Longview Drinking Water Improvement Study
Customer Advisory Committee Meeting #2

Meeting Summary

Date: Saturday, January 31, 2015
Location: Longview City Hall, Training Room
Time: 9:00 a.m. – 1:10 p.m.

In Attendance

CAC Members

Bill Beltz
Mark Bergeson
Orranda Chamberlain
Raymond Colwell
Philip Dennis
Dave Hooper
Rich Kirkpatrcik
Alissa Lee
Patrick Mccoy
Stephanie Owens
Dave Quinn
Vincent Scalesse
Preston Worth
Ken Botero, City Council Liaison
Bonnie Decius, BHWSD Liaison

CAC Members Absent

Amber Olson

Staff and Consultants

Jeff Cameron, City of Longview
Amy Blain, City of Longview
Dale Jutila, CH2MHILL
Lee Odell, CH2MHILL
Brad Phelps, CH2MHILL
Adrienne DeDona, JLA Public Involvement

Members of the Public

Brooks Johnson, Reporter, TDN
Tracy Goldsmith
Sonya Elhardt-Olden

Overview Summary

- The CAC approved the meeting minutes of meeting #1 with no changes.
- The CAC viewed a presentation of the water supply treatment processes that are used at the Fishers Lane and Mint Farm Treatment Plants; toured both the Fishers Lane Treatment Plant and the Mint Farm Treatment Plant; discussed the proposed public involvement plan; and reviewed and approved the protocols.
    - The CAC will recommend stakeholders to interview – names due by February 6.
    - The CAC revised the draft protocols to identify a quorum as a minimum of 8 CAC members with at least 1 BHWSD member in attendance. For making major recommendations, a quorum must be present to move a recommendation forward. For routine decisions, a minimum of 5 members must be in attendance. The protocols were approved with this one change.
- The CAC brainstormed the following initial list of water supply solution options to add to the technical team's list of options:
    - Keep current water source, but re-pipe distribution system problem areas
    - Re-reversing the flow
    - Do nothing
    - Treatment options to remove silica
    - Public outreach campaign
- The next CAC meeting will be held on February 24. The CAC will begin to discuss the various water supply options being considered and the evaluation framework.

Parking Lot Items

- Present costs for water supply options by how much it will impact rate payers.
- Stakeholder presentations/discussion at future CAC meeting.
- Public tour/event at Fishers Lane Treatment Plant

Information Requests

- Calculate the volumes of the sediment waste from each of the water treatment facilities.

Welcome and Introductions

Adrienne DeDona, JLA Public Involvement, welcomed everyone to the meeting and introduced herself as the Customer Advisory Committee (CAC) facilitator. The project team and committee members also introduced themselves.

Adrienne reviewed the agenda and asked if there were any questions.

One CAC member asked if the options developed would include cost comparisons as part of the analysis beyond just the capital cost, including annual operating costs and impact to rate payers. Jeff Cameron responded that this would be developed as part of the technical analysis and evaluation of options. Another CAC member asked when the Fishers Lane Treatment Plant was initially constructed. Lee replied that information would be part of his presentation.

Adrienne asked the group if they had any changes to the meeting #1 summary. There were no changes. The CAC approved meeting summary #1. Adrienne explained that at each meeting the CAC would be asked to review and approve the prior meeting summary. After approval, the summaries will be posted to the project website.

Water Supply and Treatment Process Overview

Lee Odell, CH2MHILL, made a presentation on the water supply and treatment process (PowerPoint attached separately).

Lee explained there are Federal and State guidelines that apply to all treatment plants. All systems, whether surface water or ground water, must meet maximum contaminant levels. There are 83 separate compounds that must be monitored, such as inorganic and organic chemicals, radio nuclides, etc. In addition, there are some secondary contaminant limits that must be monitored, such as color, manganese levels, etc. This second list is not set for health reasons, but for the taste, color and odor of the water.

One CAC member asked if the contaminant limits apply to the entry point of the distribution system or at the customer's service. Lee replied that they apply to the point of entry into the distribution system. There are requirements for lead and copper testing which are measured at the customer tap.

Lee explained that both surface and groundwater systems have to meet all of the MCLs, by maintaining distribution system bacteriological quality, managing disinfection byproducts, and monitoring for corrosion control. In addition, surface water plants must treat the water for disease-causing organisms such as bacteria and viruses.

Fisher's Lane Water Treatment Plant Overview
Lee provided a history of the Fishers Lane Treatment Plant:

- 1944 initial design with two treatment trains
- 1979 expansion to add third treatment train which included significant soils improvement
- 1982 emergency expansion to add Floc/Sed Basin 2 (following Mt St Helens eruption)
- 1998 upgrade to 8 filters, new rapid mixers, improve 3 floc basins, add a cyclone degritter and add residual basins to deal with backwashing and sludge.

Lee explained that Fishers Lane is a surface water treatment plant. It removes the suspended solids from the river water. The filters' performance must meet microbial removal guidelines. After that, chlorine is added to remove remaining organisms (dosage of chlorine and detention time depend on water quality conditions).

Lee said that Fishers Lane capacity is 12 million gallons per day (MGD). One CAC member asked what the current water usage is. Amy Blain responded that summer usage is about 11.5 MGD and winter usage is approximately half of the peak summer usage.

Lee noted that the Fishers Lane Treatment Plant design does not meet current Seismic Resiliency standards.

Lee reviewed the flow process of the water through the Fishers Lane treatment plant from the river (see separately attached PowerPoint for diagrams). The disinfection requirements can vary depending on changes in turbidity, the pH and water temperature, so operators must adjust the disinfection procedures regularly. The sediment removed from the river water during the treatment process is sent to the residual basins and transferred from there to drying beds to dewater.

One CAC member asked what happens to sludge/sediment removed from the treatment plant; does it have any useful purpose? Jeff replied that the sludge was tested to ensure it didn't contain any hazardous waste prior to hauling it to the Mint Farm industrial park for fill.

Mint Farm Water Treatment Plant Overview

Lee reviewed the flow process of the water through the Mint Farm treatment plant from the underground wells to the distribution system (see separately attached PowerPoint for diagrams).

Lee provided an overview of the Mint Farm treatment plant:

- Designed 2011
- Commissioned 2013
- Design Criteria –
    - Groundwater source; wells located on site
    - Iron, manganese, and arsenic removal (arsenic is lower than the maximum contaminant level)
    - Initial capacity – 17 MGD
    - Expandable to – 25 MGD
- Designed to current Seismic resiliency standards

One CAC member asked if the greensand removed the arsenic. Lee replied that the chlorine oxidizes arsenic which is attached to the iron and then removed with the iron in the greensand.

Another CAC member asked if the wells were deep or shallow wells. Amy replied that the wells are 400 feet deep. Lee said that the water source is considered a confined aquifer.

One CAC member asked where the aquifer is recharged from. Amy responded that the aquifer is recharged from Columbia River. Jeff indicated that the City has conducted studies which analyzed isotopes to determine source as the Columbia River, generally from areas downstream from old Reynolds plant. The Columbia River also provides pressure to the confined aquifer.

One CAC member asked if there has been any observed drawdown in the aquifer water levels. Jeff replied there hasn't been any observed drawdown or low pressure in the aquifer.

One CAC member asked if the silica content will go down over time. Amy said it's a possibility but that they haven't seen that yet.

Another CAC member asked if there are boring logs that shows the soil strata at the Mint Farm plant. Amy replied that information is available online and there is a physical model of the strata at the Mint Farm plant that will be available to look at during the tour. The CAC member asked if the silica layer was identified in the boring log. Amy replied that there isn't a defined silica layer. The silica is dissolved and is coming from unidentified geologic formations.

One CAC member asked if there are other utilities tapping groundwater sources along the Columbia River. Lee replied that yes, Clark Public Utilities has a 50 MGD source along the Columbia River near Vancouver Lake, as well as a plant near the East Fork of the Lewis River in the planning stages; the Port of Kalama is developing a groundwater source to serve a new methane plant. Vancouver uses groundwater solely for their water supply, and Portland has a groundwater system used for backup.

One CAC member asked if the Ranney system that Kelso uses has silica present in the water. Lee replied that the Mint Farm is about 60 milligrams per liter (mg/l) of silica, Kelso's is about 25 mg/l and the well field in Vancouver is about 30 mg/l. Amy added that the Ellsworth Plant in Vancouver is about the same as the Mint Farm source, and another system in St. Helens, OR is also about the same as the Mint Farm.

One CAC member asked how long it takes for the water to travel from the Columbia River to the system at the Mint Farm. Jeff replied that the time of travel from the recharge to the well field varies from about 1 year to 35 years.

One CAC member asked where the well is drilled to – the bottom, top or center of the aquifer. Amy replied that the wells are drilled to the bottom (bedrock) and screens are placed in the water-bearing areas.

CAC Tour of Fishers Lane and Mint Farm Water Treatment Facilities

Amy led a tour of each of the water treatment facilities. The following is a list of questions and comments from the CAC during the tour:

- What is the volume of sediment waste from each of the treatment plants? *This will need to be calculated and provided at a later date.*
- Why does the smell of the water vary at my tap? *Chlorine levles vary throughout the system due to the time the water has been in the pipe and circulation in the pipe system. In some areas of low circulation, the water in the pipe is there for a longer period of time and the chlorine can deteriorate. The variation in daily water usage can also impact the character of the water and affect the taste and smell. The sulfur smell comes from older pipes.*
- What is the level of arsenic in the water? *There is approximately 6 mg/l in the groundwater before treatment and approximately 3 mg/l in the finished water.*
- What is the level of silica in the water? *The silica is about 60 mg/l and is consistent between the raw groundwater and the finished water because the silica is not removed in the treatment process.*
- What is the chemical content in each of the four wells? *The complete chemical composition of each of the wells can be found in the separately attached document or online in the 09-14-2012 Mint Farm Wellfield Source Approval Document at www.ci.longview.wa.us/index.aspx? However, the iron content in each of the four wells is as follows: Well 1 is .68 mg per liter, well 2 is 1.77 mg per liter, well 3 is .876 mg per liter, and well 4 is .825 mg per liter.*
- What was the cost to drill the wells at the Mint Farm Water Treatment Plant? *$585,000 for three of the four wells (just for drilling, not including the well design, project administration costs, construction management, inspection, pumps or any infrastructure).*

Debrief of the Water Treatment Plant Tour

Adrienne asked the group if they had any questions for staff and the consultant team following the tour. The following summarizes the CAC's discussion:

One CAC member asked about the water tank located near Coal Creek Road and if these types of tanks are typical throughout the system. Jeff replied that, yes, there are several throughout Longview, especially in higher elevations to provide pressure in the pipes. The tank sizes vary from 200,000 gallons to 1 million gallons.

Jeff provided a diagram of the aquifer recharge area and described groundwater flow toward the wells and recharge area. This is the same aquifer that Reynolds Metals obtained water from when they were in operation. Jeff also provided a diagram showing the time of travel for the water from the recharge area to the aquifer. These diagrams are attached separately and can be found online in the Preliminary Design Report at www.ci.longview.wa.us/index.aspx?

One CAC member asked if the City had to obtain new water rights for the wells. Jeff replied that the City obtained new water rights for groundwater from the Department of Ecology, and the City was able to maintain the water rights on the Cowlitz. At that time, the Department of Ecology required the City to conduct a hydrologic study to prove that contaminants from the former industrial operations such as Reynolds and Weyerhaeuser would not appear in the groundwater.

Another CAC member asked why none of the pollutants from the former industrial operations are appearing in the water. Jeff replied that those pollutants are present in shallow groundwater, above the confining layer which separates the lower aquifer from the upper aquifer. The clean-up plans for the Alcoa site showed that the groundwater in the lower aquifer is under pressure, which result in an upward flow direction of the lower aquifer water. The Alcoa findings are the same as our findings described in our preliminary design report.

One CAC member asked if a lot of the issues being experienced are typical of groundwater; specifically following a switch from surface water to groundwater. Jeff replied that yes, the water quality is different between ground water and surface water; for example iron and manganese are present in groundwater and not in the surface water. The CAC member asked if the water met all the guidelines for health. Jeff responded there are no health concerns with the water. The CAC member asked if this process is just trying to come up with a solution to the problems that some residents were having with the water at this point rather than address health concerns. Jeff replied that most of the issues are currently aesthetic and that many of the issues occurring in the Baltimore area have been resolved due to adjustments at the treatment plant and pipes being replaced. The CAC member asked why the flushing activities near Lake Sacajawea seem to be more effective than in the industrial area. Jeff replied that the City tried flushing the water in different areas and found the water quality got worse in some areas, apparently due to moving stagnant water. This CAC member also asked if there are some areas that have been identified where pipes still need to be replaced to improve water quality. Jeff said yes, there have been some pipes that have been identified to be replaced, but not solely due to water quality. Many pipes need to be replaced due to their age. The water quality concerns have pushed these pipes up on the priority list to address some of the aesthetic concerns customers are having in areas with older pipes. Replacing the pipes in these areas will improve some of the aesthetic issues, but will not solve the issue with the silica. Jeff added that the problems with the water are not solely due to groundwater; these types of issues can come from surface water, too. The CAC member asked if the process of osmosis would help remove silica by filtering it through some type of membrane. Jeff replied that could be an option analyzed by the technical team.

Adrienne asked the CAC to reflect on what they learned from the tour and to share their biggest take-away. The following summarizes the CAC discussion:

- The tour was very helpful to hear the variation in the filtering/treatment processes between plants dealing with surface water and groundwater.
- It was interesting to see the new technology versus old methods. It proved that newer isn't always better since so many people are unhappy with the current water.
- The surface water has 25 mg/l of silica; this seems to indicate a threshold for problems beyond that level since we didn't have issues with water quality before the switch to the Mint Farm.
- The Fishers' Lane plant may look somewhat antiquated in regards to control systems in comparison to the Mint Farm, however the building seems structurally/seismically sound. It's interesting that the impellers in the pumps are what need to be replaced.
- When do you expect to replace the pumps at the Mint Farm Treatment plant due to wear and tear of the higher silica levels? Will this be a long-term problem in distribution system too? *There isn't a problem with the silica build-up in the pipes because it remains dissolved in water; only when the water evaporates is there an issue with silica residue. We may see issues with silica build-up/staining in the reservoirs after water draws-down.*
- Is Polyhalt a potential fix for the silica staining? *The City is exploring this alternative now. Polyhalt doesn't remove silica, it coats the silica and may make it easier to remove from surfaces. Have heard good reviews from other water system providers. The Polyhalt is more of a customer-end treatment. Longview is testing it both as a resource to offer to customers and as a possible system-wide treatment solution.*
- Has the City talked with other agencies that have higher silica levels. If so, what are they doing about it? Are other water providers with higher silica levels getting complaints? *The City has talked with other providers with similar silica levels to Longview. Ellsworth Springs in Vancouver and St. Helens, Oregon, have similar levels. Nob Hill in Eastern Washington has higher levels. None of these agencies do any sort of treatment to reduce/remove the silica from the water.*
- Is silica tasteless, odorless and unable to be filtered or react out of the water? It just sits there? *Yes, most of what you are actually seeing with the residue is calcium and magnesium, but that is able to be wiped off. The silica etches and isn't easily removed.*
- Can water softening systems be applied in municipal system? *The City has looked into implementing a water softener; however, after further review found that water softeners in a residential system replace calcium/hardness with salt. The total dissolved solids don't actually go down in this case. They found that the dissolved solids were actually higher after testing the use of a water softener, and silica spotting remained after softening the water.*

Public Involvement Plan

Adrienne said she did not receive a lot of feedback on the public involvement plan during the committee phone interviews. Most felt the plan seems adequate for now, but should remain flexible if something comes up that warrants the need for additional outreach opportunities. Adrienne said at least one person suggested using local billboards and the reader boards to help get the word out about outreach opportunities.

One CAC member asked about the stakeholder interviews included in the public involvement plan and what stakeholders should be interviewed. Adrienne replied that several committee members have already provided names of people to interview. The project team is scoped to interview up to 10 people prior to the next meeting. The CAC member asked if the stakeholders need to be water customers.

Jeff replied that they do. In order to qualify as stakeholders, they must be impacted by the water. Adrienne explained that some of the types of stakeholders already provided to her by the CAC are high water users and experts in community who are not represented on the committee, including engineers, scientists, commercial restaurants, etc.

One CAC member asked if there had been any input from the medical community. Jeff replied that Peace Health had provided some input previously, but it was more related to their boiler, not related to public health. One CAC member said that she had contacts at Peace Health if we wanted to include them in the stakeholder interviews.

One CAC member asked if it would be worthwhile to tour the Ellsworth Springs system in Vancouver that has similar silica levels. Jeff responded that the treatment plant in Vancouver wouldn't offer any new information to the CAC. The facility is very similar to the Mint Farm treatment plant and they aren't treating the silica at that location either.

One CAC member asked to clarify that there are other jurisdictions in the area that have higher silica levels and don't do anything about it. Another CAC member asked to clarify that the problem is that Longview has silica in the water now when we didn't before. Amy replied that the silica seems to have become more of a problem because of the switch in water sources in comparison to other jurisdictions in the region that haven't experienced a switch in their water source.

One CAC member asked what the cost of the Mint Farm Treatment Plant was in comparison to the cost to rehabilitate the Fishers Lane Treatment Plant. Amy replied that there was a major disparity in the cost between the two, but cost wasn't the only defining factor in the switch.

One CAC member asked about touring a Ranney well system. Adrienne said we would discuss Ranney systems later during the presentation on options.

Adrienne requested that the CAC provide her with any additional names for potential stakeholder interviews by February 6th.

One CAC member asked if the future online surveys mentioned in the Public Involvement Plan will be put together by the CAC. Adrienne replied that they will be developed by the consultant team and reviewed by staff, and the CAC would have an opportunity to review and provide input on the content of the survey questions.

Jeff shared his interest in reaching out to public during this effort. He explained that during the previous effort with the Mint Farm Preliminary Design Report, the City took many measures to reach out to the public but the public showed very little interest.

One CAC member commented that the CAC is meant to be representative of the public. Adrienne replied that the intent of the public involvement plan is to provide a transparent, open public process in which the community is able to be involved along the way. At the end of this process, the City Council can rely on the CAC's recommendation as being supported by the community.

Ken Botero added that he is here to listen to the CAC and bring information back to the Longview City Council; same for Bonnie Decius on behalf of the Beacon Hill Water & Sewer District Board. It's up to the CAC to listen to their friends, family and neighbors and bring that information back to the CAC as a whole.

Adrienne noted that, so far, she had not heard any suggestions to change the Public Involvement Plan.

One CAC member suggested that if the problem ends up being public perception, we may need to address that. Establishing a baseline with the initial survey was a good idea, but may also need to check in with people as the process moves along to see if anything has changed. The survey could ask whether we are headed in the right direction with the options, or how much people want to pay, etc. and that could allow the CAC to tailor its recommendation. 450 participants can give good indication of this. Adrienne replied that a public communication strategy could be a possible solution to change public perception.

One CAC member said that we can't force people to be involved; but we should provide the opportunity for involvement.

One CAC member said that people don't typically participate until presented with data; we have lot of material on the table to help the public understand. Adrienne replied that, through this process, there will be information that people can respond to. People are paying attention to this process because of the dissatisfaction with the water and will likely participate in the outreach opportunities and provide feedback.

One CAC member asked if it would be possible to put together a ½ page flyer to describe the current stage of the project to include in the water bill. Jeff said that because the City is on a 2-month billing cycle, by the time it got out, the information would be old. Jeff felt there would be more success with an ad in the Daily News. Adrienne noted that advertisements and press releases were part of the public involvement plan. Brooks Johnson replied that TDN Sunday circulation is about 25,000; triple that for number of people reading. Adrienne added that the website features an opt-in sign-up to receive project updates via e-mail.

One CAC member asked if some of the stakeholders to be interviewed could come to a meeting to tell the CAC directly what types of problems they are experiencing. One CAC member replied that they can come to the meetings and provide comment during the public comment periods. Adrienne added that it might be an impact to the budget to add an additional meeting to provide a workshop discussion between these stakeholders and the CAC. One member suggested asking stakeholders when interviewed if they wanted to attend a meeting and talk with the CAC. Adrienne replied that a question regarding attending a CAC meeting could be added to the interview questionnaire and the idea of having key stakeholders come to a future CAC meeting would be revisited.

Ken asked about having the local cable TV record the CAC meetings for the public to watch. Jeff replied that the City invited KLTV to record and they declined. Adrienne added that the meeting summaries will be posted to the project website for the public to review.

CAC Protocols

Adrienne reported that during the CAC phone interviews, only a few comments or concerns were relayed by individuals about the protocols. The items that came up in these discussions were:

- Quorum: The minimum number of committee members present in order to develop a recommendation.
- Absences: Most people felt that having one absence due to unforeseen circumstances would be acceptable. Most people are committed to attending all of the meeting dates. It didn't seem like the protocols needed to be revised to address this.
- Public comment period: Most felt that 10 to 15 minutes at most meetings would be adequate, but in some circumstances it may be necessary to allow more time, especially during recommendation evaluation. Adrienne will be in charge of monitoring this.

One CAC member identified a typo in the protocols related to Adrienne's phone number. Adrienne said she would fix that in the final document.

Adrienne also pointed out to committee members that, as they talk to community members or technical experts in between meetings, to let her know what they are hearing so that it can be added to the meeting agenda and shared with the entire committee.

To address the concern regarding the quorum, Adrienne proposed to add a quorum of "x" members be present in order to develop a group recommendation.

One CAC member asked that in regards to consensus if it would be Adrienne's role to serve as mediator to help try to pull people together towards a recommendation. Adrienne confirmed that this would be her role.

It was decided by the group to require a quorum of a minimum of 8 CAC members with at least 1 BHWSD member. For making major recommendations, a quorum must be present to move a recommendation forward. For routine decisions, a minimum of 5 members must be in attendance. The final protocols will be sent to the CAC prior to the next meeting.

Public Comment

Tracy Wilson said they have been spoiled by having such good water in the past. The new wells have caused some problems with their family, but after seeing the two different water treatment plants and the condition of the Fishers Lane Treatment plant, she can understand a little better. She was glad she went on the tour; her eyes have been opened. She still doesn't like quality of water, especially silica, but she has a different attitude about the situation now.

Sonya Elkardt-Olden said she has gained a level of acceptance after the tour. She is still gathering information. She found out about the process through a reader board. She mostly gets information from work; doesn't read the newspaper. She is happy that the process is accommodating the public.

Meeting Wrap up and Next Steps

Adrienne said the next meeting would be held on February 24 and would include a discussion on water supply options and evaluation criteria. To kick-start the discussion on water supply options, Lee reviewed some of the initial ideas being considered by the technical team. Many more options will be explored and the CAC is encouraged to provide their ideas on options.

Some of the options currently being explored are:

- Surface Water intake options -
    - Columbia River
        - River intake
        - Ranney collector

- Cowlitz River
    - River intake
    - Ranney collector
- Other groundwater supplies (and locations)
- Aquifer conditioning options
- Blending surface water and ground water

Lee provided an overview of how a Ranney collector works (see separately attached PowerPoint presentation). Kalama, Kelso, Woodland, Port of St. Helens, and Satsop Industrial Area have Ranney collectors. Many others in the area are exploring it as an option so there are testing results that can be reviewed. The capacity varies in each location. Some produce 3MGD and others up to 20 MGD. Ranney collectors often have to be treated like surface water in terms of regulations, but don't have to deal with sediment issue. Some research has been done to explore possible Ranney collector locations in Longview, including other surface water intake locations.

One CAC member asked if it would be possible to have an event for the public to tour the Fishers Lane Water Treatment Facility. Jeff replied that if the CAC feels it's worthwhile, it can be arranged. Amy added that the City had previously hosted an open house at Mint Farm and very few people attended. Lee added that the technical team has evaluated the Fishers Lane Water Treatment Facility and will be assembling a report that will be available to the CAC and to the public for review.

The CAC provided the following other water supply options for consideration:

- Keep current water source, but re-pipe
- Re-reversing the flow
- Do nothing
- Treatment options to remove silica

One CAC member suggested that the problem still needs to be defined. Dale Jutila replied that at the last meeting it was explained that the CAC charge was described as improving the water supply. Re-piping is among the possible solutions, and silica will very likely be one of the criteria used to evaluate the options. Taste, odor, cost, environmental impacts (if any), and sustainability – among others – will also be considered.

Adrienne reminded the CAC to send her any additional ideas for people to include in the stakeholder interviews by February 6.

Jeff reminded the group to let him, Adrienne or Amy know if they needed additional data. They can help locate information if needed.

One CAC member suggested that all information requests and responses should be provided to the entire CAC.

The meeting was adjourned at 1:10 p.m.