Water Department

Water Commission
7:00 p.m. – December 5, 2016
Council Chambers
809 Center Street, Santa Cruz

Minutes of a Water Commission Meeting

Call to Order Chair Wadlow called the meeting to order at 7:01 p.m. in the City Council Chambers.

Roll Call

Present: W. Wadlow (Chair), L. Wilshusen (Vice-Chair), D. Engfer, A. Schiffrin, D. Stearns

Absent: D. Schwarm (with notification); D. Baskin (with notification)

Staff Present: R. Menard, Water Director; H. Luckenbach, Deputy Director/Engineering Manager; T. Goddard, Administrative Service Manager; K. Crossley, Sr. Civil Engineer; D. Valby, Associate Civil Engineer; I. Rivera, Associate Civil Engineer; K. Dodd, Associate Civil Engineer; T. Ronne, Associate Civil Engineer; M. Zeman, Engineering Associate; A. Poncato, Administrative Assistant III.

Others: There were 13 members of the public.

Presentation: Presentation by Ron Duncan, General Manager of Soquel Creek Water District.

Statements of Disqualification: There were no statements of disqualification.

Oral Communications: Oral communications provided by Becky Steinbruner and Jerry Paul.

Announcements: Ms. Menard stated that we have received $20.4 million dollars from the California Economic and Infrastructure Investment Bank (I-Bank) as reimbursement for capital expenses that have accrued since 2014. As presented in our Long Range Financial Plan, this is the first disbursement of a $25 million loan for major investments made to the water system includes projects such as the Bay Street Reservoir, Graham Hill filter project, North Coast pipeline and the well replacement of Beltz Well #12.

Consent Agenda

1. City Council Actions Affecting Water
2. Approve the November 7, 2016, Water Commission Minutes
3. Approve Revised Financial Reserve Policy and Recommend Adoption to the City Council
4. Water Commission 2017 Meeting Calendar

Commissioner Schiffrin moved the Consent Agenda. Commissioner Wilshusen seconded.
VOICE VOTE: MOTION CARRIED
AYES: All.
NOES: None.
ABSENT: None.

Items Removed from the Consent Agenda

No items were removed from the consent agenda.

General Business

5. Discussion of the status and challenges of water transfers for in-lieu recharge, including participation by staff representatives of the Soquel Creek Water District.
Ms. Menard introduced Taj Dufour, Engineering Manager/Chief Engineer of the Soquel Creek Water District and Christine Mead, Operations and Maintenance Manager of the Soquel Creek Water District who presented an overview of the status and challenges of the water transfers between Santa Cruz and the Soquel Creek Water District for the in-lieu recharge pilot program.

Does Santa Cruz mix our ground water with our surface water?

- We mix ground and surface water in our Beltz Wells system on a seasonal rotation and we have not noticed any particular issues when mixing these water sources.

How is water distributed from the Beltz Wells?

- The Beltz well system generally operates from May to September and we usually have 3-4 wells to choose from during that time period. There is a possibility of flow reversals in the system at start up and shut down because when we are pumping out of the Graham Hill Treatment Plant (GHTP) the water is pushed southward or eastward and the flow has the potential to change direction when we turn on the Beltz Wells, particularly the lower Beltz wells. Changes in water quality that a customer may notice could be from both a change in water quality and a temporary increase in turbidity in the delivered water due to directional changes. We've been using the lower Beltz system since the 1960's and it maybe that both the distribution system and customer plumbing have equilibrated to any seasonal changes to water quality changes that occur.

It was mentioned that the Soquel Creek Water District (SqCWD) only represents 50% of the people who use the water from the aquifer. In terms of the effect on the SqCWD water system, how are the other 50% of users of the aquifer going to be treated? Won't the effect of blending water underground have potential consequences for pipes in the system?

- Two responses:
    - When in lieu water is being supplied, it never goes into the aquifer unless it is in the form of wastewater from an on-site septic system.
    - On the other hand, if we pursue aquifer storage and recovery (ASR), the water does go into the aquifer, and the natural minerals in the aquifer matrix may add minerals to the surface water that end up making it less corrosive. A lot of the

pilot testing work on aquifer storage and recovery is focused on answering this type of question.

If we were to create a timeline from where we are now to when we may be ready to begin pumping water from the City to Soquel, what are some of the critical elements that need to be completed before we can begin?

- One critical element is completion of what is known as a "pipe loop" study. In a pipe loop study, you're evaluating the corrosiveness of a water supply using segments of actual pipe material that are found in your distribution system. You can also do bench scale treatment of the water to determine how effective different approaches are at reducing the leaching of metals from the pipes.
- Another issue to resolve is whether the pipe loop testing has to be completed using the same conditions as when water would be being transferred to Soquel, i.e., between November – April. Water that would be supplied during this time will have different temperatures than water delivered in the warmer season. So, if the pipe loop study requires matching conditions, we would have to delay the work until next winter.

Will galvanized service lines that bring water from the distribution system to the customer's home or place of business be included in these studies?

- Yes.

When will we be able to determine if it is feasible to go forward with in lieu water transfers, not go forward with in lieu water transfers, or it is only going to be feasible if we spend X amount of money?

- Not sooner than one year but no more than two years from today.

Public comments made by Scott McGilvray and Jerry Paul.

6. Presentation of Projects

Ms. Luckenbach introduced Mr. Crossley who presented an update on the North Coast System Rehabilitation Program and the Tait Wells Replacement project.

How does the North Coast System Rehabilitation program fit into the importance of the overall system in terms of what it allows us to do?

- The North Coast System is the highest quality source of water the city of Santa Cruz has available and it flows year-round. Being able to reliably deliver that water to the treatment plant is important and the rehabilitation project we complete will be a long lasting improvement to our system.

How many more phases are left until the North Coast System Rehabilitation project is complete?

- We anticipate that it will take a total of 6 phases, and we're just completing Phase 3. We expect the remaining phases to take approximately another 15 years to complete.

How does the Tait Wells Replacement project fit into the importance of the overall system in terms of what it allows us to do?

- The Tait Wells helps with water quality in the winter and water supply in the summer.

Does the water in the Tait Wells and the San Lorenzo River surface water have similar chemical characteristics?

- Water from the Tait wells is much more similar in chemical characteristics including conductivity, pH, and temperature than would be the case for our other groundwater sources.

Mr. Crossley introduced Mr. Rivera who presented an update on the Newell Creek Dam Inlet/Outlet Pipeline project.

Why would you choose to do the construction while the reservoir is full rather than draining it first?

- One of the goals is to keep as much water in as possible in Loch Lomond to ensure that we have water during the peak season. If we were to draw down Loch Lomond to accommodate construction, and we had a dry winter the following year, we could find ourselves being unable to refill the reservoir until we had one or more normal winters.

How does the Newell Creek Dam Inlet/Outlet Pipeline project fit into the importance of the overall system in terms of what it allows us to do?

- The Inlet/Outlet pipe allows us to pump water into the reservoir when we have room to store water from the river and bring lake water to town for supply when we need it. When we are unable to use San Lorenzo river water during high turbidity events we are able to bring in Loch Lomond water to the GHTP and to our customers.

Mr. Rivera introduced Mr. Zeman who presented an update on the Felton Diversion Rubber Bladder Replacement and the Graham Hill Treatment Plant Filter Rehabilitation and Upgrades project.

Are our water rights threatened if we continue to not use the Felton Diversion enough, and is the ability to use the diversion dam itself at risk?

- The Water Rights Conformance Project includes a request for an extension of time to demonstrate the full utilization of the 3000 acre feet (about 980 million gallons) of the City's Felton permits. The extension of time to perfect rights is pretty common thing for the State Water Resources Control Board to do, meaning, the City's ability to use the Felton Diversion is likely not at risk.

So does this mean if we were are able to use the amount of water that we have the right to use and need to use to retain that right, that this would be an important addition to our supply, then, to have a facility that does that?

- Yes, in addition to saying that we're going to use it, what the State Board likes to see is that you have the infrastructure available that allows you to use it.

Is this project going to create that infrastructure that will allow us to fully use this water right?

- No, the infrastructure already exists it's only replacing the inflatable dam that allows us to divert the water.

So the reason that we're not using it to the extent that we have the right to use it is that at this point we're only able to store water at the lake, but that the lake gets filled and we could put more in but that it's already full?

- That's part of it but this facility was built to pump water to two dams, only one of which exists. It was built in advance of building Zayante Reservoir so the strategy was to send water to both Loch Lomond and Zayante Reservoir and since the second one was not built it's never been fully utilized.

Seeing as though we have to look outside of the United States to replace the rubber bladder, are there any methods we can purchase in the United States?

- There are a couple other types of movable dam structures in use in the United States. Some of these are steel gates that are propped up, often by an inflatable rubber dam. The inflatable dam is the method of choice for the situation such as ours; it's in a pretty good location for it as the river is fairly narrow and there is lots of tree cover, so it doesn't get a lot of direct sunlight which tends to damage the fabric of the dam over time.

As a result of the enhancements to the filtration stuff, are we able to treat more turbid water?

- That would have to be determined through additional pilot testing. What we're seeing is that some of the filter runs times are longer than we are experienced formerly. We noticed that a computer glitch caused a filter to run past its regular 70-hour run time to 100 hours without any trouble. We are getting water savings during our water backwash system cycle, it's a shorter more aggressive wash but with less water, but it does seem that our finished water turbidity is maybe a little bit lower than we had previously in our filtered water.

Have the upgrades either enhanced or created a new constraint on productive capacity?

- If we were to run the filters at their designed capacity we would be able to treat much more water than we have ever had to and, for that matter, have the transmission facilities needed to bring that quantity of water into the plant. If we change some of those other operating supply parameters we potentially could treat more water through the filtration process than we have prior.

An addition to this is what we're seeing in the disinfection byproducts formation that is really becoming a limiter in what we're dealing with in this treatment plant. We're trying to understand more about how characteristics of the different sources contribute to the formation of disinfection byproducts and how our treatment process is contributing to the problem as well.
Mr. Crossley presented an update on the Concrete Tanks at the Graham Hill Treatment Plant and the Water Resources Management Building project.

There were no questions or comments.

Mr. Crossley introduced Mr. Valby who presented an update on the Trunk Transmission Main Inspection and Condition Assessment Project, the Santa Cruz Wharf Emergency Water Main Replacement Project and the Bay Street Reservoir Replacement project.

How much will the Trunk Transmission Main Inspection cost?

- $335,000

Mr. Crossley introduced Mr. Ronne who presented an update on the U5 Tank Replacement project.

Is the intent to increase the size of the tank?

- No, the tank can hold 2 million gallons of water and we've determined that that is adequate for the area being served by the tank.

7. WSAS Quarterly Review

Mr. Goddard briefly spoke about the steadily failing and aging Sensus metering system and Ms. Luckenbach answered questions about the information provided about the WSAS Quarterly Review.

How many Sensus meter units fail each day?

- On average, 4-5 units fail each day.

Are Commissioners notified about recycled water feasibility study webinars?

- Those are specific webinars designed for technical staff.

What does it mean to change some of the Aquifer Storage and Recover (ASR) modeling assumptions?

- Mostly what it means is to get us organized and on the same page so that, for example, when I am speaking with Robert Marks of Pueblo Water Resources about how we are going to model and think about ASR, and then I speak with Gary Fiske of Gary Fiske and Associates, Inc., to do the Confluence modeling, we are all on the same page and thinking about the project in the same way. We need to ensure that Robert's interpretation of groundwater monitoring data is not different from how Gary views the project and uses the Confluence model to create the data that he submits to Robert. It has been challenging for all parties to be on the same page because of the evolving nature of this project.

Final comments and follow up

- Please provide Source Water Monitoring plan.
- Please define acronyms in future reports.
- Please provide results for Gravity Trunk Main inspection.

8. Water Commission 2017 Draft Work Program

Continued until the next Water Commission meeting.

Subcommittee/Advisory Body Oral Reports No items.

Director's Oral Report No action shall be taken on this item.

- The water supply situation is looking good.

Adjournment Meeting adjourned at 10:43 p.m. The next meeting of the Water Commission is scheduled for January 9, 2017, at 7:00 p.m. in the Santa Cruz Police Department Community Room located at 155 Center Street, Santa Cruz.

Respectfully submitted,

Amy Poncato

Digitally signed by Amy Poncato
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Staff