



Office of the City Manager

CONSENT CALENDAR
June 24, 2008

To: PK Honorable Mayor and Members of the City Council

From: PK Phil Kamlarz, City Manager

Submitted by: William Rogers, Director, Parks Recreation and Waterfront

Subject: Aquatic Park Improvement Program (APIP) – Hydrology & Habitat

RECOMMENDATION

Adopt a Resolution accepting the Aquatic Park Improvement Program (APIP) Phase I Hydrology Improvements and Phase II Habitat Improvements draft report and conceptual design and directing staff to begin the environmental review process with staff's recommendation of Scenario 4B as the Preferred Alternative.

SUMMARY

Aquatic Park has long been used for recreational purposes, such as bike riding, jogging, disc golf, picnicking, rowing, and water-skiing. At the same time, Aquatic Park provides open space and habitat for fish and invertebrates, and the birds that feed on them.

Bay fish species require cold water temperatures (58-68°F) and high levels of dissolved oxygen. Recent monitoring by the Regional Water Quality Control Board (RWQCB) found chronic high water temperatures and low dissolved oxygen levels in summer and fall that are fatal to fish. These small fish are a major food source to diving ducks that overwinter in the San Francisco Bay and Aquatic Park, as well as wading birds such as egrets, herons, pelicans, cormorants, mergansers and others.

After a yearlong process that included more than 14 meetings and review by the Parks and Recreation Commission and the Aquatic Park Subcommittee, staff is recommending that Council accept Scenario 4B, recommended by the hydrology/biology consultant team, as the Preferred Alternative for the environmental review process. The Preferred Alternative will be evaluated under the California Environmental Quality Act (CEQA) guidelines along with other alternatives, including the modified 4B scenario that is recommended by the Parks and Recreation Commission.

Scenario 4B will increase the tidal flow to the lagoons at Aquatic Park by repairing the existing tide tubes and increasing the size of the connection between the Main Lagoon (ML) and the Model Yacht Basin (MYB). It also includes enlarging the existing connections with the Potter Street and the Strawberry stormdrains, installing control mechanisms to prevent first flush stormwater from entering the lagoons, increasing and

improving the habitat value including creation of new intertidal wetland and bird roosting habitats and implementation of a monitoring program to provide for an adaptive management process.

The difference between Scenario 4B and the modified Scenario 4B that is proposed by the Parks and Recreation Commission is that 4B will be designed to allow no additional stormwater than is currently entering the lagoons and has been since the creation of the Park in the 1930s. The modified 4B scenario would be designed to allow no stormwater into the lagoons. Staff agrees that eliminating all stormwater from entering the lagoons would be the ideal solution, but believes it is not a feasible option because it would result in more flooding than already occurs in West Berkeley neighborhoods.

FISCAL IMPACTS OF RECOMMENDATION

The recommendation in this report does not involve the use or allocation of City funds and only asks Council to accept the conceptual design of the Aquatic Park Improvement Project (Phase I and II) and to direct staff to begin the environmental review process. Upon Council approval, staff will proceed to the next step, which is to identify funds and obtain consultant services through a competitive Request For Qualification process to perform the environmental review for the project, which will include an Environmental Impact Report (EIR), technical studies, staff time, and public process, currently estimated at approximately \$150,000. At a later date, staff will come back to Council for authorization to allocate funds and execute a contract for this work. If the City does not move forward with the APIP project in a timely manner, up to \$2 million in state grant funding for construction from the Coastal Conservancy will be forfeited. In order to produce the preliminary design needed to proceed with environmental review, the City has spent \$338,422 for consultant contracts and \$39,345 in staff time using the following City funds (Fund 450 – Parks Tax, Fund 610 – Capital Improvement Fund; and Fund 485 – Bayer Fund).

CURRENT SITUATION AND ITS EFFECTS

The primary type of habitat in Aquatic Park is the shallow subtidal aquatic habitat in the three lagoons. In San Francisco Bay, shallow subtidal habitat is a highly productive zone that supports a nursery for many marine crustaceans and fish. Bay fish species require cold water temperatures (58-68°F) and marine salinities (22 to 33 ppt.) These small fish are a major food source to diving ducks that overwinter in the San Francisco Bay and Aquatic Park. Wading birds—egrets and herons, as well as pelicans, cormorants, mergansers, and other fish-eating birds—also feed on small fish.

In 2004, the Regional Water Quality Control Board's (RWQCB) Surface Water Ambient Monitoring Program (SWAMP) monitored summer and fall water temperatures and dissolved oxygen (DO) levels at three sites in the Main Lagoon. The monitoring found chronic high water temperatures and low dissolved oxygen levels that are fatal to fish.

The Park also suffers from many years of deferred maintenance and there has long been community interest in making the Park more pleasant and usable and more of an asset than it has been in the recent past. Infrastructure upgrades are needed to: 1) improve the water quality which will increase the habitat value and improve the conditions for recreational use; 2) increase wetland habitat area and remove non-native invasive plants; 3) improve circulation for joggers, cyclists, dog-walkers, and others by providing a multi-use trail around the lagoons while removing unnecessary pavement and replanting with native plants; and 4) provide seating, overlooks, environmental interpretive signage, and other park user amenities.

The Aquatic Park Improvement Program (APIP) is a three-phase capital improvement program that builds upon the "Aquatic Park Natural Resource Management Study" (NRMS) that was completed in July 2003 and the "Aquatic Park Waterbird Study" (Bird Study) that was completed in May 2005. The three improvement phases are:

- Phase I Hydrology and Water Quality
- Phase II Wetland and Upland Habitat; and
- Phase III Circulation, Parking and User Amenities (including seating, overlooks, interpretive signage, etc.)

In 2004, the City submitted a grant proposal for all three phases to the State Coastal Conservancy. The Conservancy awarded the City up to \$2 million for water quality and wetland habitat improvements with the condition that CEQA review be completed by early 2007. Due to the complexity of the issues and the importance of public input, the Conservancy has since extended the CEQA deadline. The new deadline will be negotiated following Council's action on this item. However, time is still of the essence as there is much demand to use these funds for other projects. The State Coastal Conservancy grant (Proposition 50 funds) can only be used to address Phase I and part of Phase II (habitat improvements below the high tide line). Additional funding will be needed to complete Phases II and III.

In 2004, the City hired a biologist/hydrologist team of Laurel Marcus & Associates (LMA) and Hydrologic Systems, Inc. (HSI) to assist staff by gathering and analyzing pertinent data and identifying options for water quality and habitat improvements. In May 2006, the Parks & Recreation Commission (P&RC) appointed a subcommittee to work with staff and the consultants to develop a preliminary report and conceptual design in order to begin the California Environmental Quality Act (CEQA) review process.

The Aquatic Park Subcommittee (APSC) of the Parks & Recreation Commission worked with the biologist, hydrologist and City staff for more than a year to develop and evaluate a variety of options for improving water circulation and quality in the Aquatic Park lagoons. Below is an overview of the conceptual design and program.

Phase I – Hydrology and Water Quality Improvements

The objective of the first phase is to increase the water circulation, tidal exchange and water quality in the three lagoons.

One of the most frequent complaints about Aquatic Park is the unpleasant odor of the Main Lagoon, particularly during the warmer months. This odor is primarily due to the decomposition of large amounts of algae growth that results from the poor water circulation, and the resultant high water temperatures and low levels of dissolved oxygen (DO) that are fatal to fish.

Improved water circulation would allow for a greater exchange of the lagoon water with the cleaner, cooler water of the San Francisco Bay. Greater tidal exchange will increase the dissolved oxygen (DO) levels and lower the water temperature.

Higher levels of DO and lower water temperatures will also greatly improve the aquatic habitat for the fish and invertebrates that provide food for the migratory birds. Migratory diving ducks, including scaup and bufflehead, use the Main Lagoon as a foraging area. Year round residents include great blue herons, black-crowned night herons and great egrets; improved aquatic habitat would benefit these as well as other species.

Initial evaluation of the lagoon system showed that the limited size and number of connections between the lagoon and the Bay inhibit water circulation. Increasing the size of these connections will result in a direct increase in their capacity to allow water into and out of the lagoon.

A hydrodynamic model was developed to evaluate the existing pipe network and circulation characteristics of the lagoon system. The APSC then discussed different scenarios for increasing circulation. Fourteen scenarios were reviewed in detail and a hydrodynamic model was developed for each. The results of the circulation models show that Scenario 4B, with flow going in and out at three major intertidal connections, provides the greatest improvement in circulation.

Specifically, the recommended hydrologic alternative 4B would maximize tidal flushing to improve summer water quality and aquatic habitat conditions through the creation of new, enlarged connections, while limiting winter stormwater inflow by installing adjustable gates at the new connections. Alternative 4B will result in a 420% increase in water exchange per tidal cycle compared to existing conditions; this means that after a 100-year storm event, stormwater could be flushed out of the lagoons in 6 days versus the 42 days required under current conditions. The APSC compared the scenarios and identified Alternative 4B as the preferred alternative.

Briefly, Alternative 4B, as proposed by the consultants and supported by staff is comprised of the following elements:

1. Creating a new larger connection between the ML and the intertidal Strawberry stormdrain at the north end of the ML by removing an existing weir to allow greater tidal inflows and outflows. An adjustable slide gate system will be installed between the older weir location and the Main Lagoon to control the flow of stormwater entering the lagoon.
2. A new connection would be constructed at the intertidal Potter Street stormdrain to allow increased tidal inflows and outflows to the Model Yacht Basin. Adjustable gates will be installed with the new connections to control the flow of stormwater entering the lagoon;
3. The MYB would be connected to the Main Lagoon through a 25-foot wide by five-foot deep channel excavated from the existing road and adding a bridge to maintain vehicle and pedestrian traffic. This would allow tidal inflow and outflow from the new Potter Street stormdrain connection to refresh both the MYB and ML;
4. The five tide tubes in the ML would be repaired and a protective structure installed on the bayside of the tubes. The repaired tide tubes would also allow greater tidal inflow and outflow.
5. Controlling winter stormwater inflow to allow no additional stormwater (than currently enters) into the lagoons by installing large slide gates at each of the new connections.
6. Consider creating a demonstration area for ultra-urban stormwater treatment using bio-filtration facilities installed on streets, parking lots and other locations in the local Aquatic Park watershed, east of the Park.

After extensive discussion, the APSC and the P&RC modified item 5, above, to state that the preferred option should be to allow “no stormwater” into the lagoons.

Phase II - Habitat Improvements

Most of the existing habitat is in degraded condition due to poor water quality and the prevalence of non-native invasive plant species. The APIP includes the following objectives:

1. Improving the aquatic habitat is the highest priority;
2. Creating a bird roosting habitat at Bird Island;
3. Creation of a 1.3 acre salt/brackish wetland on the western shore of the Main Lagoon

4. Removal of invasive plants in all shoreline areas and all stem and seed reproducing invasive plants in other areas of the park;
5. Removing asphalt paving where possible and restoring native vegetation;
6. Planning a tree replacement program and eliminating the invasive eucalyptus and acacia trees as the replacement trees mature.

Attached are the “Aquatic Park Improvement Program Executive Summary” and the “APIP Summary Report” that describe the existing conditions and provide more detailed information of the process, alternatives and recommendations for hydrology and habitat improvements. These reports, along with a detailed technical appendix are available on the City’s web site.

California Environmental Quality Act (CEQA) Review

Staff anticipates that an Environmental Impact Report (EIR) will be prepared for the CEQA process. An EIR is required to evaluate a Preferred Alternative along with other alternatives including the “no project” alternative. The EIR will require additional technical studies and evaluation as well as more extensive public review and review by the relevant regulatory agencies. The Draft EIR will be brought back to the Council for adoption.

BACKGROUND

The Aquatic Park Improvement Program (APIP) is consistent with the 1990 Draft Master Plan and the 2000 Master Plan Update, and builds upon the “Aquatic Park Natural Resource Management Study” (NRMS) that was completed in July 2003 and the “Aquatic Park Waterbird Study” (Bird Study) that was completed in May 2005.

In 2004, the Council authorized the City Manager to submit a competitive grant proposal for improvements at Aquatic Park to the State Coastal Conservancy. (Resolution No. 62,456-N.S.) Staff applied for \$2.1 million of a \$3.1 million improvement project that includes hydrology, habitat, parking and circulation improvements, and an environmental education signage program. The State Coastal Conservancy (Conservancy) set aside up to \$2 million for water quality improvements and wetland habitat restoration at Aquatic Park with the condition that the environmental review process be completed by early 2007, which has since been extended. According to the Coastal Conservancy, this funding is intended for projects that benefit fish and wildlife. Coastal Conservancy funding (Prop. 50) can be applied to all of Phase I and most of Phase II improvements (habitat improvements below the high tide line). Additional funding will be needed for upland habitat improvement, however it is included in the report and will be included in CEQA review.

A consultant team consisting of a biologist and hydrologist was hired and a subcommittee of the Parks & Recreation Commission was created in order to develop a conceptual plan that could be the starting point for the environmental review process.

Between June 2006 and June 2007, the Aquatic Park subcommittee (APSC) met thirteen (13) times, and reconvened for an additional meeting in January 2008. The consultants presented concepts and data for the APSC to discuss and consider during the yearlong process. The process consisted of the following:

1. Review of existing conditions, including hydrology, habitat and the relationship between the two;
2. Data collection and analysis, including modeling tidal flow and stormwater flow and detention in the lagoons;
3. Evaluated opportunities and constraints of the site;
4. Discussed and evaluated fourteen (14) different scenarios for improving the tidal flow and water circulation in the lagoons:
5. Identified preferred options for further evaluation;
6. Developed a draft Project Description, including likely alternatives;
7. Discussed, modified and recommended approval of the modified draft Project Description identifying the “No Stormwater in the Lagoons” scenario as the preferred alternative.

On January 28, 2008, the Parks and Recreation Commission approved the APSC recommendation to accept the Preferred Alternative Model 4B, with the modification that all stormwater be prevented from entering the lagoons via the Potter and Strawberry culverts with a 6-0-1-2 vote. (Ayes: Paskowitz, Ferrara, Stephens, Huang, Gurdziel, Becker; Abstain: Chavez; Absent: Porter, Gross.)

RATIONALE FOR RECOMMENDATION

Aquatic Park suffers from deferred maintenance. As a result, the park is under-utilized and the habitat value is very degraded. Both infrastructure and user amenities need extensive repair and upgrading. The three-phase Aquatic Park Improvement Program (APIP) addresses these problems. Since the underground infrastructure improvements are needed before capital funds are invested in surface improvements, the first phase of the APIP is to improve the water quality and circulation of the lagoons; the second phase recommends habitat improvements; and a third phase, not yet developed, will recommend user amenities such as seating, overlooks, interpretive signage and landscape planting.

ALTERNATIVE ACTIONS CONSIDERED

Terminate or defer the project and not accept the \$2 million Coastal Conservancy grant.

CONTACT PERSON

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Attachments:

1: Resolution

Exhibit A: APIP Executive Summary

Exhibit B: APIP Summary Report

RESOLUTION NO. ##,###-N.S.

AQUATIC PARK HYDROLOGY AND HABITAT IMPROVEMENTS

WHEREAS, on January 16, 2001, Council authorized the City Manager to execute a contract and any amendments with Laurel Marcus and Associates to complete a Natural Resource Management Study (NRMS) (Resolution No. 60,908-N.S.); and

WHEREAS, on March 1, 2002, the City Manager executed a contract with Laurel Marcus and Associates in an amount not to exceed \$70,000 for the term March 8, 2002 to September 8, 2002; and

WHEREAS, on April 9, 2004, after two extensions, the City Manager amended the contract with Laurel Marcus and Associates to expand the scope of work and increase the fee by \$27,700 for a new total amount not to exceed \$97,700 for the term ending September 8, 2005; and

WHEREAS, on April 27, 2004, the City Council authorized the City Manager to submit a competitive grant proposal for improvements at Aquatic Park and to accept the grant funding if awarded (Resolution No. 62,456-N.S.); and

WHEREAS, on September 7, 2005, the City Manager extended the term of the contract to end on September 8, 2006; and

WHEREAS, on October 27, 2005, the City was awarded a conditional grant of up to \$2 million to implement water quality and habitat improvements at Aquatic Park, pending the completion of CEQA environmental review by early 2007; and

WHEREAS, on September 26, 2006, the City amended the contract with Laurel Marcus and Associates (LMA) to include the design and environmental analysis of hydrology and habitat improvements at Aquatic Park in an amount not to exceed \$372,264 for a term ending on December 31, 2007; and

WHEREAS, the LMA contract has been twice amended extending the term through June 30, 2008; and

WHEREAS, the Aquatic Park Subcommittee (APSC) of the Parks and Recreation Commission worked with staff and biology/hydrology consultants from 2006 through 2008 to review existing conditions and develop and evaluate more than fourteen scenarios for improving water quality and habitat conditions; and

WHEREAS, on January 28, 2008, the Parks and Recreation Commission approved the APSC recommendation to accept the preferred alternative model 4B, with the

modification that all stormwater be prevented from entering the lagoons via the Potter and Strawberry culverts; and

WHEREAS, the California Coastal Conservancy has a grant requirement that the City complete the CEQA review in order to receive up to \$2 million in grant funding for improvements at Aquatic Park.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the Council accepts the Aquatic Park Improvement Program (APIP) Phase I Hydrology Improvements and Phase II Habitat Improvements preliminary report and conceptual design and directs staff to begin the environmental review process with staff's recommendation of Scenario 4B as the Preferred Alternative and with the Parks and Recreation Commission-modified 4B scenario as an alternative for CEQA review.

Exhibits

A: Aquatic Park Improvement Program Executive Summary

B: Aquatic Park Improvement Program Summary Report