

ALAMEDA COUNTY WATER DISTRICT MEMORANDUM

DATE: July 3, 2008
TO: Board of Directors
FROM: Paul Piraino
SUBJECT: STAFF REPORT, ACTION CALENDAR ITEMS FOR July 10, 2008

5.1 AUTHORIZATION OF RESERVE APPROPRIATION AND PURCHASE ORDER FOR CONSULTANT SERVICES FOR WTP2 BROMATE REDUCTION STUDY

BACKGROUND: Bromate is regulated by the California Department of Public Health at a maximum contaminant level (MCL) of 10 parts per billion (ppb), based on a running annual average. Last year, the average bromate level from Water Treatment Plant No. 2 (WTP2) was 5.6 ppb. However, the District detected unusually high bromate levels in July 2007 in the finished water at WTP2. Elevated bromate levels can occur when there is a higher bromide content in the raw water which reacts with ozone, the primary disinfectant at WTP2, to form bromate. Normally, the District begins receiving raw water with elevated bromide levels in the fall when there is a higher chloride content in the Delta. To address concerns with higher bromide levels in the Delta, which might result from a prolonged drought, the District hired a consultant, Water Quality & Treatment Solutions (WQ&TS) in October 2007, to investigate alternative process strategies for controlling the formation of bromate. The cost for the consultant services was \$9,750 and they initially identified a strategy to control bromate formation upstream of the ozone contactors. The limited testing performed last fall was promising. Additional consultant services are needed to assist the District in further investigating downstream treatment processes.

DISCUSSION: The bromate formation control study will investigate pH suppression using different points of ozone dosage, and pretreatment options. The scope of consultant services for this phase includes: further analysis of data collected during the first phase, development of a comprehensive full plant testing protocol, analysis of data collected from phase two, an evaluation of alternative control strategies on other treatment processes at WTP2, a cost/benefit analysis, operator safety, and ease of plant operation.

WQ&TS's estimate for this work is \$53,645 and includes a \$5,000 contingency. The consultant services will be performed on a time-and-materials basis as directed by the District. In addition to the consultant services, laboratory services for chemical analyses not performed by the District's water quality laboratory, and specialized equipment and materials needed to conduct testing with sulfuric acid are estimated at \$30,355. Funding for this phase of the study was not included in the budget, and a Reserve Fund appropriation in the amount of \$84,000 is therefore required.

RECOMMENDATION: By motion, 1) authorizes a reserve appropriation in the amount of \$84,000 for the WTP2 Bromate Reduction Study, Job 6346; 2) authorize a purchase order to Water Quality and Treatment Solutions for consultant services in amount not to exceed \$53,645; and 3) authorize

the General Manager to execute a services agreement.

5.2 AUTHORIZATION TO EXECUTE A MEMORANDUM OF UNDERSTANDING FOR PROCUREMENT OF REVERSE OSMOSIS EQUIPMENT FOR THE NEWARK DESALINATION FACILITY EXPANSION PROJECT

BACKGROUND: The Newark Desalination Facility (NDF) Expansion Project will increase the permeate capacity of the facility from 5 to 10 million gallons per day (MGD). Design is approximately 99% complete. Staff plans to advertise the construction of the project during August and construction and startup is currently scheduled to be completed during December 2009.

On December 13, 2007, staff explained to the Board that additional reverse osmosis equipment is required for the expansion project and that there were significant advantages to matching the existing equipment as closely as practical: 1) the existing equipment is performing well; 2) duplicate equipment skids simplify operation and maintenance; and 3) cost efficiencies should be realized, since the engineering work was previously performed by the vendor during the original installation. To procure the equipment, a Pre-Select and Pre-Negotiate approach was used. This approach involved the initiation of discussions with Membrane Systems Incorporated, the manufacturer of the existing equipment, to negotiate a fair price for the equipment. The equipment would then be purchased at the negotiated price by the General Contractor who will be the successful bidder for the construction contract. The primary advantage of this approach is that it prevents the equipment vendor from increasing its price when named as a sole-source provider.

DISCUSSION: The required reverse osmosis equipment consists of two 2.5 MGD capacity skid units equipped with skid mounted process instrumentation and control valves, reverse osmosis pressure vessels, spiral wound membrane elements, and energy recovery turbines. Field technical support services, development of engineered shop drawings, interfaces with General Contractor furnished equipment, and other pertinent information necessary for the installation of the reverse osmosis skids are also required to be furnished by the equipment vendor.

After several rounds of discussions, technical clarifications and negotiations, Membrane Systems Incorporated has proposed a price for the equipment, field support, and engineering services of \$2,054,000. The equipment is essentially identical to the existing equipment, with the exception of improvements to reflect the current state of the art of reverse osmosis technology and requests made by the District staff. This price is actually less than the competitively bid price for the original equipment (\$2,180,000) in 2001. The proposed price is also competitive with bids received by other agencies for similar projects within the last year. For example, the unit price per MGD for the NDF Expansion Project is \$0.41 and the unit price per MGD for four other projects ranging in capacity from 1.5 to 6 MGD was \$0.34 to \$0.90. For these reasons, staff believes that the proposed price is fair and reasonable.

To ensure that the specified equipment will be furnished to the successful construction bidder at the negotiated price, staff has worked with District Counsel and with Membrane Systems Incorporated to draft a Memorandum of Understanding (MOU). The MOU stipulates that Membrane Systems Incorporated will enter into a commercially reasonable purchase order agreement with the District's

General Contractor to: 1) fabricate and furnish two 2.5 MGD reverse osmosis skids, complete with energy recovery turbines, valves, and instrumentation; 2) furnish technical field support services to assist with the assembly and commission testing of the reverse osmosis skids; 3) comply with all submittals, as-built documentation, and other requirements specified in the construction contract; and 4) limit its compensation to \$2,054,000. Additionally, Membrane Systems Incorporated also agrees to post a security bond in the amount of 10% of the negotiated price that will remain in force until a purchase order agreement is executed with the District's General Contractor. The negotiated price may be adjusted to account for cost escalation should the District fail to issue a Notice of Award to a General Contractor for the construction of the Expansion Project within 120 calendar days of the effective date of the MOU.

RECOMMENDATION: By motion, authorize the General Manager to sign a Memorandum of Understanding with Membrane Systems Incorporated for the Procurement of Reverse Osmosis Equipment for the Newark Desalination Facility Expansion Project, Job 6283.

5.3 AUTHORIZATION OF GENERAL MANAGER TO NEGOTIATE AN AGREEMENT WITH EAST BAY REGIONAL PARK DISTRICT FOR A MUSSEL PREVENTION PILOT PROGRAM AT QUARRY LAKES

BACKGROUND: On June 12, 2008, the Board authorized the General Manager to negotiate an agreement with the East Bay Regional Park District, Santa Clara Valley Water District and Zone 7 Water Agency for a pilot boat inspection program for Quagga and Zebra Mussel prevention at Lake Del Valle, to be administered by East Bay Regional Park District (EBRPD). A similarly-purposed pilot program at a reduced scale for Quarry Lakes is being proposed that would be funded through an agreement between EBRPD and ACWD. It is anticipated that, once approved, the pilot program would run through the remainder of this year's boating season (until December). The program would include cost-sharing for one temporary park ranger for three months to cover boat inspections five days per week, including weekends, during the five-month pilot program. During the afternoons, evenings, and fall months, inspections would be covered by existing park staff. The lakes would be closed to boating on Tuesdays and Wednesdays.

ACWD's portion of the cost for the pilot program is estimated to be \$7,200. This represents a significant reduction in the cost originally proposed for the program, as EBRPD will be taking on a substantial portion of the pilot program using existing staff. EBRPD will track staff time spent on inspections to aid in planning for a long-term mussel prevention program.

DISCUSSION: ACWD and EBRPD jointly share concerns over the potential consequences of an infestation at Quarry Lakes. EBRPD would suffer damage to the aquatic ecosystem and reduction in recreational opportunity at the lakes, and ACWD would experience impaired groundwater recharge operations and greatly increased costs for maintenance and capital improvements. It is anticipated that significant maintenance costs would be incurred for cleaning slide gate structures, pipelines, flow meters, and water level indicators. While the variability of mussel growth rates in the West is still being studied, it is likely that once mussels populate the lakes, infrastructure will need to be cleaned of mussels at least once per year to start, and with increasing frequency once the population becomes well-established. It is estimated that each round of infrastructure cleaning will cost on the

order of \$50,000 or more. In addition, some critical pieces of infrastructure that are subject to Department of Safety of Dams requirements may need to be cleaned more often to ensure they are serviceable in emergencies. It is unknown whether or not a widespread mussel infestation would significantly affect groundwater percolation rates, but additional maintenance and eradication efforts could be needed if this were to become an issue.

Postponing implementation of a boat inspection program at Quarry Lakes would result in a higher risk of infected boats visiting the lake after being turned away from other local reservoirs with existing inspection programs. Given the significant damage and costs associated with a potential mussel infestation, staff recommends that the proposed joint mussel prevention program covering 5 days per week be implemented as soon as possible on a pilot basis. The collection of data during the pilot inspection program will enable an assessment of program effectiveness and development of the long-term strategy that best meets the agencies' joint interests.

RECOMMENDATION: By motion, authorize the General Manager to negotiate an agreement with EBRPD to fund a pilot Quagga and Zebra Mussel prevention program for Quarry Lakes to cover five days per week.

5.4* ADOPTION OF RESOLUTION AUTHORIZING EXECUTION OF AGREEMENTS WITH THE NATIONAL FISH AND WILDLIFE FOUNDATION FOR GRANTS SUPPORTING ALAMEDA CREEK FISHERY PROJECTS

BACKGROUND: Full fish passage restoration within Alameda Creek will ultimately require the completion of several District projects, including the Rubber Dam No. 1/BART Weir Fish Ladder and the Rubber Dam No. 3 Fish Ladder Projects. To fund the fish ladders and other needed projects, District staff is actively pursuing available grant funding opportunities.

On August 9, 2007, the Board authorized an agreement with the Alameda County Flood Control and Water Conservation District for the joint development of a preliminary design of the Rubber Dam No. 1/BART Weir Fish Ladder. This agreement stipulated that the two agencies would equally share in the consultant costs for that fish ladder and jointly pursue and share grant funding opportunities. On May 15, 2008, the Board authorized staff to procure Engineering services for the preliminary design for the two fish ladders and design work is beginning. The Rubber Dam No. 1/BART Weir Fish Ladder is currently scheduled to be completed in 2010 and the Rubber Dam No. 3 Fish Ladder is scheduled to be completed in 2012.

During February and April 2008, two separate \$500,000 grants were awarded by the National Fish and Wildlife Foundation (NFWF) for the Rubber Dam No. 1/BART Weir Fish Ladder and the Rubber Dam No. 3 Fish Ladder Projects, respectively.

DISCUSSION: The District must enter into agreements with NFWF for each of the two projects to receive its share of the grant funding for the two projects. The agreements require that all of the NFWF grant funding be used to cover preliminary and final design, permitting, and CEQA documentation expenditures for these projects. ACWD staff and legal counsel have reviewed the agreements and determined that the terms are acceptable.

RECOMMENDATION: By motion, adopt a resolution authorizing the General Manager to execute grant agreements with the National Fish and Wildlife Foundation for the Rubber Dam No. 1/BART Weir Fish Ladder Project and the Rubber Dam No. 3 Fish Ladder Project.

5.5* RESOLUTION ACCEPTING COMPLETION OF 2007 POTABLE WATER STORAGE FACILITY CLEANING

BACKGROUND: On December 14, 2006, the contract for cleaning and inspecting Whitfield Reservoir, Appian Tank, and Vineyard Heights Tank using underwater divers was awarded to Liquivision Technology, Inc. in the amount of \$138,610. The primary purpose for cleaning these storage facilities was to remove the sediment that had accumulated at the bottom of these facilities since they were last cleaned.

DISCUSSION: The contractor began the sediment removal work on February 5, 2007 with Whitfield Reservoir and took approximately 17 working days to complete the cleaning of the reservoir. After completing Whitfield Reservoir, the contractor moved its diving and sediment containment equipment to Appian Tank and began cleaning Appian Tank on April 23. The tank took only two days to clean and final inspection took place on April 24, 2007.

Because of concerns about taking Vineyard Heights Tank off-line during the latter part of spring when daytime temperatures and corresponding water demands are highly variable, the District decided to postpone the work until winter 2008. The contractor agreed to the postponement at no additional cost to the District. The contractor mobilized and began cleaning Vineyard Heights Tank the first week in January 2008. Final inspection of the tank was on January 8, 2008 and the contract was substantially completed on February 20, 2008. There were no cost changes to the contract.

RECOMMENDATION: By motion, adopt a resolution accepting the completion of the contract for 2007 Potable Water Storage Facilities Cleaning, Job 2387, in the amount of \$138,610.

5.6* RESOLUTION ACCEPTING COMPLETION OF 2008 POTABLE WATER STORAGE FACILITY CLEANING

BACKGROUND: On February 14, 2008, the contract for cleaning and inspecting Decoto Reservoir using underwater divers was awarded to Liquivision Technology, Inc. in the amount of \$89,360. The primary purpose for cleaning the reservoir was to remove sediment that had accumulated at the bottom of the reservoir since it was last cleaned nine years ago.

DISCUSSION: The contractor began cleaning the reservoir on April 3, 2008 and took approximately 12 working days to complete the sediment removal work. Final inspection of Decoto Reservoir took place on April 18, 2008, and the contract was substantially completed on May 16, 2008. There were no change orders issued by the District.

RECOMMENDATION: By motion, adopt a resolution accepting completion of the contract for 2008 Potable Water Storage Facility Cleaning, Job 6343, in the amount of \$89,360.

5.7* AUTHORIZATION OF PURCHASE ORDER FOR DISPOSAL OF MATERIALS TO LANDFILL

BACKGROUND: ACWD crews perform a variety of construction and maintenance work throughout the District's service area. Landscaping, site demolition, system repairs and installations can occur during normal working hours, off-hours weekdays, weekends, and holidays. Excavations for leaks, replacements, and new installations are required for the majority of this work. Subsequently, a variety of refuse materials is generated that needs to be disposed of in a proper manner. Other common materials generated by District operations and in need of disposal include rubbish, concrete, asphalt, soil, tires, wood, and vegetation.

DISCUSSION: There are a limited number of disposal sites throughout the general area and travel time is an important factor to consider when deciding where to dispose of spoils. In the past many different sites were utilized, but as more and more site close or restrict their operations we have increased our usage of the Tri-Cities Waste Management facility located at 7010 Auto Mall Parkway in Fremont. This location is no longer in business. The new location is Newby Island Landfill at 1601 Dixon Landing Road, Milpitas CA. Currently, expenditures for FY 07/08 will approach \$85,000. It is anticipated that we will continue utilizing this site on an increasing basis. FY 08/09 expenses are estimated to be around \$100,000. Sufficient funds have been budgeted for these expenditures.

RECOMMENDATION: By motion, authorize a purchase order for Newby Island Landfill for disposal of a variety of materials at prices quoted for FY 08/09.

5.8* RENEWAL OF WORKERS' COMPENSATION INSURANCE COVERAGE FOR FISCAL YEAR 08/09

BACKGROUND: California State Law requires every employer to have and maintain Workers' Compensation Insurance for all employees who may be injured on the job. This insurance provides for no-fault coverage including medical treatment, temporary total disability, and permanent disability for an injured worker.

DISCUSSION: The District is currently a member of the Special Districts Risk Management Authority (SDRMA), a Joint Powers Insurance Authority (JPIA), which provides its members the ability to pool their risk and to spread that risk out over its membership. By doing so, each member reduces its liability and in turn reduces the costs of Workers' Compensation Insurance Premiums.

The premium costs for a no deductible policy are established by multiplying the annual payrolls for employees in a given Workers' Compensation Classification times the classification code rate for that group of employees. Once the base premium is determined it is multiplied times the Experience Modifier (ExMod) to determine the total premium cost.

In March 2006, legislation was passed which changed the reserving practices for all self-insured programs requiring programs to fund reserves at 120%. This change dramatically affected the ExMod of employers self-insured through a JPIA. As a result, the District saw an increase of its ExMod from 0.74% to 1.13%, resulting in a premium increase of nearly 53% over the previous year

(from \$438,944 to \$675,062). The ExMod calculated for the FY 08/09 policy year is 1.19% and the estimated premium after the April 2008 rate reduction is \$593,989.

In order to address the rising costs associated with the increasing ExMod and resulting premium increases, staff conducted an analysis to determine if moving to a high deductible policy was feasible. This type of policy has fixed administrative expenses and would cover claims in excess of \$350,000. The District would be responsible to maintain a budget to cover all administrative expenses and anticipated losses associated with each claim as well as maintaining a reserve sufficient enough to cover a high loss year. The SDRMA administrative expense for this option was calculated to be \$233,118 and anticipated losses (based on average losses over the past 5 years) were estimated at \$371,000. The expected cost of a high deductible policy would thus be \$604,118. In comparison to the no deductible policy cost of \$593,989, moving to the high deductible policy is not recommended at this time. However, staff will continue to assess the feasibility of moving to a high deductible plan.

The premium of \$593,989 for the SDRMA's no deductible policy is within the FY 08/09 budgeted amount of \$855,192 for workers' compensation insurance. The balance of the budgeted funds for FY 07/08 and FY 08/09 will be placed in reserve in anticipation of moving to a high deductible program in the near future. This recommendation was reviewed with the Administrative and Finance Committee on June 24, 2008, and the committee concurred with the recommendation.

RECOMMENDATION: By motion, accept the renewal of the District's no deductible Workers' Compensation Insurance policy with the Special Districts Risk Management Authority for FY 08/09 at a premium total cost of \$593,989.

5.9* RENEWAL OF PROPERTY AND LIABILITY INSURANCE COVERAGE FOR FISCAL YEAR 08/09

BACKGROUND: The renewal date for the District's property and liability insurance coverage is July 1, 2008.

DISCUSSION: The District participates in the Special District Risk Management Authority (SDRMA) Property and Liability Insurance Program. The SDRMA program provides property and general liability, commercial automobile, employment practices and employee benefits liability, and public officials' errors and omissions and personal injury coverage of up to \$10 million per occurrence. The District has an additional \$10 million in excess liability coverage, for a total coverage limit of \$20 million per occurrence, to provide the District with further protection in the event of a major catastrophic event. SDRMA has submitted their insurance premium renewal quote for FY 08/09 in the amount of \$ 687,695, a decrease of 0.7% over the base premium paid last year. The renewal premium will be further reduced by a refund of \$30,814 (current estimate) that will be earned by the District in FY 07/08 under the credit incentive program. The credit incentive program provides the District with the opportunity to save up to an additional 15 percent in basic liability premiums based on policies and safety related programs implemented by the District during the previous fiscal year.

In addition to the credit incentive program, the District will also continue to realize additional savings by maintaining its current deductible level at \$25,000. Based on the average of premiums and cost of claims paid over the past five years, this deductible level will provide the District with the optimal balance between potential premium savings and the higher costs that could be paid by the District under the other higher deductible limits. The \$25,000 deductible level will result in a discount of \$77,709 and further reduce the FY 08/09 base premium to \$579,172. Staff will perform an analysis at fiscal year end to determine the net premium savings to the District. Based on this year end review, the District will have the option to retain or increase the deductible level or return to its previous deductible levels. Any premium savings will be accumulated as a potential self insured reserve fund to apply against future claims.

This item was reviewed with the Administrative & Finance Committee on June 24, 2008. The committee concurred with the recommendations. There are sufficient funds in the FY 08/09 proposed budget for the cost of the insurance coverage.

RECOMMENDATION: By motion, accept the Special District's Risk Management Authority's proposal for renewal of FY 08/09 property and liability insurance coverage.

5.10* APPROVAL OF BOARD PRESIDENT'S ACTION TO AUTHORIZE A PURCHASE ORDER FOR PHASE 2 FLOW STUDIES FOR THE ALAMEDA CREEK FISHERIES WORKGROUP

BACKGROUND: In 2006 stakeholders of the Alameda Creek Fisheries Workgroup signed a Memorandum of Understanding on Alameda Creek Fisheries (MOU). The MOU identified the need for fishery flow studies to determine the amount of flows required to support a restored steelhead fishery in the Alameda Creek Watershed. The consulting firm, McBain and Trush, was selected by the Workgroup to conduct the first phase of these flow studies. The Phase 1 effort consisted of a review of existing information and development of a methodology and study plan for subsequent studies. The Phase 1 work was completed in January 2008.

DISCUSSION: The Phase 1 work plan identified specific field studies that needed to be conducted in the watershed to develop the information necessary for determining flow needs for a steelhead fishery. As part of the second phase of the flow studies, the Workgroup and its stakeholders are working collaboratively to develop and conduct these field studies. As part of this effort, the Workgroup has asked McBain and Trush to provide a proposal for consulting services for the Alameda Creek Fisheries Workgroup for specific Phase 2 flows studies. These studies will provide information regarding habitat quality and quantity under alternate flows for key reaches of the watershed in order to determine how various flow regimes may influence steelhead populations. The proposed scope of work will include the initial tasks to conduct the habitat-flow studies; however, the actual field studies will be performed under a subsequent scope of work.

The proposed budget for this initial Phase 2 study is \$69,000. ACWD's share of this Phase 2 study cost is \$8,000. Under the MOU cost sharing agreements, ACWD will be reimbursed by the State Coastal Conservancy, SFPUC, Zone 7 Water Agency and PG&E ("Phase 2 Cost-Sharing Partners") for the balance of the study costs (\$61,000). ACWD has agreed to administer the contract with the

consultant on behalf of the Fisheries Workgroup and the Phase 2 Cost Sharing Partners. ACWD will also be participating in the Workgroup's Flows Subcommittee which will be providing oversight of the consultant. The McBain and Trush proposal has been reviewed by all of the Phase 2 Cost-Sharing Partners and has received approval from the Alameda Creek Fisheries Workgroup. There are sufficient funds in the FY 08/09 budget for ACWD's share of the study costs (\$8,000). In order for McBain and Trush to begin work on this project as soon as possible, District staff obtained the Board President's approval of the purchase order for the Phase 2 study effort on June 20, 2008.

RECOMMENDATION: By motion, approve the Board President's action to: 1) authorize a Purchase Order to McBain and Trush in an amount not to exceed \$69,000 for consulting services for technical support services for the Phase 2 Alameda Creek Flow Studies, with \$61,000 of the costs to be reimbursed through cost-sharing with the State Coastal Conservancy, SFPUC, Zone7 and PG&E; and 2) authorize the General Manager to execute a services agreement with McBain and Trush for the technical support services.

Attachments

cc: Executive Staff