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Proposed Changes to Recommendations for Aquatic Park Improvement Project for CEQA Review

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Overarching Goals

Priority should be given to habitat improvements over water circulation
Wildlife needs should be foremost

Water and Tidal Circulation:

No new storm water entering the Main Lagoon, the Model Yacht Basin or Radio Tower Pond as a result of tidal circulation improvements.

Reduce/eliminate storm water currently entering the Main Lagoon, the Model Yacht Basin and Radio Tower Pond from all sources.

Immediately restore the existing system of drains and pipes to historical standards to block storm water and maintain adequate water levels for wildlife and recreation.

Recommendations

Native Plant Enhancement and Rehabilitation, for Phase I Implementation:

- Shoreline Stabilization and Native Vegetation Waterbird Buffer
- Islands and Offshore Roosts
- Fresh Water Wetlands

New Recommendation #1:

Shoreline Stabilization and Native Vegetation Waterbird Buffer

Develop a plan for planting the entire shoreline with appropriate native plants of varying height and density, and restore bird roosting trees.

Background: The Waterbird Population and Disturbance Response Study of 2004 made a number of recommendations to minimize land-based bird disturbance. Planting willows and other large native shrubs, and creating some areas of deep dense vegetation (at least 10 meters) along portions of the shoreline will provide additional roosting habitat and increased refuge for dabblers and migratory song birds. Limiting direct access by people and dogs to the shoreline in some places by the use of deep, dense vegetation will physically protect the shoreline, create visual and physical screening for bird comfort, and increase the habitat value of the open water by buffering it from shoreline activity. Emphasis should be placed on the eastern shoreline, as it is the most intensively used by people and thus the source of major bird disturbances.

Hundreds of roosting trees have been lost in Aquatic Park over the last 15 years, and many existing trees that provide immediate shoreline roosts for Great Egrets, Snowy Egrets, Great Blue Herons and other birds are dying or have partially fallen due to shoreline collapse. Historically, these trees have been Monterey Cypress. Additional tree species should be selected based on their usefulness to known and expected bird species.

The shoreline is collapsing and eroding significantly in many areas due to many factors. Planting will help, but the entire shoreline should be evaluated

New Recommendation #2:

Islands and Offshore Roosts

In addition to the recommendation to improve Bird Island, new offshore roosts and small rocky islands should be created in the Main Lagoon and the Model Yacht Basin. Wading and dabbling birds currently use exposed remnants of old structures (docks and jetties) as well as floating boards and piles of debris as offshore roosts.

Background: Creating additional roosting sites away from the shoreline will provide an added level of protection and increased comfort zone for many species, particularly adjacent to areas where dense shoreline vegetation is not possible or wanted. New roosts and islands can and should be located where they will not interfere with recreational boating.

New Recommendation #3:

Fresh Water Wetlands

Enhance and improve the existing seasonal and year-round fresh water wetlands and identify additional locations that could be developed for seasonal fresh water wetlands along the entire eastern edge of the park.

Background: During the winter, much of the eastern edge of Aquatic Park is inundated with fresh water from rain, runoff and storm drains. Some of these areas already function as freshwater wetlands and could be enhanced for wildlife and to decrease park maintenance needs. Other areas simply flood, and provide limited value currently to wildlife, as well as becoming useless for recreation. Table 2-1 on page of the NRMS lists the identified wetland areas. Areas that are currently paved but flood seasonally, such as the area behind and adjacent to the EGRET cabin, should also be considered for improvement as seasonal wetlands. Managing fresh water using wetlands should also be considered as one mechanism to minimize freshwater impacts on the lagoons and to decrease shoreline erosion.

Hydrology Improvements (Page 9)

Recommendation 1: Alternative Language

Implement the Recommended Hydrologic Alternative for water circulation improvements (Alternative 4b) in phases with construction on the Strawberry Storm Drain in Phase 1, a 25 x 5 foot channel between the MYB and the ML in Phase 2, and new, larger connections to the Potter Storm Drain in Phase 3. Consider the one-way outbound option at Strawberry Creek Storm Drain alone as an alternative for CEQA review.

Background: Alternative 4b calls for construction projects at three different locations: (1) Strawberry Creek Storm Drain Overflow Pipe, (2) the roadway between the Main Lagoon and (3) the Model Yacht Basin, and the pipes on the side of the Potter Storm Drain. While (3) cannot be done alone due to flooding, and (2) has minimal impact by itself, (1) built as a one-way outbound drain to the Bay can improve the water circulation and create the long-sought one-way northbound flow. If troubles still remain, the channel (2) could be built in Phase 2. The breaching of Potter Storm Drain could be funded in Phase 3, if still needed.

Recommendation 2: The last sentence should be revised to read:

“Gates will be operated to block storm water entering the lagoons.”

New Recommendations

New Recommendation #4:

Transite (Techite) Pipe Repair and Modification

Install a one-way gate at the point where the transite pipe reaches the Potter storm drain to block storm water coming into the transite pipe from the Potter storm drain. Evaluate the functioning of the pipe and current maintenance practices to maximize the pipe’s effectiveness. Modifications should be concurrent with any changes to the Strawberry and Potter outfalls.

Background: A transite pipe was installed in the 1971 to meet the RWQB order prohibiting discharge of contaminated water into the lagoons. This pipe captures water from the Parker, Carleton, Grayson and Heinz Streets storm drains and is supposed to carry it south to the Potter storm drain. Not only is this pipe in disrepair, at critical times like large storm events and high tide, it functions in reverse, pushing storm water into the Main Lagoon. At a minimum, a one-way gate at the point where the transit pipe reaches the Potter storm drain should be installed to block storm water coming into the transit pipe from the Potter storm drain. The metal lids at the four access points should be locked down to minimize storm water overflow at these points. These modifications should be constructed concurrently with the changes to the Potter and Strawberry outfalls in order to mitigate potential negative impacts associated with storm water entering the lagoon, and to improve compliance with RWQB Order 70-14.

New Recommendation #5:

Potter and Strawberry Storm Drain Pumps

Evaluate installing pump systems for the Potter and Strawberry storm drains at appropriate locations east of the park to increase storm water discharge rates during extreme storm events, particularly when coupled with high tides.

Background: Hydrology Option B creates larger openings in the Potter Storm drain that are intended to increase tidal circulation in the Main Lagoon and the Model Yacht Basin. These opening will be fitted with new tide gates that will be operated to block storm water from entering the lagoons during storm events, as was intended historically and in light of current understanding of the impact of storm water and fresh water on the ecosystem.

Currently, the Main Lagoon and Model Yacht Basin are being operated as a de facto storm water surge basin for the city. In 1996, Parks Staff removed the weirs at the existing Potter openings so that it is no longer possible to block storm water from entering the lagoons at these points. The

flap gates at the five tide tubes are intended to be positioned to let bay water in but limit it's outflow to maintain a higher water level in the lagoons for the benefit of recreation and wildlife. In 2006, the Marina staff raised the flap gates, causing the level of the lagoons to drop and potentially damaging the ecosystem. The flap gates were dropped during the oil spill, but have since been raised, again lowering the water level of lagoons. The only rationale for maintaining in this way is to accommodate larger amounts of storm water.

Although Hydrology Option B is intended to repair the damage done over the last decade, the political pressure to abuse the new system and use Aquatic Park as a surge basin during extreme storm events, particularly during high tide, will be enormous. Avoiding flooding of private property upstream will always trump wildlife habitat concerns, even if using Aquatic Park in this manner has no appreciable impact on flooding upstream.

Unless the capacity to move storm water out of west Berkeley is addressed, any benefit received from an improved circulation plan can be wiped out by a single storm event. Automated high velocity/capacity pumps at Potter and Strawberry in appropriate locations east of the park may be a partial solution, as is the Ultra Urban Storm Water Demonstration Project outlined in Recommendation 6.

**New Recommendation #6:
Upland Wildlife Habitat Enhancement**

Design and implement native plant enhancement throughout the park by instituting a program of controlling invasive non-native species and planting of suitable trees, shrubs, and ground covers along the edges of the park. Special focus should be given to areas where City plantings have not kept pace with vegetation loss and in park areas adjacent to planned Union Pacific vegetation removal.

Background: No land area in Aquatic Park is far from the shoreline with San Francisco Bay, and by habitat planning standards, native planting throughout the park can be considered shoreline habitat. The communal roost for the Great Egrets of this region of the bay, for example, includes trees whose bases are likely on Union Pacific property outside the park's legal boundaries. It may be helpful, though, to call out the need for planting on the land side of the trails that circle the tidal lagoons, for their species and clustering may differ from those plantings along the edge of the shoreline.

In particular, Union Pacific plans to reinstate use of their westernmost rail line along the edge of the park, which will include embankment stabilization and tree removal likely to negatively impact the functioning of the wildlife corridor in the area. The City has a long-standing agreement with UP allowing it to have access to their property for planting and plant care.

**Recommendation #7:
Dredging**

Conduct dredging to a depth of 10 feet within all three lagoons to increase the availability of safe refuges for marine life in periods of warm weather. If possible, reuse the spoils within the park to stabilize shorelines, trails, and visitor facilities as allowed. Additional spoils should be reused to create berms and buffers for sheltering wildlife, buffering freeway noise, and creating wildlife overlooks.

Background: The need to increase the circulation of the bay water in Aquatic Park is two-fold. One is to speed the removal of contaminants in the water: pollutants in urban storm runoff that in large storms enter the lagoon via the Strawberry Creek Storm Drain Overflow Outflow have difficulty leaving the system. When this water meets incoming water coming from the five tide tubes, it is blocked from draining to the bay via Strawberry by a concrete wall. Blocking the entrance of contaminated storm water reduces this need for high flow through the system.

The second reason to speed the tidal flow is to avoid high water temperatures/low dissolved oxygen, which can be toxic to some marine life. This concern is seasonal, occurring primarily during periods of continued high temperature such as in late summer. The effect on fish is likely that they must leave warmer shallow waters and retreat for a few days to deeper, cooler waters where oxygen levels are more suitable.

Dredging was a primary hydrology improvement option under consideration in the December 1994 Aquatic Park Water Quality Study by CH2MHill, the last time the City studied widening the connections between the storm drains and the lagoons. "Sediment from the Bay has accumulated in the Park and created vast shallow areas (less than 5 feet.)" (Page 1-3) "Regardless of which alternative is selected, dredging would ultimately be necessary to prevent filling of the Main Lagoon and the Model Yacht Basin with sediment." (Page 1-4) Significant dredging of the park was last done was in the 60's; since then many areas have become shallower and thus are quicker to heat up during heat waves and lose dissolved oxygen. Over time, the infilling of the Main Lagoon may have any adverse impact on recreation as well.