

**CALLED MEETING OF THE BOARD OF WATER WORKS TRUSTEES
HELD AT THE OFFICE OF THE DES MOINES WATER WORKS
PURSUANT TO NOTICE, TUESDAY,
November, 2015**

Present: Mr. Graham R. Gillette, presiding; Mr. David A. Carlson, Ms. Leslie A. Gearhart, Ms. Susan R. Huppert, and Mr. Marc R. Wallace. Staff members attending were: Pat Bruner, Ted Corrigan, Peggy Freese, Doug Garnett, Michelle Holland, Amy Kahler, Mike McCurnin, Laura Sarcone, Bill Stowe, Jennifer Terry and Michelle Watson. Also in attendance was Rick Malm, legal counsel. Also in attendance were: Sam Carrell and Zac Voss, Des Moines Water Works Park Foundation.

Consent Agenda – A motion was made by Mr. Carlson, seconded by Ms. Gearhart, to approve Consent Items A, B, C, D, and E (approval of the minutes, October 27, 2015, Board of Water Works Trustees meeting; minutes, November 5, 2015, Finance and Audit Committee meeting; filing of the financial statements for audit purposes; approval of payments for October 2015; summary of CEO-Approved Expenditures in Excess of \$20,000; and approval of December 15, 2015, as the next meeting of the Board of Water Works Trustees). Mr. Stowe highlighted new financial graphs included in the Board materials. In addition, the October payments include a payment to Mr. Stowe for \$118 for travel expenses to Association of Metropolitan Water Agencies conference in Savannah last month. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion.

Public Comment Period – None.

Proposed 2016 Budget – Chairperson Gillette opened a Public Hearing for comments from the public regarding the Proposed 2016 Budget. Referencing materials provided, Mr. Stowe noted the significant size of the \$59.4 million proposed budget for 2016, which includes approximately \$40 million for operating and maintenance expense and \$20 million for capital expenditures. Mr. Stowe also noted that the utility is expected to see higher energy costs and higher lime residual removal costs in 2016. Mr. Stowe advised the Board that negotiations of Payment in Lieu of Taxes (PILOT) with the City of Des Moines have stopped. Des Moines Water Works paid \$760,000 in 2015 in good faith, even though previous contract had expired. An important capital improvement project in 2016 will be a connection to the sanitary sewer for nitrate removal facility discharge. Mr. Stowe stated staff will provide the Board a five year capital improvement plan in January. Receiving no oral or written comments from the public, the Public Hearing was closed. A motion was made by Mr. Wallace, seconded by Ms. Huppert, to approve the 2016 Des Moines Water Works budget as presented. Budget impacts of water quality matters and the relationship with the City of Des Moines concerning PILOT payments were discussed. Ms. Huppert asked that PILOT discussion come back to the Board and hopes the City knows the Board is re-thinking the PILOT. Mr. Stowe committed to report back to Finance and Audit Committee on PILOT discussions on a monthly basis. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion.

Acceptance of 2015 Des Moines Water System Improvements – Contract 1 – Mr. Stowe stated that at the February 2015 Board meeting, the Board awarded a contract in the amount of \$1,230,226.85, for the 2015 Des Moines Water System Improvements – Contract 1 project. A motion was made by Mr. Carlson, and seconded by Ms. Gearhart, to accept 2015 Water System Improvements – Contract 1, completed by Holbrook Construction, Inc., in the amount of \$1,199,069.51. The final contract price is 2.5 percent less than the original contract amount due to contract decreases. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion.

Easement for Downtown Bicycle Plan Phase 2 – A Public Hearing was opened by Chairperson Gillette for comments from the public regarding a proposed Easement for Downtown Bicycle Plan Phase 2. Receiving no oral or written comments, the Public Hearing was closed. Mr. Stowe stated that Des Moines Water Works is voluntarily granting easement on our property to the City of Des Moines, for a project to construct a bicycle trail along Fleur Drive. This trail will be placed in two easements on Des Moines Water Works' property. A motion was made by Ms. Gearhart, and seconded by Mr. Wallace to authorize the Chairperson to execute the documents that grant two easements for construction of a bicycle trail. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion.

Approval of Bishop Farms Care and Maintenance Agreement – Mr. Stowe stated Des Moines Water Works owns a series of water bodies along the south side of the Raccoon River, east of the McMullen Water Treatment Plant. The long term plan is to connect all of the water bodies in series to form a "Chain of Lakes," which will be capable of providing up to 15 million gallons per day of low nitrate source water supply. Shortly after DMWW purchased the Bishop Farms property, the property immediately east of I-35, the Iowa Department of Natural Resources (IDNR) approached staff with a proposal. IDNR would manage the property as an extension of Walnut Woods Park in exchange for DMWW allowing public access to recreational opportunities on the property. The proposal was attractive to DMWW because this property is in a remote area and, left unattended, could be misused. In addition, allowing public access to an area where such access is not detrimental to DMWW operations is consistent with our mission of stewardship of public lands. This partnership and the associated public access will also allow us to promote the story of water through signage which IDNR will install on the property highlighting our collaboration. A motion was made by Mr. Wallace, and seconded by Ms. Gearhart, to approve, and authorize the Chairperson and CEO and General Manager to execute, the Agreement by and Between the Iowa Department of Natural Resources and Des Moines Water Works for Care and Maintenance of the Bishop Farms Property. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion.

Approval of United States Geological Survey Stream Gage Agreement – Mr. Stowe stated this is an agreement for cooperation with the City of Des Moines and the City of West Des Moines for operating and maintenance of river gages that are critical to operations. The agreement will renew the current arrangement for 10 years, 2016 through 2025. The agreement covers costs for gages on the Raccoon River at Van Meter, Iowa and at Fleur Drive in Des Moines. These gages are very important to our operations for flood protection and for nitrate treatment. The Van

Meter gaging station includes a continuous online nitrate analyzer which has proven to be very helpful in planning our nitrate treatment strategy on a daily basis. A motion was made by Mr. Carlson, and seconded by Ms. Gearhart, to approve, and authorize the Chairperson and CEO and General Manager to execute, the Agreement Between the City of Des Moines, City of West Des Moines, and Board of Water Works Trustees of the City of Des Moines Iowa for Operation of River Gaging Stations on the Raccoon River. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion.

Proposed 2016 Schedule for Board of Water Works Trustees Meetings and Committee Meetings – A motion was made by Ms. Gearhart, and seconded by Mr. Carlson, to adopt the proposed 2016 schedules for the Board of Water Works Trustees and Committee meetings. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion. The list of meeting dates is attached.

2016 Water Treatment Chemicals – Reference was made to the list of 2016 chemical suppliers for chemicals at all three treatment plants, totaling \$4,841,853.92. Staff's recommendation is usually based on the lowest price per unit for most chemicals; however, it was explained the lowest priced product does not always yield the best value for our operations. The availability of salt is very important for operation of the nitrate removal facility and staff is recommending the most reliable, rather than the lowest, bidder. A motion was made by Ms. Gearhart, and seconded by Ms. Huppert, to award the 2016 contracts for water treatment chemical supplies to the recommended bidders as presented. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion.

2016 Employee Benefit Insurance Renewals – The 2016 renewals for employee medical insurance, retiree medical insurance, employee dental insurance, life insurance and long term disability insurance were presented. For many of the renewals, a cooperative partnership with the City of Des Moines results in a mutually beneficial rate. A motion was made by Mr. Wallace, seconded by Mr. Carlson, to approve the 2016 employee benefits insurance providers and rates. Upon vote, the motion was adopted, with each member of the Board, who is identified above as present, voting in favor of the motion.

Board Committee Reports –

The following reports were provided:

- Ms. Huppert stated that the Finance and Audit Committee met on November 5, 2015, and discussed the 2016 budget and employee benefits.
- Ms. Gearhart had no report on the Greater Des Moines Botanical Garden Board.
- Mr. Wallace noted Des Moines Water Works Park Foundation Board members would benefit from, and appreciate, a treatment plant tour to better understand the process. Mr. Stowe stated that staff will schedule a tour during the first part of next year.
- Ms. Huppert stated she is pleased that Des Moines Water Works has a presence on Greater Des Moines Partnership's Iowa Water Future Task Force. Ms. Huppert recommended that Dr. Larry Weber from University of Iowa IIHR – Hydrosience and Engineering present to the Board on real-time online nitrate data. Mr. Stowe confirmed that Dr. Weber will present at the December 15 Board meeting. Ms. Huppert made a request to Larry James Jr. to discuss representation from environmental and public health

interest groups. The Greater Des Moines Partnership will announce its legislative agenda on December 3.

CEO and General Manager's Comments –

- The Nitrate Removal Facility was activated again last Saturday, with operation for the year now at 152 days of operation and counting. The previous record was 108 days of operation.
- A three-year labor agreement between DMWW and AFSCME will be presented to the Board at the December Board meeting.
- Staff has decided to outsource, through attrition, certain security services of Des Moines Water Works property. There will now be one less Des Moines Water Works Park Officer on staff and the position will be filled by an armed security contract provider.
- CH2M Hill, an engineering consultant, is finalizing a disinfection byproduct mitigation report to be submitted to the DNR, as well as a report for nitrate removal options. The Board needs to be aware of significant capital investments that will be requested in future budgets in view of the report. More details will be reported in the five year capital improvement plan, to be presented to the Board in January.

Adjournment – Meeting adjourned at 4:44 p.m.

Des Moines Water Works Park Foundation First Phase Design Concept – Mr. Sam Carrell presented the first phase of the design concept of Water Works Park. Much work has been done to learn from user and interest groups as well as working with DMWW staff, while maintaining the idea of being flood resilient. The Park Foundation is currently fundraising, with a \$9 million goal from private donations, while also pursuing public grant funding.

Meeting ended at 5:30 p.m.

**PLANNING COMMITTEE
OF THE BOARD OF WATER WORKS TRUSTEES
HELD AT THE OFFICE OF DES MOINES WATER WORKS
PURSUANT TO NOTICE**

Tuesday, December 1, 2015

3:30 p.m.

Present:

Board Members: Marc Wallace

Staff Members: Nathan Casey, Ted Corrigan, Peggy Freese, Amy Kahler, Dan Klopfer, Laura Sarcone, Bill Stowe and Jennifer Terry

1. Disinfection Byproduct Mitigation Report – Mr. Stowe stated that the engineering consulting firm CH2M Hill has completed a report respecting remediation of disinfection byproduct in the Water Works system. The submission of a disinfection byproduct remediation report is a compliance requirement of the Iowa Department of Natural Resources resulting from Total Trihalomethane (TTHM) violations in 2014. Mr. Casey explained that Des Moines Water Works uses chlorine as a disinfectant to protect against disease-causing organisms and pathogens. Chlorine can react with naturally occurring organic matter in raw water, generally quantified as total organic carbon (TOC), to form disinfection byproducts, including TTHM. In 2014, TTHM levels exceed the maximum containment level (MCL) under the Safe Drinking Water Act of 80 ppb. The locational running annual average in quarter 1 of 2014 was 171 ppb. Since the requirement is a running annual average, the violation caused the Des Moines Water Works system to violate the MCL for TTHM four consecutive quarters. Several recommended options for remediation were provided by the CH2M Hill report, including enhanced softening, chloramination, use of powder activated carbon, and aeration in finished water tanks. Mr. Stowe noted that some proposed solutions could address both TTHM and nitrate removal. The compliance plan submitted to DNR includes the consultants' recommendation for operational changes: enhanced treatment processes, targeted distribution system flushing, maximize use of Saylorville Water Treatment Plant and the use of ion exchange. The compliance plan also contemplates proposed capital projects for mixing improvements in the treatment basins and aeration of finished water. Aeration technology of the kinds as installed at the Shared East Elevated Water Storage Tank as a result of a project completed in 2015 will be also be utilized in other water storage facilities throughout the system. Mr. Stowe stated that a five year Capital Improvement Plan will be presented to the Board in January 2016, which will include DBP projects required to achieve compliance. Disinfection byproduct capital projects will begin 2017 through 2019, for a total currently estimated cost of \$10,850,000. Mr. Klopfer noted that the compliance plan includes the least costly capital improvement projects recommended by the consultant.
2. CEO and General Manager's Comments – Mr. Stowe stated that the denitrification units are in operation in order to effectively treat water for our customers.
3. Public Comments – None

Meeting adjourned at 4:24 p.m.

**FINANCE AND AUDIT COMMITTEE
OF THE BOARD OF WATER WORKS TRUSTEES
HELD AT THE OFFICE OF DES MOINES WATER WORKS
PURSUANT TO NOTICE**

Tuesday, December 8, 2015
3:30 p.m.

Present:

Board Members: Leslie Gearhart and Graham Gillette

Staff Members: Ted Corrigan, Peggy Freese, Doug Garnett, Dan Klopfer, Mike McCurnin,
Bill Stowe, and Laura Sarcone

1. Disinfection Byproduct Mitigation Report – Mr. Stowe stated that the engineering consulting firm CH2M Hill has completed a report for remediation of disinfection byproduct in the Des Moines Water Works system. The submission of a disinfection byproduct (DBP) remediation report is a compliance requirement of the Iowa Department of Natural Resources (IDNR) resulting from Total Trihalomethane (TTHM) violations in 2014. The submitted report includes financial commitments for capital improvements. Mr. Stowe stated that a five year Capital Improvement Plan (CIP) will be presented to the Board in January 2016, which will include DBP projects required to achieve compliance as well as denitrification options. Mr. Corrigan explained that Des Moines Water Works uses chlorine as a disinfectant to protect the health and safety of finished water against disease-causing organisms and pathogens. Chlorine can react with trace amounts of naturally occurring organic matter in raw water, generally quantified as total organic carbon (TOC) and ammonia, to form DBPs, including TTHM. DBPs continue to form throughout the distribution system as long as the organics are in contact with chlorine. There are many sources of ammonia in our source water – including millions of pounds of anhydrous ammonia applied to agriculture land and millions gallons of manure from animal feeding operations. When ammonia and TOC are present in the water, staff is forced to aggressively feed additional chlorine to make sure enough disinfection is present to protect throughout the distribution system. Long term exposure to disinfection byproducts have been linked to liver, kidney, central nervous system problems, and increased risk of cancer. In 2014, TTHM levels in the Des Moines system exceed the maximum containment level (MCL) under the Safe Drinking Water Act set at 80 ppb. The locational running annual average in quarter 1 of 2014 was 171 ppb. Since the requirement is a running annual average, the violation caused the Des Moines system to violate the MCL for TTHM four consecutive quarters, resulting in four consecutive public notices to customers. Several recommended options for remediation were provided by the CH2M Hill report, including enhanced softening, chloramination, use of powder activated carbon, and aeration in finished water tanks. Staff pilot tested all the recommend options at the Fleur Drive and McMullen Treatment Plants. Saylorville Water Treatment uses membrane technology which very effectively removes TOC, resulting in much lower DBP levels leaving from that plant. After pilot testing and in-house evaluation, staff submitted the compliance plan to DNR, which includes the consultants' recommendation for operational changes: enhanced treatment processes, targeted distribution system flushing, maximize use of Saylorville Water Treatment Plant and expanded use of ion exchange. The compliance plan also contemplates proposed capital projects for mixing improvements in three treatment basins and aeration of finished water. Aeration technology – of the kinds installed at the

Shared East Elevated Water Storage Tank as a result of a project completed in 2015 – will be also be utilized in other water storage facilities throughout the system. Disinfection byproduct capital projects will begin 2017 through 2019, for a total currently estimated cost of \$10,850,000. Of all the recommendations obtained, staff believes this is the most effective and cost-effective plan. If approved by IDNR, the plan will effectively commit the Board to investment in future capital improvements to meet regulatory requirements. Mr. Stowe stated that we have two separate problems – DBP and Nitrate – and staff is looking for solutions to solve both. There are some treatment benefits that will address both. The same consultant will be providing a report for nitrate removal options and staff is seeking to optimize existing technology/facilities. In the five year CIP that the Board will see in January, a capital investment of \$80 million over several years will be proposed for denitrification. Mr. Stowe underscored the need for the current clean water litigation. The continued degradation of source water while meeting safe drinking water standards for customers, is coming at a cost to ratepayers. These capital improvements will have significant future budget and rate implications. Mr. Stowe thanked staff and consultant for working through solutions that addresses both DBP and nitrate removal.

2. CEO and General Manager's Comments – Mr. Stowe stated the denitrification units remain on. They have been operating for 165 days and counting in 2015. The nitrate levels in the rivers remain above 13 mg/L. Mr. Gillette underscored the huge burden for both DBP and nitrate removal. Mr. Stowe noted staff is conducting analyses on bonding and/or purchased capacity to fund capital projects. More detail will be provided at the January Board meeting.
3. Public Comments – None.

Meeting adjourned at 4:30 p.m.