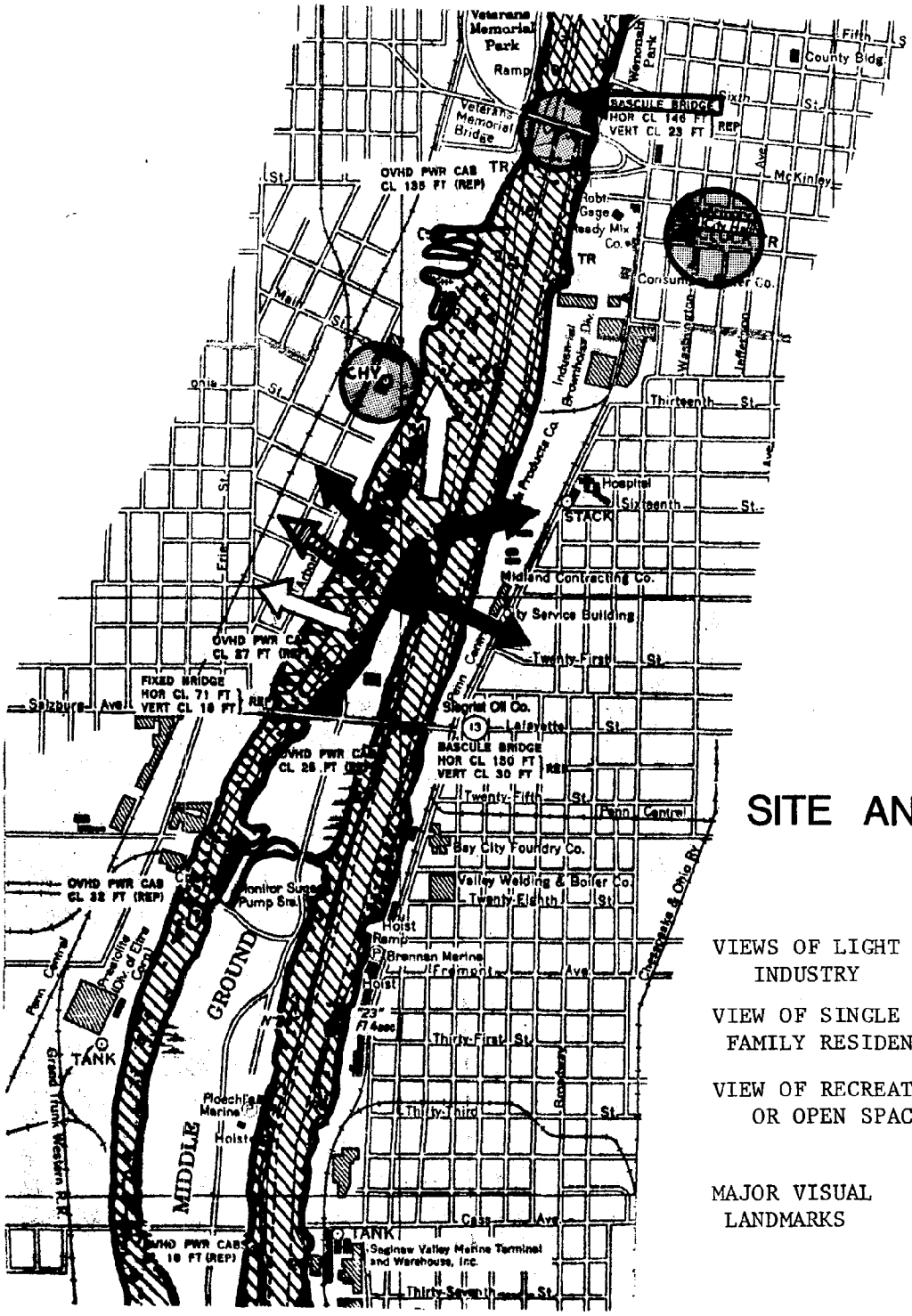
IMPORTANT:

Observation Deck
Vegetative Visual Feature
Playground for Children

Grading to be Level with Berms
Plant Materials Might Include Coniferous
On-Site Wastewater Treatment

DESIREABLE:

Architectural Feature
Pick-up Field Sports



SITE ANALYSIS

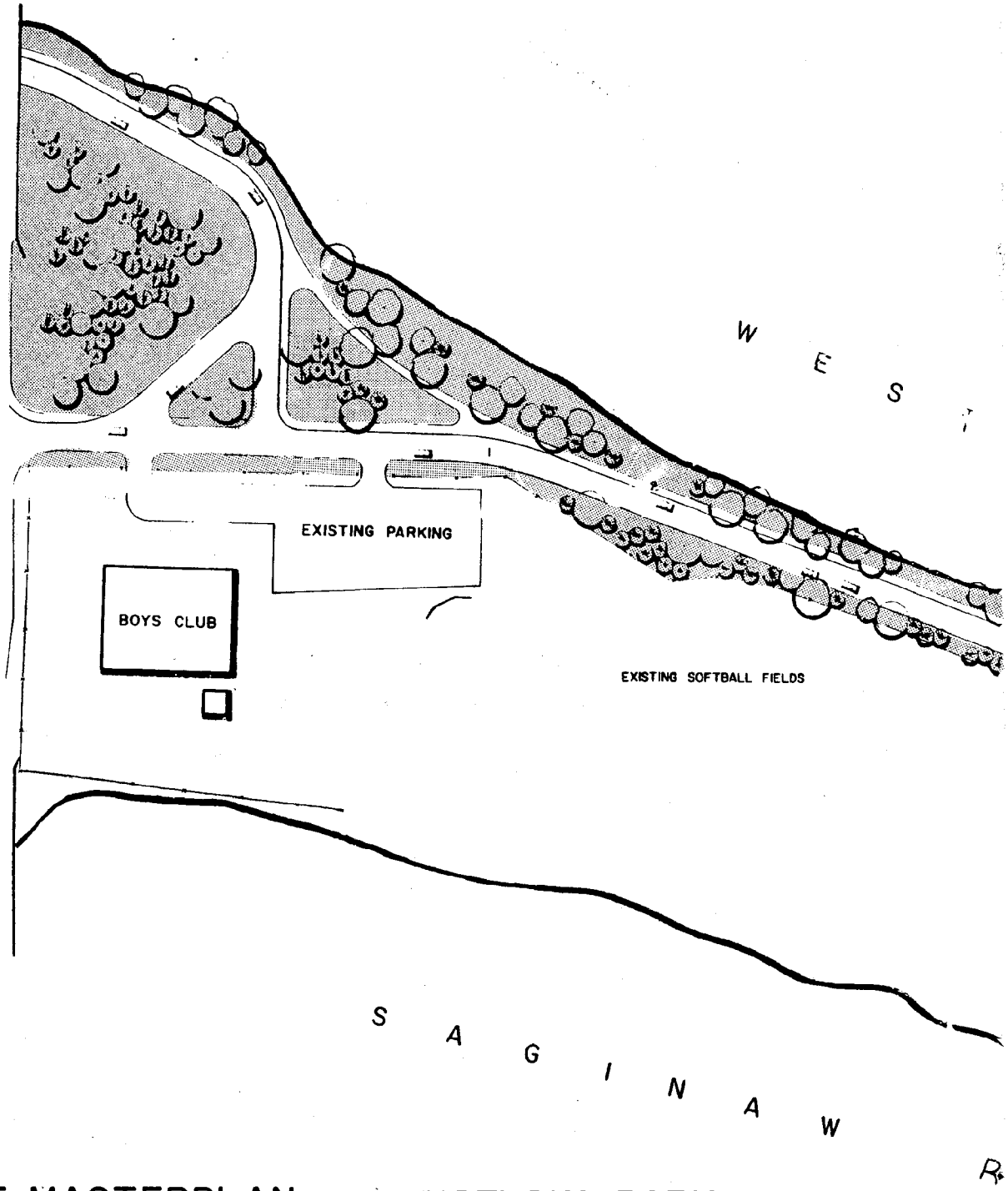
VIEWS OF LIGHT INDUSTRY

VIEW OF SINGLE FAMILY RESIDENTIAL

VIEW OF RECREATION OR OPEN SPACE

MAJOR VISUAL LANDMARKS

GENERAL SITE ORIENTATION AND ANALYSIS



SITE MASTERPLAN BIGELOW PARK

MIDDLEGROUNDS

NORTH END • VETERANS MEMORIAL PARK
BAY CITY • MICHIGAN

PREPARED BY HOWARD KUNDINGER ASSOCIATES

ALTERNATIVE PLAN CONCEPTS

Because the range of activities is modest and because of the limitations of the site, there is a modest range of options available for development. Two concepts were formulated for review and are discussed below:

Preliminary 1 featured four adjacent zones of use (shelter-group picnic zone; open space-picnic zone; bridge terminus-landmark zone; and river access zone along the main channel). Parking is provided immediately adjacent to the Boys Club location requiring access to the rest of the site by walking. The parking area is bufferred from the northern portion of the by berms.

Preliminary 2 had the same four zones, but segregated the shelter-group picnic area from the balance of the uses by extending and curving the parking lot into the site and around that zone. This increased the number of spaces available and permitted parking closer to all parts of the site. It does, though, use more of the limited space for circulation and parking.

MASTER PARK PLAN

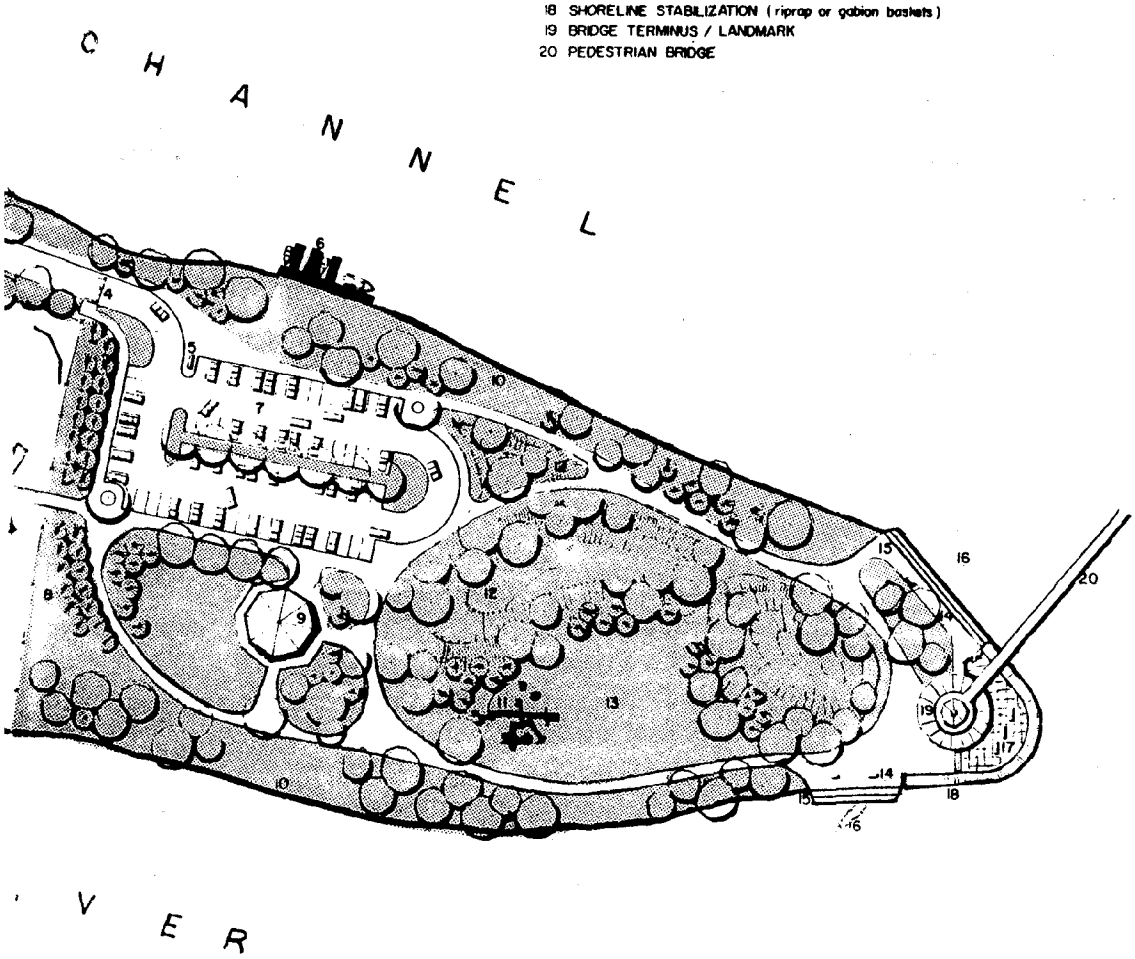
During review by the ad hoc committee and City staff, it was determined that a modification of Preliminalry 1 was most appropriate for the site. The final plan was designed accordingly with the major change being a reduction of the access and uses along the main river channel. That plan is shown on the following map.

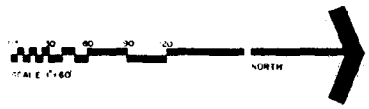
The plan generally treats the area near the Lafayette Bridge as part of the entrance to the tip of the Middlegrounds. No functional uses of the area are planned because it is highly subject to flooding. Thus it is planned to be an aesthetic and minimal use area such as for trails and picnics. An access road under the Lafayette Bridge is shown to provide access to the south end of the Middlegrounds without crossing Lafayette. It should be noted that the location of that road under the bridge is especially prone to flooding and that vertical clearance from any road to the bridge trusses would be well below standards and restricted to automobile traffic. Based on a better study of Middlegrounds access off the Lafayette Bridge, it may not be desireable to actually include the road under the bridge. Even without the road, however, a trail under the bridge for bikes and pedestrians is still appropriate.

The access road to the tip of the island would be developed between the Boys Club ballfields and the rivers edge. The road should be high enough to avoid frequent flooding and wide enough to provide for two lanes of traffic and parking on at least one side. The area between the road and the ballfields should be landscaped with trees to provide a visual buffer and screening to intercept fly balls from those fields. The road ends in the parking lot so that additional space is not needed for circulation and to avoid conflicts with other uses.

LEGEND

1 ENTRANCE DRIVE (24' roadway)
2 PEDESTRIAN and BICYCLE PATH (8' wide asphalt)
3 LANDSCAPING (deciduous and evergreen trees and shrubs)
4 PEDESTRIAN CROSSING
5 PARK ENTRANCE SIGN
6 BOAT DOCKS
7 PARKING LOT (86 spaces)
8 EVERGREEN PLANT SCREEN
9 PICNIC SHELTER, RESTROOMS and STORAGE
10 BANK FISHING
11 PLAYGROUND
12 BERMS
13 OPEN SPACE and PICNICING
14 BENCHES and SITTING AREAS
15 PERMANENT TERRACED FISHING AREA
16 UNDERWATER FISH HABITAT
17 PLAZA
18 SHORELINE STABILIZATION (riprap or gabion baskets)
19 BRIDGE TERMINUS / LANDMARK
20 PEDESTRIAN BRIDGE





Most of the recreation functions are reserved for the tip of the island. The proposed uses in this area are generally restricted to passive uses that are linked with the river for either fishing or aesthetic purposes. No athletic or competitive sports are intended or appropriate for the site. The major uses of the tip are described below:

Picnic Facilities will be provided for both group and family picnics on the site. The facilities will include a picnic pavillion, grills and tables, and landscaped areas. The principal area for picnics will be immediately adjacent to the parking lot and at the east shore of the island looking across the river's main channel. The river will have a fishing access along its frontage at the picnic area. This will especially provide for group picnics, family reunions, and other large group users.

A more informal space for picnics will be provided just north of that area. It need not have a shelter or any other formal aspects, but will provide for an attractive landscaped area with views of the river. The area will include a children's play area and open space for a possible pick-up sports (volleyball, badminton, etc.), but the primary purpose of this is to provide for activities for small children during picnics. Generally the eastern half of the park will be oriented toward picnic functions.

Riverfront Interaction will be greatest on the west shore of the Middle-grounds. Boat tie-up docks will be constructed here so that boaters can enjoy a picnic or visit the Middlegrounds. Fishing piers and bank sites will also be constructed. In addition, the access road and a trail will provide for views of the river for aesethetic purposes.

A Landmark/Plaza is proposed for the northern tip of the island. It is expected that such and architectural landmark use an appropriate theme such as a possible stylized lighthous, ship's bow or similar image. A hard surfaced plaza down to the river would be desireable as well. This could also be used for fishing as well. The plaza would be a logical terminus for the pedestrian/bicycle bridge to the three islands and then west shore of the Saginaw River.

A Trail Network is planned to provide access throughout the entire site for pedestrians, joggers, and bicyclists. The basic system makes Bigelow Park a part of a total trail system planned for most of the Middlegrounds and then crossing on a proposed bridge to the three islands and then the west shore of the Saginaw River where it traverses the length of Veterans Memorial Park.

In addition to being a part of this major trail along the Saginaw River, the proposed improvements provide for internal circulation among the various elements (picnic, riverfront, playground, landmark-plaza, etc.) of the park. This internal circulation and the riverfront segment provide for access along all of the river's edge in the park.

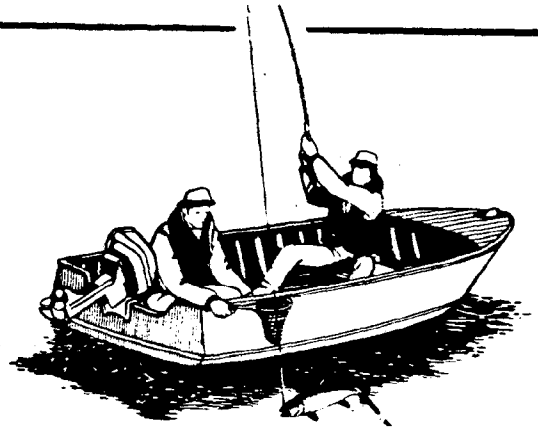
In addition to these functional elements planned for Bigelow Park, the site will require necessary supporting infrastructure. This includes the access road, which should be at least 20' and preferably 24' wide to accomodate two-way traffic. Although desireable to widen it sufficiently to provide for parking on at least one side of the road, there is not sufficient room between the river and the existing ball fields.

The road terminates into a parking lot just after the access road clears the Boys Club ballfields. The parking lot is designed to accomodate 86 vehicles on a paved service. In addition it includes a landscaped strip between the two bays of parking to keep the image of the park green. Pedestrian circulation is provided on all sides of the parking lot. There is a pedestrian crossing from the parking lot across the road to the west bank of the Middlegrounds that is less than ideal because the clearance from the parking lot is only about 30'. However, due to very slow speeds required to access the parking lot, this should not present a safety problem.

Water service for picnics will be provided from an existing watermain on the Middlegrounds. However, it will only be a convenience matter and will not be used for complete restroom facilities. Wastewater control is available using a number of methods. As in many other City locations, portable toilets could be used. Since there is not sanitary sewer service on site and not likely to be, and since the overall location is not especially favorable for septic systems, one additional method is available. That is the use of an organic composting system. These are self-contained, waterless, low odor, biological decomposition systems that have worked in remote sites across the country and world. They are relatively simple from a maintenance and operations standpoint with their only end product being a useful organic mulch that is safe and easy to handle and low odor.

Landscaping is a major feature of site development. The site will be essentially level except for three major berms. Two of them are adjacent to the parking lot and are intended to help visually screen the lot from active functions as well as to provide visual interest to the site. The third berm is more of a knoll near the tip of the island and is intended to provide an elevated, attractive area for viewing downriver. It also segregates the more formal plaza area from picnic and children's play area and from some of the riverfront fishing areas.

Vegetation would be used for both functional and aesthetic purposes. A row of mixed coniferous and deciduous trees is suggested between the ballfields of the Boys Club and the access road. This not only provides for visual separation of the active recreation fields from an otherwise passive park, it also provides some protection from balls leaving the fields and potentially hitting vehicles. A strong coniferous screen is suggested at the south end of the parking lot to screen the ballfield from Bigelow Park. The remaining vegetation is intended primarily to help provide some wind and visual screening, but is predominantly aesthetic in function.



Shore protection is a major issue for any riverfront park along the Saginaw River, but especially for an island environment. A number of methods are available, none of them especially inexpensive. A revetment would generally be effective if slopes of 1 vertical to 5 horizontal can be maintained. Revetments can include stone, concrete rubble, concrete blocks in a variety of patterns and uses such as turfblocks, stacked bag or mat revetments (preferably concrete filled), or gabion revetments. Stacked gabion baskets are also very effective and do not require the controlled slopes needed by revetments. The City of Saginaw has successfully and extensively used gabion baskets on its riverfront park sites and also at storm sewer outfalls. Gabion baskets are one of the most cost effective systems. The cost of shore protection is not included in the cost estimates. Because of relatively high costs, it is often necessary to undertake it in a phased, section-by-section process.

ESTIMATED COSTS FOR CAPITAL IMPROVEMENTS

On a following page is a summary of estimated costs for constructing the capital improvements portrayed on the site plan map. These costs are based on anticipated 1985 construction season costs. They also assume that the improvements constructed will be sound, functional, and durable, but that extraordinarily expensive improvements are not generally necessary. They also show shore stabilization only at the extreme north end of the site and not included along the entire perimeter of the island, though more extensive stabilization should eventually be considered. A possible extension of the entrance drive looping underneath the Lafayette Bridge is also not included because of the doubt that such an improvement will be constructed, at least in the near term.

The cost estimates also do not include construction of a pedestrian/bicycle bridge agross the west channel to the three islands and thence to the west shore of the Saginaw River. Eventual construction of that bridge will require careful design consideration to provide adequate vertical clearance between the water surface and the structure for watercraft (at least equal to the Lafayette Bridge) as well as reasonable slopes. It will also require careful design with the final character of a landmark at the north end of the park.

It may be possible for costs to be reduced for some of the features by using lower cost seasonal employees, volunteers, or similar low cost labor. It is, though, important to carefully supervise inexperienced workers to assure the intended functions and durability can be met.

C A P I T A L I M P R O V E M E N T C O S T S

Below is an estimate of the Capital Improvement Cost for Bigelow Park based on the master park plan. These costs are based on 1985 cost estimates and based on the quantities and conditions identified. Actual costs could vary according to final design character and conditions.

1.	ENTRANCE DRIVE (± 1155 l.f., 22mi./24' w asphalt, not incl. under bridge)	$ 35,000.00
2.	PEDESTRIAN and BICYCLE PATH (± 3290 L.F., .6 mi./8' w asphalt, not incl. loop under bridge)	31,500.00
3.	PEDESTRIAN CROSSING (Painted road surface and signage	500.00
4.	PARK ENTRANCE SIGN	1,000.00
5.	PLAYGROUND	15,000.00
6.	GRADING (5.3A, not incl. entrance drive)	32,500.00
7.	PARKING LOT (86 cars)	51,500.00
8.	SHELTER, RESTROOM AND STORAGE BLDG	95,000.00
9.	BOAT DOCKS	12,500.00
10.	PLAZA DEVELOPMENT (+ 17,600 s.f., incl. bank stabilization, ornamental paving terraced fishing location developments)	123,200.00
11.	LANDSCAPING (Includes trees, shrubs and lawns. Does not include entrance drive.)	30,200.00
12.	AMENITIES (Benches, trash cans, picnic tables, grills and signage)	5,000.00
13.	UNDERWATER FISH HABITAT DEVELOPMENT (Use salvaged materials and volunteer labor)	0.00
14.	LIGHTING (20' h, low pressure sodium fixtures, ea.)	1,800.00
	TOTAL (not incl. lighting)	$ 434,200.00

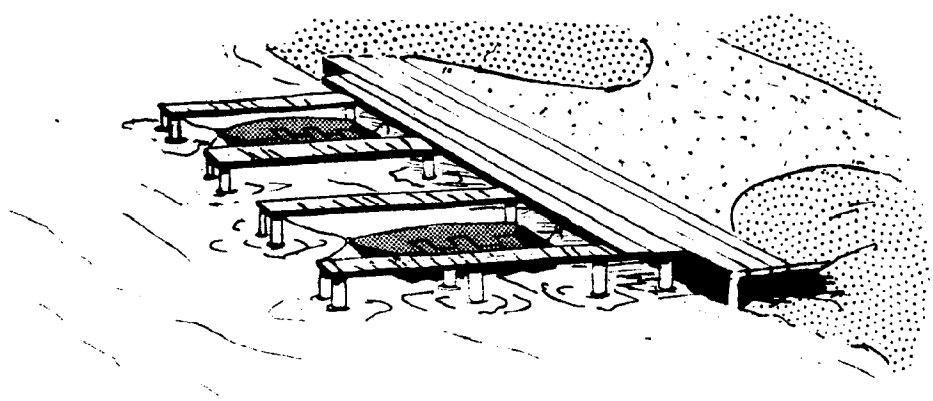
OPERATING AND MAINTENANCE COSTS

Because of simple design characteristics, the passive nature of most of the facilities, and the modest size of Bigelow Park, the proposed improvements are not expected to introduce significant costs for routine annual maintenance. The costs identified below are on based assumptions using permanent employees or contractors and maximum equipment or operating needs. Even then, the operating and maintenance costs are modest in comparison with the capital investment. Maximizing the use of seasonal employees, existing equipment and other normal efficiencies should result in even lower costs.

OPERATING AND MAINTENANCE COST ESTIMATES SUMMARY:

Salaries, Wages, and Frindge Benefits (Assumes equivalent of 1/3 of a permanent employee for 21 weeks)	$ 5,000.00
Equipment Costs (Annual for Lawnmower Amortization/Fuel)	600.00
Utilities (Water and Electricity)	800.00
Miscellaneous and Contingencies	1,100.00
TOTAL ANNUAL ESTIMATED OPERATING AND MAINTENANCE COSTS	$ 7,500.00

These costs could esculate if final design characteristics included a great deal of specialized improvements not now expected. If any lighting beyond basic security lighting were anticipated; or if the tip of the Middlegrounds included a lighted landmark; or if fountains requiring pumps were installed, then the above figures could be substantially low. Similarly, if play equipment that required frequent upkeep or complete restrooms were constructed, then the costs could also run higher. Such improvements are not now anticipated, and thus the costs identified above should approximate actual annual operating and maintenance costs exclusive of capital depreciation.



RECREATION PROGRAMS ON-SITE

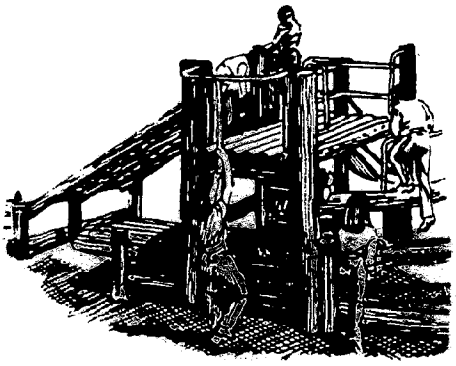
Bigelow park will be primarily a passive recreation facility that will not require active recreation programming to optimally utilize it. Most of the activities will be informal, family-oriented activities rather than intensive recreation such as organized athletics. Accordingly, there will be no need to plan on recreation programming for the site. Several organized activities, though, may be attractive at the site.

Group picnics can be expected to be popular at the site. Already the Lion's Club has plans to use the park for barbecues and special programs as a service club. Other organizations may likewise find the site attractive for their uses. Certainly family reunions and similar functions will also be frequent. These do not, however, require any special public investment in programming other than assuring there are enough picnic tables, grills and trash receptacles for normal use.

Special events using the riverfront location are very appropriate and may result in use of the park. These might include a children's fishing contest, a boater's picnic, a canoe race in the west channel, or any number of similar events. Such events, however, are frequently organized by civic groups or associations and would not necessarily require any special involvement in City recreation programming.

Fireworks viewing during the Fourth of July festival should be excellent from Bigelow Park. The shoreline, the berms, the monument plaza, and the parking lot should afford good vistas of that week-long event.

The net result is that the planned development of Bigelow Park on the Middlegrounds should not result in any demand for City-sponsored recreation activities. Such programming is possible, but need be City-sponsored only if desired and can often be more effectively handled by community groups. Thus no costs for recreation programming are should result from this plan.



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Donald Heffelbower, City Engineer
Alex Peterson, DPW Director
Dave Bourdon, Parks Superintendent
Ronald MacGillivary, Consultant

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Other Participants
Bay City Lions Club
Bay City Boys Club

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