



Minutes
January 9, 2015

The Wastewater Advisory Committee to the MWRA met at the MAPC conference room, 60 Temple Place

Attendees/Contributors:

WAC: Stephen Greene (chair, by phone), Taber Keally (vice-chair), Travis Ahern, Craig Allen, Zhanna Davidovitz, Karen Lachmayr, Beth Miller, Martin Pillsbury, Elie Saroufim

Guests: Wendy Leo (MWRA), Richard Adams (MWRA), Rachel Borgatti (Friends of Fort Point Channel), Soomin Lin (Friends of Fort Point Channel)

Staff: Andreae Downs (WAC),

FUTURE MEETING DATES/TOPICS

NEXT: Feb. 6, 10:30 am, MAPC: Planning for Stormwater, best practices, innovations, outreach, I/I with Charlie Jewel of BWSC, Fred Russell of Brookline

VOTE: Nov. 7 minutes approved.

CHAIRMAN'S REPORTS:

Taber Keally: Vin Spada, now working for the MWRA, has resigned from WAC. Kevin McCluskey has resigned from MWRA, and his replacement is Sean Nardin, in a slightly different position: Director of Inter-Governmental Affairs. Andreae Downs: Nardin comes to MWRA from former Secretary Sullivan's staff at the EoEA, and was in a similar position at DCR. Taber: It was good to have Kevin at WAC meetings regularly. He always contributed pertinent information. I would hope that his replacement would continue that participation.

DIRECTOR'S REPORTS:

Andreae Downs: A representative of In-Sinkerator, which has recently completed a pilot program in waste reduction in Boston, would like to present their findings to WAC. Envisions a very short presentation, or perhaps just a sharing of data, whatever the Committee prefers

Beth Miller: Likes the theme of waste reduction, but would not want WAC to appear to favor a particular manufacturer

Karen Lachmayr: Perhaps this could be added into an update on the co-digestion pilot.

Wendy Leo: If there's an update...the program is currently awaiting action from Waste Management, and there's been no news of late WAC Handbook: Andreae has put together a short history and description of the Committee as well as its operating procedures for those curious about WAC and so the next director will have adequate guidance. It is available for review, and will be updated regularly.

PRESENTATION & DISCUSSION:

Switching the valves at the North Main Pump Station at Deer Island

Rick Adams. Engineering manager, Deer Island Waste Water Treatment Plant (DIWWTP)

Pipes and valves feeding wastewater to the plant in the North Main Pump Station and Winthrop Pump station are near the end of their useful lives (17-18 years old), and need replacement. The biggest (butterfly) valves are at the North Main, 60" and have rubber seals that wear out over time. To just replace the seal is not cost-effective, so the project will replace the entire valve. The current plan is to shut the system down overnight, from 11 pm – 7 am, when flows are lowest (dry weather). The Authority cannot go forward with the replacement without a complete shut-down,

The shut-down of the system won't mean that flow stops coming toward the treatment plant; this will be stored in the system's pipes. MWRA plans to test and model to see how long they can hold flow out of the pump station and in the system.

The contract is \$16 million over 3 years, and includes replacing 20 butterfly valves and 10 flow meters at the North Main (max flow of 800 mgd) station. The meters, which are also near the ends of their useful lives, since replacing these also requires shutting down the system. The South Main is 400mgd and Winthrop handles 200 mgd.

Winthrop Terminal will also be shut down and the valves and flow meters will be replaced. It is tied in to the same system, but is smaller, with pipes 30"-36" and should be easier. It will be the first valve replacement, so the Authority can work out the kinks on the smaller valves.

The work is scheduled to start in June, but the Authority is still monitoring.

Shut Down: The first step is to drain down the system to isolate the pumping station, for which the Authority will need temporary pumps to move about 600,000 gallons into the primary clarifiers. They believe this will take a maximum of two hours to accomplish. That leaves the contractor six hours to work on the valve.

Taber: Can these pumps be used during normal operations? Say in an emergency?

A: No only useful when the valve at the upper level is removed and a blank flange is placed on the opening.

Taber: So there is no redundancy for these pumps to Deer Island?

A: No. We have two 138" force mains and no way to isolate them without the upper level valves in place or a blank flange is in place.

Taber: What happens if one pump fails?

Rick: It would not be a problem. We have 10 pumps, so if one failed, we'd get along with nine (only need 7 during max flow). So, we are redundant after a short shutdown to accommodate a failed valve. The shut downs will only happen in low-flow conditions, i.e. no rain for 24-28 hours. MWRA has full control and can cancel valve work up to 10 am on the day it's scheduled without penalty. The first shut down is expected in June of 2015.

Q: What areas will be impacted?

A: Boston Main, Ward and Columbus Headworks, North Metro Relief and Chelsea Creek. It's about 75% of the system. But we have to do this. Most of the equipment that is being replaced was installed between 1996-1997.

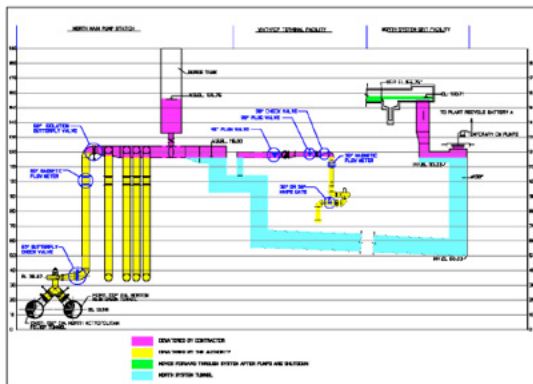
- Slideshow



Thirty feet below this is valve #2. Both get replaced. We will cut the pipe at the elbow and remove the valve in the first outage at each valve. This is the most critical shut-down and replacement. The replacement will include a flange (the original is not), so that next time we have to replace the valves the pipe is bolted, not soldered.

Winthrop's valves were installed in 1995-97 and are all smaller.

- Once the valve is removed, a 36" plug will keep flow out of this set of pipes, and all the meters and valves on this line will be replaced. Once we cut the first valve, the contractor has 21 days to get everything replaced and back on line
- Slideshow

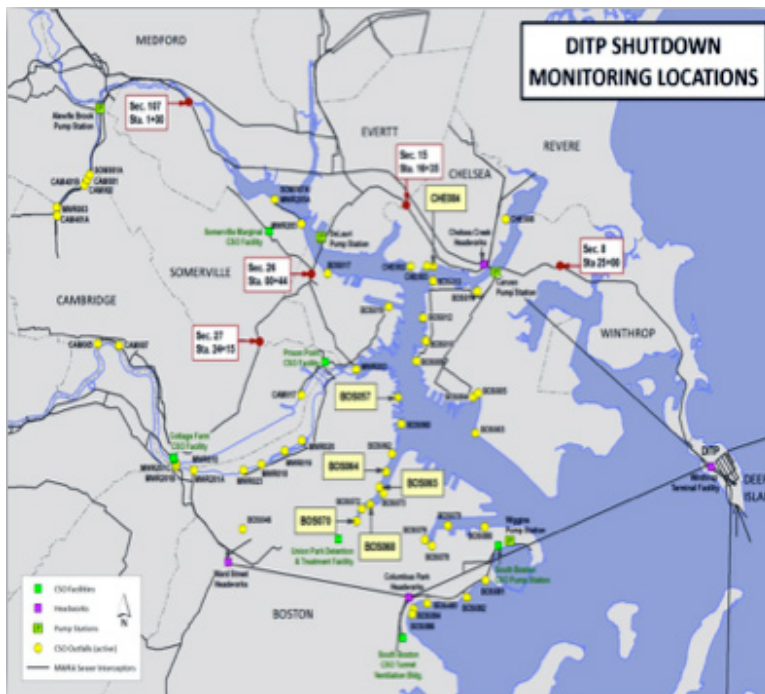


The purple pipes above are de-watered, so that flow doesn't come at workers when they cut off the valve.

Deer Island used to see 350 mgd, but now at less than 300 mgd because of low-flow toilets and appliances. This system handles 207 mgd. We will shut down the pumps by 10:45 so we are ready to go at 11 pm. We have the model and the North System dry-weather study running consistently now and they are up-to-date.

The next step is to test the system while monitoring for flow and height at the weirs to ensure we won't have an overflow.

- Slideshow



- The red dots are areas of concern.

To test the system, we will shut down a branch of the system for 2-4 hours, eventually 8 hours, to see how the model tracks with actual flow. The weir trigger elevation is 2 feet below the spill line. Testing will continue through the end of February. We know we need 8 ½ hours. It would be nice to know if we have 9-10- or 11 hours in case something goes wrong.

If needed, we will be able to isolate a pump/flange. We usually use only 7 pumps at the North Main. Karen: so do you test on a wet day?

A: No. We never want to do this with wet weather. Any precipitation predicted and we will put the tests on hold. We don't want to take a chance.

K: so is it important to pick a day wither it hasn't rained for a week?

A: Groundwater, spring melt, etc. will play a part of course, but we have two years to do this work, so we will have to be doing this throughout the year. Spring will be more difficult, but we can pull the trigger in the morning. Travis: If everything is delayed by wet weather, can you extend the contract?

A: In all our contracts we have clauses. This one can go until June 2017 or 18 if needed. For six different events we can call off work without penalty. We are lucky with this contractor, because some of the folks who worked on installing the original system are working on this.

- Slideshow—map of issues

Keep in mind that we will be very careful. Issues should pop up during testing. If we have to shorten the contractor time for replacing the valves to 7 hours, we will do so.

In 1995 when we replaced these valves, we did so without a problem. But the system has changed a lot since then. We still don't anticipate a problem. We think we have more than 9 ½ hours to do the work. But that first night is critical.

There will be three shutdowns per pump. While things can still go wrong on shutdown 2 & 3, the first one to isolate that top valve is our biggest worry.

Community Briefing—will be to DPWs and general lists, but not every resident. Martin: I'm surprised there's no flange in the original valve
Taber: Or redundancy

Rick: It happens a lot. It's a complicated system to design out, and people forget to think about 15-20 years out.

On a grander scale, at some point we will have to replace the pipes going in to these valves. This will look easy compared to that. The moving parts of the system are needing replacement at 20 years. But the static parts have perhaps 40 years, maybe we'll be lucky and they'll last longer, but wastewater and the grit it carries are hard on parts.

Taber: How will this project affect the overtime budget?

A: Those costs are embedded in our operating budget

T: Sounds like a lot of overtime

A; Yes. But as we get a better handle on it, we will need fewer people on it. We have \$70,000 to get through a lot of 4 hour overtime shifts. Only one is 8 hours.

Andreae: Stephen wanted me to communicate to MWRA how WAC appreciates the difficulty of this project, and to acknowledge that many utilities wouldn't even try it because of that. MWRA is again setting an excellent example of asset protection here.

Boston Water & Sewer Outreach

Elie Saroufim noted that the BWSC is creating a lot of information for customers, to educate them on how their behavior can affect problems in the storm water and sewer systems. They are steering the messaging from what is causing the problems to what they can do.

The first focus was storm water, and the BWSC decided to make their information general enough so that other municipalities can adopt the information and much of the graphics for use with their own customers.

Among the available information is residential pollutants in sewers, interactive graphics to encourage kids to develop good habits, and producing materials that kids will want to click in, and teachers can use in the classroom. BWSC's educator, Adrianna, is taking the MWRA-developed curriculum to Boston classrooms, and taking classes to the waterways to show them why it is important to protect them. She covers 20 schools/month.

Another focus is on commercial owners. The BWSC is producing post card mailers and book marks for the Library directed at property owners on chemicals that should not be put into the water, behaviors, and cleanup.

The Commission is also trying to recruit “eyes and ears” on the streets, creating “adopt a catch basin” campaigns. They are going to conventions, creating videos, going to condo associations. Elie asked for WAC feedback—ideas, what to add, hints/suggestions for residents. There is still a lot of material to be developed. Visit: Bwsc.org/stormwater or click through storm water on the BWSC home page. Beth: elaborate on what you mean by usefulness Elie: We’d love our materials to be linked to from other sites. We need help understanding other communities’ problems.

Martin: What languages are the materials in? Elie: will be developing Spanish next. We have translators on staff, and they do the printed materials, but have yet to get them onto the website. Our model is Los Angeles. We’d like information in Mandarin and Cantonese, particularly. Taber: Are you working with watershed groups?

Elie: Yes Craig: reminds him of litter campaigns, but they were always aesthetic, not about the effects on waterways.

Zhanna: University/dorm outreach? Elie: Biggest in Boston area don’t have kitchens FOG campaign: “Can the Grease,” particularly before the holidays. Hoping next year to team up with turkey producers.

EPA’s proposed Dental Mercury rule Beth talked about her interview with her dentist. Not sure what we as WAC need to do, but we need to pay attention to this.

John Reinhardt: Because Massachusetts is directly regulated by EPA, the draft rules force individual dentist offices’ into the category for significant industrial waste generators. With the language in the draft regulations, the model program run by MassDEP would be relegated to the sidelines. Would like WAC to say forcefully that because the MassDEP program is a national model, it should be integrated into the regulations, rather than tacked on to the new system.

Craig: So DEP is working with dentists, and everyone is happy with that, while the EPA rule would force POTWs to regulate dentists.

John: Yes. Two other points, on implementation: The EPA would require mercury separators with a 99% removal efficiency. MA requires 98%. The separator ratings are not iron clad, so these two efficiencies are essentially equivalent. We need flexibility there.

Annual certification: MA now requires certifications (for mercury separators) every 5 years, but we are changing to every 2 years to sync up with (current regulations around) certifying the practice. It’s important that 2 years be acceptable.

Major point to make is that EPA needs to accept the Massachusetts program even if it is not an exact equivalent to the proposed program. DEP currently has a ban on bleach to clean dentists’ lines (because it dissolves mercury), and is adding peroxides. It also has a pH regulation on cleaners.

The way EPA laid out the cleaner delineation is not as clear as DEP’s. It’s hard to understand.

Q: John, what is your position on delegation?

A: Massachusetts would benefit because DEP knows its own dischargers better than EPA, but we’d need fees or some other mechanism to fund enforcement. DEP currently has no funds to staff.

WAC asked Andreae to send out the draft Mercury comment letter again; John would add suggested language, which would come back to WAC in time for discussion at the February meeting.