



**BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

Notice of Time Change

PLANNING COMMITTEE MEETING

9:45 a.m.

Tuesday, October 8, 2013

Notice is hereby given that on Tuesday, October 8, 2013 the Planning Committee Meeting of the Board of Directors has been rescheduled from 9:15 a.m. to 9:45 a.m. The meeting will be held in the Training Resource Center of the Administration Building, 375 - 11th Street, Oakland, California.

Dated: October 3, 2013

A handwritten signature in cursive script that reads 'Lynelle M. Lewis'.

Lynelle M. Lewis
Secretary of the District

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**BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 – 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

AGENDA

**Planning Committee
Tuesday, October 8, 2013
9:45 a.m.
Training Resource Center**

(Committee Members: Directors Foulkes {Chair}, Linney and McIntosh)

ROLL CALL:

PUBLIC COMMENT: The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

DETERMINATION AND DISCUSSION:

1. Wastewater Treatment Plant Process Upsets and Mitigation Efforts (Horenstein)
2. Update on Richmond Wastewater Services (Horenstein)
3. Gateway Park Project and New Bike Path Update (Horenstein)

ADJOURNMENT:

Disability Notice

If you require a disability-related modification or accommodation to participate in an EBMUD public meeting please call the Office of the Secretary (510) 287-0404. We will make reasonable arrangements to ensure accessibility. Some special equipment arrangements may require 48 hours advance notice.

Document Availability

Materials related to an item on this Agenda that have been submitted to the EBMUD Board of Directors within 72 hours prior to this meeting are available for public inspection in EBMUD's Office of the Secretary at 375 11th Street, Oakland, California, during normal business hours.

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 3, 2013

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Bennett K. Horenstein, Director of Wastewater *BKH*

SUBJECT: Wastewater Treatment Plant Process Upsets and Mitigation Efforts

SUMMARY

The Main Wastewater Treatment Plant (MWWTP) has experienced several process upset events over the past few years in its activated sludge biological treatment system. These episodes have been characterized by high but intermittent daily measurements of effluent suspended solids. Ongoing high measurements have the potential to violate National Pollution Discharge Elimination System (NPDES) permit discharge limits. This memorandum provides the status of the District's efforts to identify and mitigate the causes of these process upset episodes. The subject will be discussed at the October 8, 2013 Planning Committee meeting.

BACKGROUND

In May and June 2013, a treatment process upset event occurred in the MWWTP's activated sludge biological treatment system. The upset condition was characterized by poor settling in the secondary clarifiers, resulting in elevated levels of total suspended solids (TSS) in the treated effluent over a period of five weeks that potentially could have resulted in an NPDES permit violation. Although neither the monthly average TSS limit of 30 mg/L nor the weekly average TSS limit of 45 mg/L were exceeded, individual daily TSS measurements as high as 49 mg/L were recorded during this period. Over the past several years, the MWWTP has experienced a number of similar process upsets.

The MWWTP's secondary treatment system uses beneficial microorganisms to consume organic material in the wastewater. Under normal process conditions, the microorganisms in the activated sludge flocculate and settle out in clarifiers, resulting in effluent with low TSS. Various process control strategies are used to promote the growth of floc-forming microorganisms, but the biological treatment system is dynamic and the desired outcome is not always assured.

The MWWTP plant first experienced elevated levels of TSS due to poor settling of solids in the secondary treatment system in 2006, and again in 2007. Microscopic examination of the biomass during the 2006-07 incidents by District staff revealed the proliferation of

a previously-unknown fast-growing microorganism that was dispersed throughout the liquid phase rather than being incorporated into the flocs. Following the 2007 episode, the District retained an internationally-recognized expert in activated sludge treatment systems from UC Berkeley to evaluate potential causes and mitigation strategies for this problem. The outside expert confirmed that dispersed growth of a unique microorganism was a major contributing cause of the upset, and provided suggestions to pursue to better understand this unique phenomenon.

Regular monitoring over the years has shown that this problematic organism is generally present in the system at low levels, and that at times they rapidly proliferate and dominate the microbial community. There have been six such episodes since 2010 with the most recent incident in May/June 2013 nearly resulting in a discharge permit violation.

After the 2006-07 upset events the District constructed new chemical storage and dosing facilities to feed chemicals to the secondary treatment system to improve flocculation and solids settling during upset conditions. During the recent May/June 2013 event, the District used this chemical addition system to prevent a permit violation.

FISCAL IMPACT

The District has incurred significant capital and operating costs responding to these events. Construction of the chemical addition facilities cost approximately \$1.1 million and response to the May/June 2013 episode was approximately \$85,000 for overtime and treatment chemicals. The projected costs for the steps described below are approximately \$150,000: Stanford research services - \$64,038; specialized laboratory analyses - \$15,000; chemicals and supplies - \$12,600; and peer review estimated at \$50,000 - \$75,000.

CURRENT STATUS AND NEXT STEPS

Staff has developed process control strategies to respond to these incidents of poor settling sludge, which include the addition of chemicals to enhance flocculation and settling. While some of these actions resulted in improved effluent TSS, the dispersed cells continue to episodically bloom and impact effluent quality.

District staff has also worked with Stanford University researchers in developing a project to identify and characterize the problematic organisms responsible for these process upsets. The research team intends to culture and characterize the organisms using specialized methods, and identify the conditions that promote their rapid growth and dispersion. The results of this study should provide valuable information to guide efforts to prevent and manage future episodes. This project is being brought to the Board for consideration at the October 8, 2013 meeting.

In addition, staff is developing an approach to bring in additional wastewater process experts from around the country to peer review this issue and provide their input into the possible cause and/or mitigation techniques that could be best employed.

BKH:DEJ:akg

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 3, 2013

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Bennett K. Horenstein, Director of Wastewater *BKH*

SUBJECT: Update on Richmond Wastewater Services

SUMMARY

City of Richmond (City) and District staff provided an update to the Richmond City Council on September 24, 2013 on the Richmond Wastewater Services Joint Study (Study). District staff described the technical findings of the Study and City staff discussed conclusions and next steps. City staff recommended that the City continue to evaluate regionalization approaches that could help facilitate long-term management of the City's wastewater treatment services, including annexation by the District and conversion of the City's Water Pollution Control Plant (WPCP) to a liquid-treatment-only plant with solids conveyed to the District. City staff also proposed further assessment of two other regionalization approaches that would involve sending flows or solids to West County Wastewater District (WCWD). The City Council voted unanimously in favor of the City staff recommendation to continue evaluation of these regionalization approaches. Staff will provide an update on this project at the October 8, 2013 Planning Committee meeting.

DISCUSSION

As discussed in a September 19, 2013 memorandum, City staff requested support from District staff in providing an update to the Richmond City Council on September 24, 2013. The District staff presentation focused on the technical basis of the Study findings to date. Of the three alternatives evaluated by the District, only one (converting the City's WPCP to a liquid-treatment-only plant with removed solids conveyed to the District's system) was found to be feasible from a regulatory and cost perspective.

City staff then presented several conclusions and recommendations to the City Council. Recognizing that the only feasible alternatives require the continued operation of the City's WPCP, City staff recommended identifying and securing funding for necessary improvements to address safety, compliance, and odor issues. City staff also recommended continued discussion with the District and WCWD on regionalization efforts that could help maximize benefits from capital expenditures. City staff identified four potential regionalization alternatives: 1) annexation of the Richmond Sewer District by the District; 2) conversion of the City's WPCP to a liquid-treatment-only plant with solids conveyed to the District; 3) conversion of the City's

WPCP to a liquid-treatment-only plant with solids conveyed to WCWD; and 4) conveyance of a portion of the City's wastewater flows to WCWD.

City Council asked if the District was open to annexation. District staff stated that the District would only consider annexation if it did not adversely impact the District's existing ratepayers. Both District staff and the representative from WCWD said that, for the regionalization alternatives described above, any capital improvements required to accommodate City flows would have to be paid for by City ratepayers.

The City Council voted unanimously in favor of the City staff recommendation.

NEXT STEPS

District staff will provide support to City staff in further evaluating the alternatives outlined above. District staff will continue to update the Board regarding the results of the analysis and future discussions with the City.

BKH:AET:bmy

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 3, 2013

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ME*

FROM: Bennett K. Horenstein, Director of Wastewater *BKH*

SUBJECT: Gateway Park Project and New Bike Path Update

SUMMARY

Staff has been participating in the planning of the Gateway Park Project as a member of the nine-agency Gateway Park Working Group (GPWG) for nearly five years. The project is now moving forward based on a revised design approach that is supported by the GPWG members. The GPWG consultant team is currently providing updates to various participating agencies with a goal of conducting a public scoping meeting for the associated environmental impact report (EIR) by the end of 2013. In addition, a new bike and pedestrian path immediately north of the Main Wastewater Treatment Plant (MWWTP) was opened during Labor Day weekend. These two project developments will greatly increase the public's proximity to the District's wastewater operations. Staff will provide an update on the Gateway Park Project at the Planning Committee meeting on October 8, 2013.

DISCUSSION

Gateway Park Project

Caltrans is required to develop the Gateway Park Project as mitigation for the I-80 bridge and freeway construction project along the East Bay shoreline. The nine agencies comprising the GPWG are the Association of Bay Area Governments (ABAG), the Bay Area Toll Authority (BATA), the Bay Conservation and Development Commission (BCDC), Caltrans, the California Transportation Commission (CTC), the City of Oakland, the District, East Bay Regional Park District (EBRPD), and the Port of Oakland. Based on project "Visioning Conferences" held in 2008 and 2009, the proposed project area was expanded far beyond Caltrans' original commitment to EBRPD with an emphasis on coordinating design with adjacent property owners, including the City of Oakland and the District.

The District's primary interest as a member of the GPWG is to ensure that critical wastewater facilities located within the development area are protected and accessible during and after project construction. Critical District facilities include the 9-foot-diameter effluent outfall and the dechlorination facility. The outfall runs from the Main Wastewater Treatment Plant (MWWTP) to the base of the Bay Bridge and conveys final treated wastewater effluent from the MWWTP to

San Francisco Bay. The dechlorination station is located at the base of the Bay Bridge and is essential to removing residual chlorine prior to effluent discharge. The project design has been revised to be more protective of the District's infrastructure and should reduce the number of conflicts and issues during both construction and operation. The key project phases and geographical areas are highlighted in Attachment 1.

New Bike and Pedestrian Path

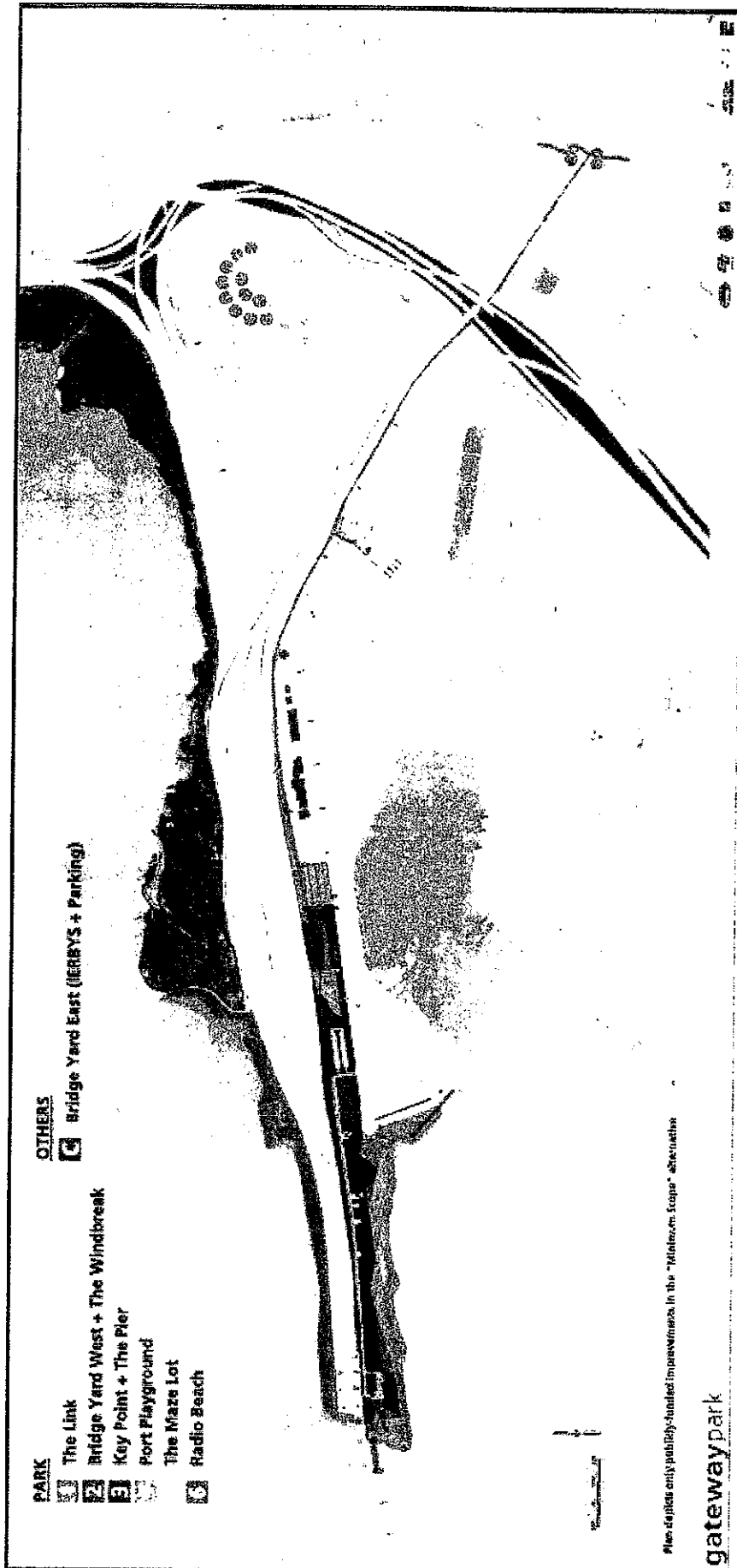
The park will be built around the new bike and pedestrian path that was opened to the public this past Labor Day weekend to connect the existing bike path along the East Bay shoreline to the new Bay Bridge eastern span. The path is heavily utilized by the public and has heightened staff's efforts to minimize offsite odors from the plant. Staff worked with Caltrans to install three interpretive signs along the path immediately adjacent to the MWWTP, highlighting key wastewater treatment processes, renewable energy initiatives, and efforts to protect San Francisco Bay.

NEXT STEPS

The GPWG consultant team will present a revised park design and phasing plan to the BCDC Design Review Board on October 7, 2013. A public scoping meeting to initiate the EIR process with a broad public outreach process is expected to be conducted by the end of the year. The EIR process is anticipated to be completed by March 2015. Staff will continue to ensure protection of critical infrastructure and safe and continuous access to District facilities as a member of the GPWG.

BKH:VPD:vpd

Attachment



Gateway Park Project Phasing Plan

