

Portland Utility Board

October 1, 2019

1900 SW Fourth Avenue, 1900 Building, 2500C

Meeting #73

Attendees:

PUB Members:

Ana Brophy, ex-officio
Brian Laurent, ex-officio
Dory Robinson, co-chair
Gabriela Saldaña-López
Heidi Bullock, co-chair
Kaliska Day (arrived 3:37pm)
Karen Y. Spencer
Karen Williams (arrived 3:50pm)
Mia Sabanovic
Micah Meskel (arrived 3:35pm)
Robert Martineau
Ted Labbe (left at 5:15pm)

Absent:

Sara Petrocine, ex-officio*

*Notice of absence provided prior to meeting

Staff:

Amy Archer-Masters, Portland Utility Board Analyst, City Budget Office
Asena Lawrence, Senior Staff Representative, Commissioner Fish's Office
Bonita Oswald, Senior Communications Specialist, Portland Water Bureau,
Cristina Nieves, Senior Policy Advisor, Commissioner Fritz's Office
Cecelia Huynh, Director of Finance and Support Services, Portland Water Bureau
David Peters, Engineering Manager – Special Projects, Portland Water Bureau
Eliza Lindsay, Portland Utility Board Coordinator, City Budget Office
Gabe Solmer, Deputy Director, Portland Water Bureau
Jeff Winner, Capital Improvement Program Planning Supervisor, Portland Water Bureau
Jessica Kinard, Budget Director, City Budget Office
Yung Ouyang, Senior Financial Analyst, City Budget Office
Annie Von Burg, Manager, Portland Harbor, Bureau of Environmental Services

Public:

In total there were about 22 members of the public in attendance, including representatives from the Oregonian, the Willamette Week, and KATU.

Those who signed in by name include:

Carol Cushman, League of Women Voters
Rick Bartha, Community Member
Carla Bartha, Community Member
Erica McCormick, Boring Citizen
Breazy Wirth, Boring Citizen
Lauren Courter, Citizen
Brent Leathers, Citizen
Matt Yium, Garvey Schubert Barer

Synopsis, Action Items, Decisions

In these notes the acronym, PUB, stands for the Portland Utility Board; BES for the Bureau of Environmental Services, and PWB for the Portland Water Bureau.

An update on bill redesign was given and the decision to contract printing and mailing functions with InfoSend was discussed. The PWB will return when the process is further along to provide updated samples and get feedback from the PUB. The Fall Budget Monitoring process was discussed briefly with no items drawing significant attention. The bulk of the meeting was devoted to discussion of the Bull Run Filtration Project, including question and answer with PWB staff and PUB members as well as hearing comment from the public.

ACTION ITEMS are related to gathering more information to inform the PUB's decision-making and include:

- PWB to look into carbon impacts of printing and mailing functions of billing done by out-of-state contractor.
- Request for updates from BES on negotiations around Tryon Creek wastewater treatment plant.
- Request to see the filtration project options in terms of risk as well as values.
- Request for more information on risks of algae.
- Request to see information about outreach efforts, particularly around demographics, e.g., how many groups have been primarily non-English speakers and what resources have been provided to all communities to be informed.
- Request to provide the reports from studies around economic impacts of a day without water.

I. Call to Order

The co-chair called the meeting to order **at approximately 3:30pm.**

II. Disclosure of Communications

Ted has been in communication with PWB and BES staff with regards to the content of the Mayor's climate emergency declaration.

Heidi had Portland Harbor Superfund conversations with Bureau of Environmental Services staff.

Brian had a few incidental conversations with Portland Harbor staff and Revenue about financial assistance.

III. **Prior Meeting Minutes**

The draft meeting minutes from September 3rd, 2019, circulated ahead of time were reviewed. Carol Cushman noted that in her public comment about the ballot measures it is not an intergovernmental agreement, but a mutual aid agreement.

The minutes with revisions were accepted.

IV. **Public Comment**

The co-chair invited public comment.

Seven members of the public provided comment. Written comment is included in Addendum A.

Verbal comments covered a variety of concerns about the impacts of the filtration project. Those commenting included: Breazy Wirth, Lauren Courter, Brent Leathers, Carol Bartha, Matt Yium, Dee White, and Mike Kost.

V. **Portland Water Bureau: Bill Redesign – Kathy Koch, Customer Service Director, Portland Water Bureau**

The Water Bureau presented on their reasons for contracting printing and mailing functions to InfoSend noting disaster recovery, flexibility in bill and envelope design, retiring PWB staff, and more. The selected vendor has experience with jurisdictions newly outsourcing this work.

Questions and Discussion - PUB members and PWB staff

A variety of topics were covered and include:

Costs to benefit ratio and the business case for moving forward

PWB shared that they know InfoSend pricing in detail. However, P&D is a pass-through cost and doesn't give that kind of detail so it is difficult to show a direct correlation of past costs versus projected costs. PWB got authorization from Council based on all costs and the estimated contract with InfoSend ended up lower. Exact cost was not available during the meeting.

Impacts to labor

The two people currently involved with billing won't be laid off, although it is not known what will happen to the positions once they retire. P&D has indicated they have plenty of work and will not experience layoffs due to the change.

The carbon costs of working with an out-of-state contractor compared to local business

ACTION ITEM PWB to look into carbon impacts of printing and mailing functions of billing done by out-of-state contractor.

Bill redesign, when it goes live, and PUB's opportunity for input

PWB hopes to go live with InfoSend in January with the existing bill, while working in the background with InfoSend on redesign. This redesign will be a collaborative process with PWB, BES, and InfoSend. Focus groups regarding the bill redesign are not planned at this time. InfoSend does focus groups and has shared results with PWB. PWB staff are also on nation-wide committees

working on these issues and get information this way. PUB will be informed before a final decision is made. PWB will probably bring a couple samples to PUB for feedback.

Potential software compatibility issues

PWB has no plans to move away from Cayenta. InfoSend already supports Cayenta.

Electronic billing

The electronic and paper bill will look the same. Currently, about 40+% get electronic bills. The industry standard is more in the 25-27% range so PWB has done really well. One of the challenges in the customer service world is customers are anywhere from 19-99 and how they want to look at and pay the bill is very different. PWB wants to make sure they don't leave anyone behind.

VI. Fall Budget Monitoring Review: Bureau of Environmental Services, Ken Bartocci; Portland Water Bureau, Cecilia Huynh; City Budget Office, Yung Ouyang.

The PUB co-chair invited Cecilia Huynh with the Water Bureau, Ken Bartocci with the Bureau of Environmental Services, and Yung Ouyang with the City Budget Office to talk about the Fall Budget Monitoring Process. Each gave a very short presentation based on the materials as linked below.

Reference materials **included**:

- **BES'** one-page summary.
- **BES'** fall BMP submittal.
- **PWB** fall BMP request.
- **City Budget Office's (CBO's)** review of BES' BMP request.
- **CBO's** review of PWB's BMP request.

They can be found [here](#).

A variety of topics were discussed and include:

The scale of BES' truing up of the budget; how does 7 or 10 million compare to the overall budget?

BES' total budget is 500 million. When they did the system forecast in December/January, system development charges (SDCs) were going very high but right after that they cooled so BES adjusted on the basis of that.

Transfer of funds from Tryon Creek wastewater treatment plant to the Boones Ferry Culvert: Does that mean negotiations aren't going forward?

BES doesn't know yet, so they put a hold on it.

ACTION ITEM Request for updates from BES on negotiations around Tryon Creek wastewater treatment plant.

Clarification of new requests from both BES and PWB.

For BES, all new requests are in column A of the one-page summary. For the Water bureau the budget is unchanged.

Does anything in this effect the bond rating or days-cash-on-hand?

BES said they don't expect any impact on bond rating. Days-cash-on-hand is a moving target, but this wouldn't impact days-cash-on-hand either.

Clarifying Questions on the Project Management Office (PMO)

BES answered that the \$300,000 for the PMO is ongoing. It is too early to tell whether these will be permanent or contract positions.

Clarifying questions about why two equity managers

BES hired an equity manager who resigned. Informed by their feedback and in developing the workplan BES realized this was a much bigger lift than can be done by one person. BES clarified that this formalizes the current staffing level as they have been double-filling the existing position.

VII. **Break**

VIII. **Portland Water Bureau: Bull Run Filtration Project Update – Gabriel Solmer, David Peters, Cecilia Huynh**

Reference materials include:

- [Video](#) from Council work session.
- [Cost Updates and Options PowerPoint presentation](#) from Council work session.
- [One-page overview of Bull Run Filtration project.](#)

Gabe Solmer, PWB Deputy Director, and David Peters, Program Director for the Bull Run Filtration Improvements gave a brief overview of the background and decisions made leading up to the current point. They described the public involvement that had been conducted and the spectrum of costs. There is not one point where you can say this is exactly what you get for this. So, PWB picked three points along the spectrum to highlight the options:

- **Minimum Compliance** with federal regulations (approximately \$670 million).
- **Phased Approach** (approximately \$730 million) – What can we do now versus what we can wait to do later so as to have a lower rate impact? Also have to consider the costs by analogy of building a house with one bathroom and then later having to add another bathroom. You have to go through the permitting process again and there will be increased cost of materials. It will cost more, if you put that same investment in later.
- **Full implementation** (approximately \$850 million) – If do everything we're recommending and address all risks and build it right from the start.

PUB Question and Answer

There was a question and answer session with PWB staff and PUB members. Below is a summary of key areas of questioning and responses.

Do you have a prediction of the demand beyond 20 years, i.e., a prediction of how long the filtration plant will meet demand.?

Twenty years is as far as you can get in terms of information on population growth and water use. Climate change increases the uncertainty. So, the plant could meet demand for more than twenty

years. We just don't know. What we do know is that the 169 million gallons/day (mgd) would cover the hottest, driest summers we could expect to have whereas with the 145 mgd wouldn't be able to meet peak days in the hottest, driest years. What we would do is run ground water to supplement. The tradeoff is a little more use of the ground water system with the 145 mgd.

Do you have a business case analysis for the options?

PWB has focused on values. Laying out the three options is aimed more at gaining insight into what people value. For example, ozone is in the full option but not in the minimal option. It allows you to recover faster from fire. Do people value that? Two pipes rather than a single pipe builds in resiliency and reliability. How do people value that? We are looking for some guidance from PUB on what PUB values.

Risks

ACTION ITEM Request to see the filtration project options in terms of risk as well as values.

- **Fire**

The groundwater system is not able to meet the summer demand on its own. And, fire is likely to happen in the summer. Forest fire is an increasing risk due to climate change resulting in longer dryer summers, and the fact that we have not had a fire in that area for some time.

If the watershed burns it is not just one summer of impacts. Turbidity and organics in the water would be a problem for many years and if we had not already built a filtration plant we would probably have to then. Ozone also helps address a forest fire situation by reducing organics and thereby increasing filterability. Denver's watershed burned around 2000 and provides an example of what happens.

- **Landslide and erosion**

The risk of landslide and erosion has been factored into the estimates. PWB has done a geotechnical analysis and think the soil is in pretty good shape. For erosion, there are things they have to manage and regulations to meet.

- **Algae**

ACTION ITEM Request for more information on risks of algae.

- **Climate Change** exacerbates the risks and increases the demand for water because the peak season of water use is getting longer and hotter and drier.
- **Earthquake** - All three options and the pipes include seismic design.

Outreach – PUB members expressed concern about whether outreach and information were reaching all communities, including those that are primarily non-English speakers.

Water Bureau staff shared that they can provide information on outreach efforts. They have approached this project as having two audiences; the customers who are the rate payers and/or receive water and the site neighbors. In terms of reaching customers they have had a community forum, printed materials in multiple languages and have had focus groups targeting retail customers and low-income customers. They have also had outreach events on different days, including weekends, and at different times of days, including evening.

ACTION ITEM Request to see information about outreach efforts, particularly around demographics, e.g., how many groups have been primarily non-English speakers and what resources have been provided to all communities to be informed.

Community Impacts

- **Easement/Eminent Domain**

Regardless of option chosen there will be some level of property purchase or easement acquisition that needs to happen. PWB has been purchasing property since the 1960s and is focusing on property they already own since one of their values is to minimize impact to community.

- **Traffic**

PWB is doing traffic studies and looking at the impact of both staff and deliveries. All that gets worked into the design. PWB is interested in hearing more from the local community about their concerns so as they go through the design process they can try to address concerns. This is part of the site advisory committee conversation.

- **Construction in general**

Most of what happens on the site with the treatment plants is the same between the options. However, if they build without ozone and then add that later that is a second construction disruption. The biggest impact is likely the pipes. If they build shorter pipelines but have to come back later to repair and replace aging infrastructure, then the length of time of construction is longer versus doing it all now and getting it done.

The biggest impact is in the first 1-2 years where they will be digging and pouring concrete. After that it is mostly employees coming on to the site to do things like wiring, etc.

Impact to wildlife

PWB is working with organizations like the Johnson Creek Watershed Council to figure out what they can do to minimize impacts.

Impacts to businesses

Water is an economic driver and helps a City and businesses run. PWB said that their commercial accounts are about 43% of retail customers and some are industrial customers. They have done some studies around economic impacts of a day without water and can provide them.

ACTION ITEM Request to provide the reports from studies around economic impacts of a day without water.

Operations

The estimated rate impacts include the cost of operating the facility. A very rough estimate of the number of staff to operate the facility is 20-25 people which is similar to the number of staff operating the current system. The corrosion control and disinfectant facilities will be consolidated into one location instead of multiple facilities. They will be reallocating existing staff but can't say for certain whether there will be no new hires. One of the first tasks once they bring on a designer is to figure out details of how the facility will operate. They are running a pilot plant to test how different medias and depths work and that will help determine operations and how many staff.

The system will remain gravity fed.

Modifications at the Headworks facility are not needed to meet future demand but are needed to operate the facility.

Groundwater System

One of the goals with the groundwater system is to maintain access as it is now, not more or less. If there was a forest fire and we couldn't use Bull Run for several years, there is not a sacrifice level in terms of water consumption that would allow groundwater to meet the demand through those years. It provides for a short period of time, not a long time.

Even in the full implementation groundwater may be needed to get through the peak season. Climate change is extending the peak season, it is warmer earlier and later, so we need more water overall and Bull Run and the groundwater system support each other.

The aquifer here is fed by the Columbia River so we don't have the drawdown issues they have say in Texas. We do have modeling of what it looks like here.

Ultraviolet

PWB has not continued to consider or refine the ultraviolet option since Council selected filtration in 2017 and has not directed them to further study other options.

Four Foundational Decisions

PWB stated that they did not hear from Council a desire to revisit the four foundational decisions—location, type, capacity, procurement method. PWB doesn't want to speak for Council but what they heard the charge to be for both PWB and the PUB is: Given where we are and the new information, where do we go? Given the spectrum of options, not necessarily these three exact points, what do we value and where do we go?

Public Question and Comment

The floor was also opened for public comment and question. The public raised concerns about Dodge Park camping closing, about the costs and risks associated with the project, that the environmental impacts had not been valued more, that the decision to proceed was based on cost information that is no longer accurate, about what the purchased house on Carpenter Lane would be used for, about the rural character of the area, about road quality issues, and about seismic issues.

PWB staff responded to the various concerns, e.g., explaining that they could not use ratepayer funds to run the Dodge Park campground and there were no other funds available; that the house was not purchased for housing but for pipeline alignments and options for the property were still being considered; and the potential of a good neighbor agreement.

IX. Subcommittee Reports

Bylaws

An update was given. At the last bylaws subcommittee meeting there was a lot of conversation on increasing transparency around potential conflicts of interest and creating a procedures document outside the bylaws to capture additional PUB day-to-day procedures. A request was made for one or two volunteers to work with PUB staff outside of a meeting to do some document prep work to help things move more quickly at the next subcommittee meeting. Karen Y Spencer volunteered.

Lead Corrosion Control

PUB has been talking about a meeting out in community on a specific topic and that would be lead and drinking water. The PUB planning team has discussed wanting it to be more educational and involve a panel and has made progress. OHSU Professor Bill Lambert, public health focus, has confirmed interest in serving on the panel. Oregon Health Authority and Multnomah County have been contacted. Things

are in the works but because it has taken so long it will probably be in January. It is important to make sure the timing isn't rushed, so there can be appropriate outreach.

Portland Harbor

On behalf of a PUB member, PUB staff raised the topic of the PUB continuing to work on a letter regarding the Portland Harbor Superfund cleanup, perhaps in a subcommittee. There was discussion about whether the PUB member was committed to a letter being the response or whether other options would be considered. There was general agreement that other options would be considered, driven by those who are interested in discussing it. Those present discussed whether this was more appropriate as a topic for a subcommittee or something that two PUB members could work on together and bring back to the full PUB. There was general agreement that having two PUB members work on it would be most expedient. It was also noted that, currently, there is no clock ticking on the issue.

X. PUB Wrap-up of Filtration Discussion

PUB members wrapped up their conversation by discussing

- who was thinking of attending the site advisory meeting at Sandy High School this Thursday.
- the timeline of getting a recommendation to City Council. PWB staff said that they expect to bring the design contract to Council the first two weeks of November and added that PUB input would be most relevant for what they design and less relevant to picking the designer. Usually there is one week between Council's first and second reading and then a 30-day period so around the beginning of the year is when PWB would need your input.
- whether to limit PUB's consideration to the three options, was the conversation at the time of the original decision-making maybe even more relevant now, and what sort of recommendation to make. PWB staff said the guidance coming from Council would be feedback on the values, tradeoffs, and the risks. Those three areas are inter-related. What are the tradeoffs that are reasonable given the values and what are the associated risks? For instance, we know there are risks from fire and algae but our value of being most cost-effective cause us to recommend the minimal option. Or, the risks are so important and there is value in better addressing them, so we recommend full implementation.
- while the fears and concerns expressed in the public comments are understandable, they may have included misrepresentation of facts and PUB should do own independent fact-finding before echoing concerns. There was discussion of applying an equity lens to all communities and at the same level of sensitivity.

XI. Next Meeting Agenda

It was decided that the next subcommittee meeting will continue the discussion of the Bull Run Filtration Project.

PUB subcommittee meeting – Continued discussion of the Bull Run Filtration Project
October 17, 2019, 11:00am – 1:00pm, 1900 SW 4th Avenue, Room 2500C

The meeting adjourned at 6:38pm.

Addendum A: Public Comment

Addendum A includes:

- Written comments from Cynthia Fraser to accompany verbal testimony given by Matt Yium.
- Written comments from Dee White to accompany her verbal public comment.
- Written comments from Citizens for Peaceful Rural Living submitted via email after the meeting as requested by the PUB and as follow-up to verbal public comment given by several attendees.

Note: Individual comments are separated by a blank page.



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October 1, 2019

Members of the Portland Utility Board
1900 SW Fourth Avenue, Room 2500C
Portland, OR 97201

Re: Lusted Road Farms, LLC/Portland Water Bureau Corrosion Control Improvement Project

Dear Members of the Portland Utility Board:

This firm represents Lusted Road Farms, LLC ("Farm"), a property owner that will be impacted by the Bull Run proposed Water Corrosion Control Improvement Project ("Project"). We have previously submitted testimony to the Portland City Council regarding the Project's intent to acquire 1.66 acres of property in fee simple over the Farm property.

One of the roles of the Public Utility Board ("Board") is to advise the City Council on behalf of and for the benefit of the citizens of Portland on the City's water services which is primarily related to fiscal policy and the viability of the utilities. However, as a governing body advising the City Council, it should also be concerned about the citizens whose properties are targeted for acquisition for the Project and we believe it is important for you to be aware that the Portland Water Bureau's ("Water Bureau") plans include acquiring more property for the Project than is necessary from the Farm.

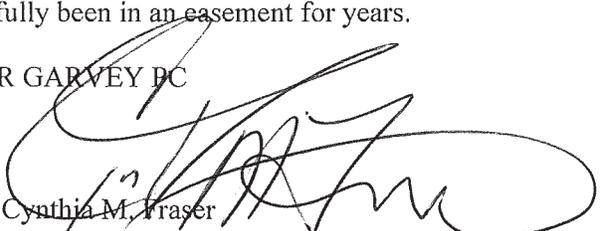
There are currently existing City of Portland easements on the Farm property. Our client understands that the Water Bureau needs to continue to use these existing easements and that additional underground infrastructure (underground vaults) will be added as part of the Project. However, the Water Bureau has presented a plan to take in fee simple, 1.66 acres, a rectangular parcel of property that far exceeds the existing easement footprint. By taking in fee simple, the Water Bureau is excluding the Farm from land it currently farms and from a pivotal access point it needs to farm a portion of the property.

The Farm has advised the Water Bureau that it will work with them to construct the new improvements in the existing easement and that at the end of construction, work out terms to protect the easement that allow the utility of the property to exit and not close off access needed to farm the property. We hope it concerns you that the Water Bureau is expending public funds for acquisitions of property that are not most compatible with the greatest good by taking property in excess of the acreage it needs and by taking property in fee simple, that has successfully been in an easement for years.

FOSTER GARVEY PC

By

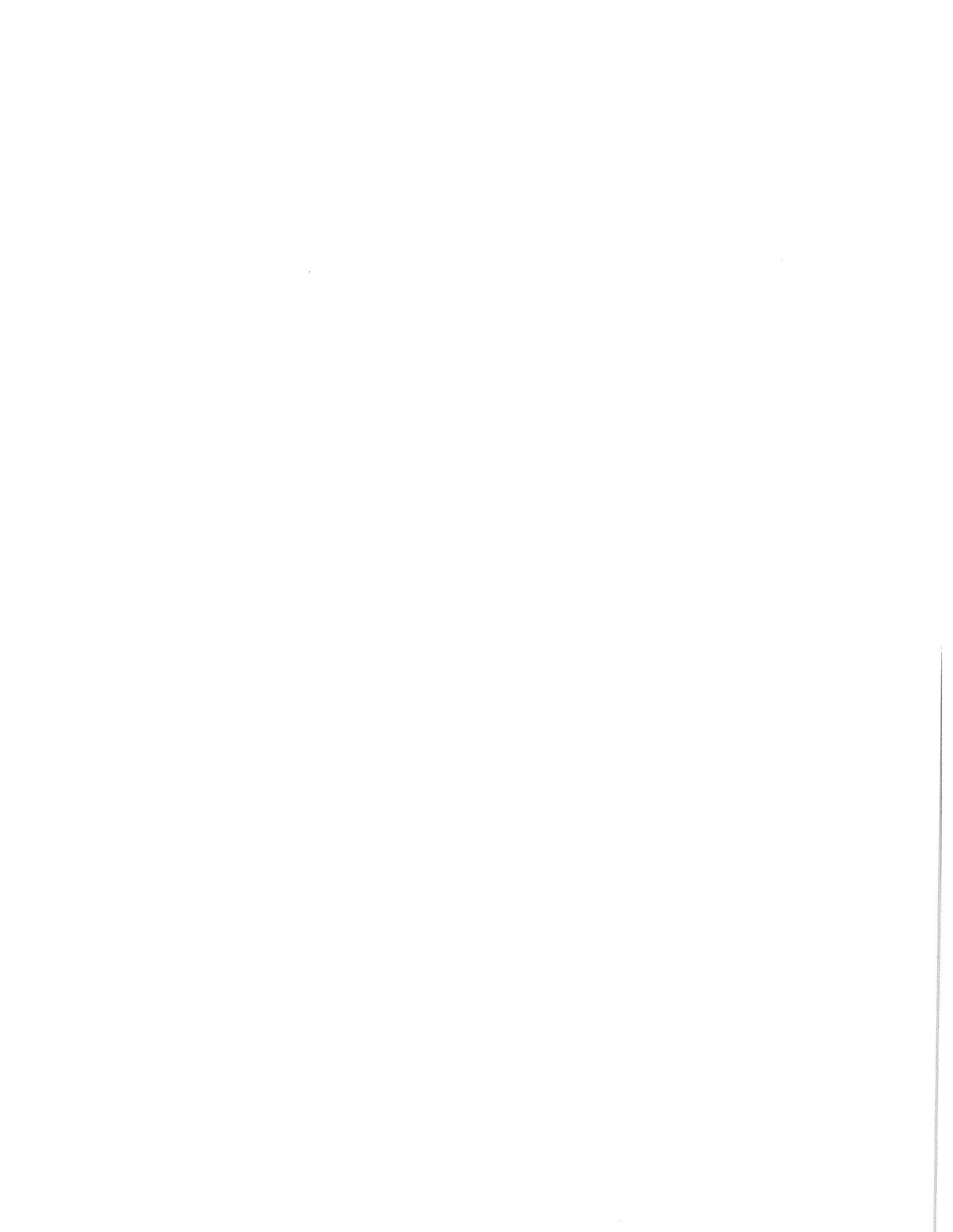
Cynthia M. Fraser



This packet of material was presented by Dee White to the PUB (Portland Utility Board) on October 1, 2019 for the Bull Run Treatment Project update meeting. 1900 SW Fourth Ave. 3:30

Addresses:

1. OZONE stealth addition
2. CONDUIT 5 withheld information from Mayor and Comm Hardesty
3. 25 YEAR OLD Corrosion Control TREATMENT SOLUTION – NO PILOT PROJECT
4. CRONY CONTRACTING, FAVORITISM



[Jump to main content.](#)



\$ Ozone
 \$ UV
 \$\$\$ Filtration
 3
 Alternative
 to address
 LTZ

Drinking Water Treatability Database

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- [Drinking Water Treatability Database](#)
- Ozone

Go Federally protected
 watershed + Ozone =
 THE SOLUTION for
 PWB but they
 dismissed.

Ozone

Overview

Contaminants

References

Ozone (O₃) is one of the strongest disinfectants and oxidants available in drinking water treatment. Ozone must be generated onsite and used immediately. Due to its short half-life, typically less than 30 minutes, a residual is not maintained in downstream processes; therefore, it can only be used as a primary disinfectant. A secondary disinfectant such as chlorine or chloramine must be added to maintain a disinfectant residual within the distribution system. Ozone can be applied at various points in the treatment train, although it is usually applied prior to coagulation (reduces coagulant demand) (Figure 1) or filtration (causes micro-flocculation which improves filterability) (Figure 2).

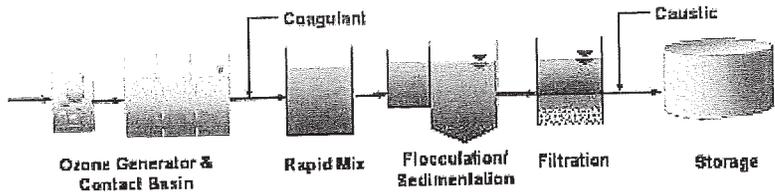


Figure 1: Ozone application as a pre-oxidant.

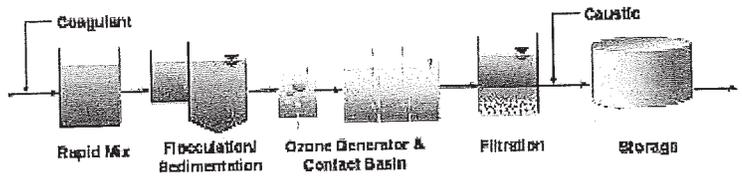


Figure 2: Ozone application prior to filtration.

Ozone is generated onsite by an ozone generator that uses either dried air (requiring air dryers and compressors) or liquid oxygen (LOX). The LOX system is preferred as it produces higher a percent weight concentration of ozone (%wt as O₃) than the dry air system. The solubility of ozone in water

depends on temperature and its concentration in the feed gas. Ozone contactors (diffused bubble or in-line injection systems) are used to dissolve ozone in water. Diffused bubble systems, commonly used in drinking water treatment, are typically composed of several enclosed consecutive chambers. In the first chamber, water flows downward against rising bubbles (countercurrent). Additional chambers are added to ensure sufficient contact time between ozone and water. These chambers may be countercurrent, cocurrent (water and rising bubbles flowing upward) or flow through (no ozone bubbles introduced in the chamber). A sampling port located in each chamber is used to measure ozone residual. The ozone contactor off-gas must be recycled or destroyed to minimize exposure to unhealthy ozone levels. Ozone destructors usually use heat or a combination of heat and a catalyst to remove ozone from the air. Ozone in the off gas results when all the applied ozone is not transferred into the water.

When ozone is added to water, a complex chain of reactions results in the formation of radicals, such as hydroxyl radicals ($\cdot\text{OH}$). The hydroxyl radical is stronger than ozone itself. Oxidation with molecular ozone occurs slowly in contrast to oxidation with hydroxyl radicals which occurs very rapidly. Water quality parameters, such as pH have a significant impact on ozonation. Different ozone dosages are required for different pH levels. Higher pH facilitates ozone decomposition due to increased hydroxyl radical formation; whereas, lower pH (less than 7.0) slows down ozone decomposition resulting in higher concentrations of molecular ozone. The rate of ozone decomposition increases significantly (due to $\cdot\text{OH}$ formation) when the pH is greater than 8.0. Ozone residuals are difficult to maintain at pH levels greater than 9.0. While molecular ozone is easily measured, hydroxyl radical is difficult to measure and typically measured in research efforts.

In addition to pH, other water quality parameters can impact ozonation and maintenance of ozone residuals. Higher alkalinity affects pH control. Turbidity, organic matter and color all increase ozone demand. Inorganics like iron and manganese also increase ozone demand. Disinfecting and oxidative properties are relatively independent of temperature; however, as temperatures increase, the solubility of ozone in water decreases. The major challenge with higher temperatures is the ability to transfer an adequate ozone dosage to the water. This can be accomplished by increasing the ozone concentration in the feed system and/or by providing adequate design for ozone transfer.

• The product of ozone concentration (C) and contact time (T) determines CT which is an important measure ability of ozone to disinfect and inactivate microbes.

Ozone organic disinfection byproducts (DBPs) are numerous and include aldehydes, ketones and carboxyl acids. Ozone also converts a portion of the total organic carbon (TOC) into biodegradable dissolved organic carbon (BDOC). If untreated (typically by GAC filter or by a biological filter), BDOC may cause biological growth in the distribution system. Ozonation of water containing bromide can lead to the formation of the inorganic DBP bromate (BrO_3), which must be maintained below the regulated 10 $\mu\text{g}/\text{L}$ level. Bromate formation depends on water quality conditions including bromide levels, pH, temperature, alkalinity, ammonia concentration and TOC levels. Bromate levels can be controlled while achieving effective *Cryptosporidium* inactivation by using bromate mitigation strategies such as pH depression, ammonia addition, and/or chlorine-ammonia processes.

Local Navigation

Impacts to water rates

Annual additional impact through 2028, above current forecast:

- Full implementation 1.8%
- Phased implementation 1.1%
- Minimum compliance 0.7%

$$\text{No transparency} + \frac{7.4\%}{1.8\%} = 9.2\%$$

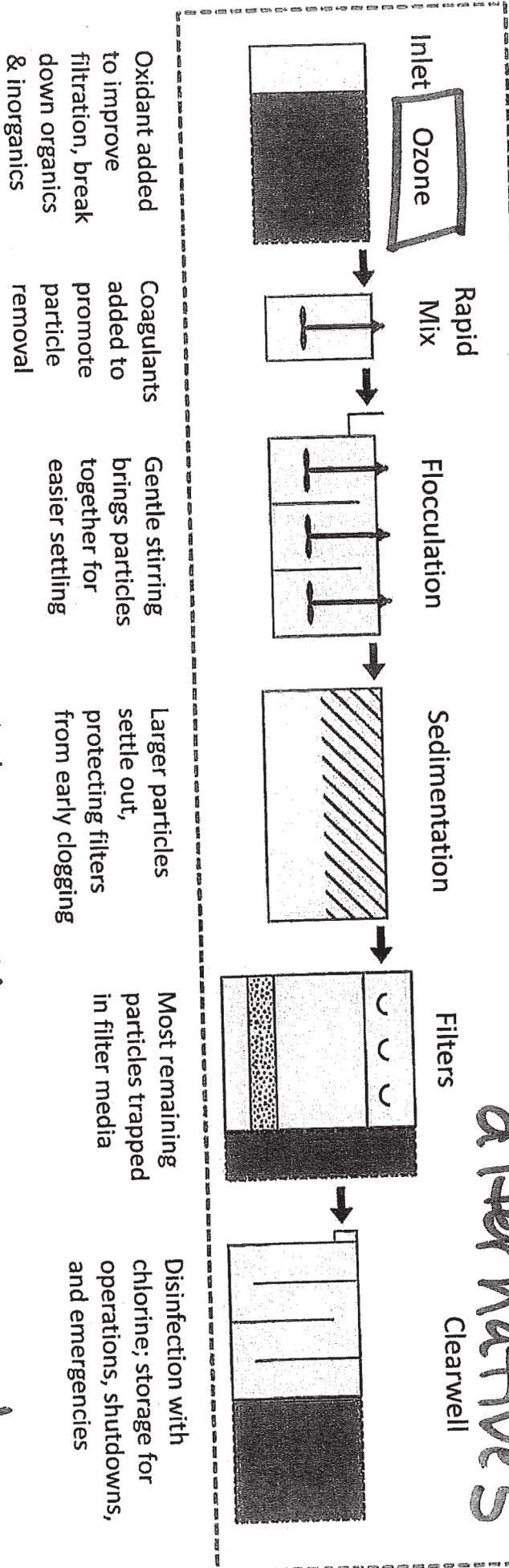
Unacceptable



Filtration Facility ~~alternatives~~ as opposed to LT2

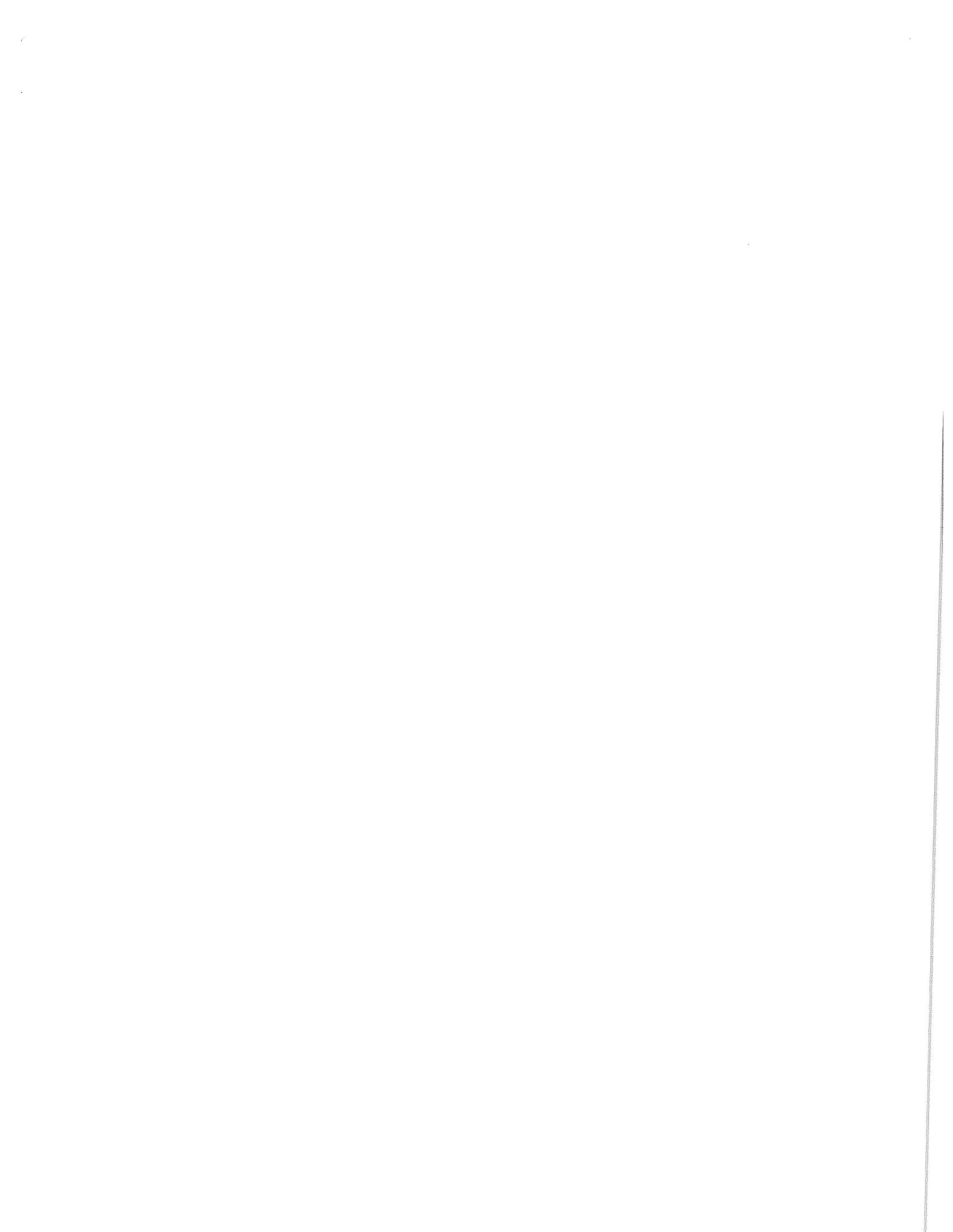
Capacity

alternatives



OZONE is an LT2 Alternative & was ruled out by PWB in 2017.

OZONE
UV
Filtration
LT2
Alternatives



NEW ADDITION

↑ \$\$\$\$\$\$

Full implementation summary

- Meets all projected demands for the next 20 years
- Larger clearwell provides flexibility
- Filtration rate best handles turbidity
- **Ozone**
 - Allows quickest recovery after major event
 - Improves everyday filtration
 - Destroys algal toxins
 - Enhances organics reductions
 - Improves taste odor and color
 - Another barrier to microorganisms
- Maximizes gravity capacity of conduits
- Avoids disrupting the community again in the near future
- Increases resilience to climate change and seismic events
- Allows second pipe maintenance without system shutdown
- Replaces aging infrastructure
- Least cost over entire planning horizon

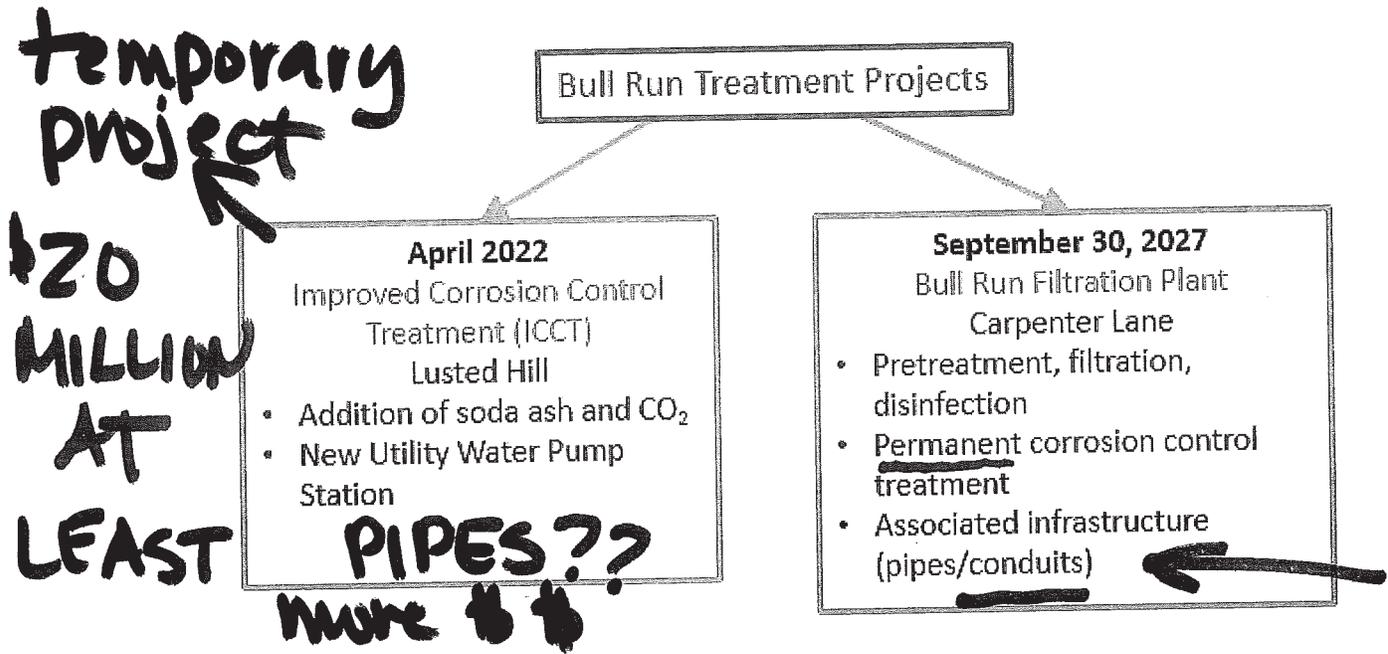
Bull Run Treatment Projects

Short-Term Communications Plan and Preliminary Framework Guidance (Rev. 7/10/18)

Background

Over the next 10 years, the Portland Water Bureau will be making two major treatment changes to the Bull Run supply:

1. Improved Corrosion Control Treatment (ICCT), which will adjust pH and alkalinity of the water to reduce corrosivity and the risk of lead leaching from home plumbing.
2. Bull Run Filtration project, which will remove *Cryptosporidium* and provide other water quality benefits. The filtration plant will also include integrated, permanent corrosion control treatment.



These two treatment projects are inextricably linked and are considered part of the larger Bull Run Treatment Projects.

Objective

This short-term plan defines the specific activities, tasks, responsible staff and schedule for communications from June to November 2018. The goals are to inform customers, stakeholders and PWB employees on the upcoming changes in Bull Run treatment.

CONDUIT 5 NOT PRESENTED TO PUBLIC OR CITY COUNCIL

Audience	Interests	Available Channels
<p>Site and Conduit Route Neighbors Neighbors who will be directly affected by construction activities, including properties along the Conduit 5 route.</p>	<ul style="list-style-type: none"> • Construction impacts • Community impacts from long-term operations • Decision process 	<ul style="list-style-type: none"> <input type="checkbox"/> Neighborhood door knocking <input type="checkbox"/> Open houses <input type="checkbox"/> Mailings
<p>PWB Employees Includes all employees – staff are interested and often asked questions on the job and outside of work. Special focus on outreach and frontline staff who routinely interact with the public.</p>	<ul style="list-style-type: none"> • Decision making • Water quality • Project progress 	<ul style="list-style-type: none"> <input type="checkbox"/> Internal newsletter – Bull Run Dispatch <input type="checkbox"/> Internal website – Water Cooler <input type="checkbox"/> Regular group staff meetings (vary by group) <input type="checkbox"/> B&C “morning musters” <input type="checkbox"/> Targeted trainings <input type="checkbox"/> SOAKED annual orientation for new employees <input type="checkbox"/> “WB all” emails
<p>Sensitive Users Commercial users whose operations may be affected by changes in water chemistry such as food and beverage, high-tech and medical providers (dialysis, hospitals etc.).</p>	<ul style="list-style-type: none"> • Water quality – corrosion control treatment (may require their own capital improvements) • Impact on groundwater use • Impact of boil water notices • Need to provide their own treatment for Crypto and turbidity 	<ul style="list-style-type: none"> <input type="checkbox"/> Direct contact <input type="checkbox"/> Sensitive Users Mailing List – pick and choose <input type="checkbox"/> Open House/Training event
<p>Low Income, Underrepresented Communities Members of the community who have been historically underrepresented and lower income individuals who will be most affected by required rate increases.</p>	<ul style="list-style-type: none"> • Rate increases, affordability, equitable allocation of costs • Economic opportunity • Water quality and public health 	<ul style="list-style-type: none"> <input type="checkbox"/> Low income (LINC) Assistance Program and program mailing list <input type="checkbox"/> Outreach On-Call Service (Multi-Cultural Collaborative) <input type="checkbox"/> Summer tabling events <input type="checkbox"/> Outreach under future Community Benefits Agreements <input type="checkbox"/> Lead in water mailer to apartment units
<p>Large users Customers who may be significantly impacted by rate changes.</p>	<ul style="list-style-type: none"> • Rate increases 	<ul style="list-style-type: none"> <input type="checkbox"/> Direct contact <input type="checkbox"/> Business, Industrial and Commercial Users List (maintained by Res Pro)

Taking land for a



Amanda Fritz, Commissioner
Michael Stuhr, P.E., Administrator
1120 SW Fifth Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



IMPACT STATEMENT

TEMPORARY PROJECT!

Date: June 10, 2019

Council Date: July 24, 2019

Legislation Title: Authorize the Water Bureau to acquire certain property and easements necessary for construction of the Corrosion Control Improvements Project through the exercise of the City's Eminent Domain Authority as a last resort (Ordinance)

Contact Name: Michelle Cheek

Contact Phone: (503) 823-2003

Presenter Name: Teresa K. Elliott, P.E., Chief Engineer
Ben Gossett, Coordinator III

Purpose of proposed legislation and background information:

The purpose of the proposed legislation is to authorize the Water Bureau to acquire certain fee property and permanent easements necessary for the construction and maintenance of the Corrosion Control Improvements (Project) through the exercise of the City's Eminent Domain Authority. The properties are described in Exhibits A-L attached to the Ordinance.

The Project is part of the Water Bureau's ongoing efforts to minimize the corrosion of lead in household plumbing. The Water Bureau is required to meet the Oregon Health Authority's compliance schedule with completion of the corrosion control treatment facility by April 30, 2022. This Project will design and construct a corrosion control treatment facility at the Water Bureau's Lusted Hill Facility which will include a new building to house the new corrosion control treatment system, a new utility water pump station, and associated piping and support systems.

In order to accommodate construction, facility access, and future maintenance, the Water Bureau would acquire new property in fee, clarify existing property rights language, and acquire new permanent easements.

Financial and budgetary impacts:

The cost to acquire the Project property rights will be determined by an appraisal that will comply with the requirements of ORS Chapter 35, Eminent Domain; Public Acquisition of Property.

TEMPORARY PROJECT

The estimated total Project cost is \$19,916,132. Funds of \$1,600,000 are available as part of the FY 2019-20 Budget. Additional funding will be requested in FY 2020-21 through FY 2022-23 Budgets.

The proposed legislation will not create, eliminate or re-classify any positions now or in the future.

Community impacts and community involvement:

The Project is still in an early design phase. There will likely be traffic impacts along Lusted Road, although they are anticipated to be minimal. Traffic control plans will be developed to mitigate traffic impacts on the local, rural community. It is anticipated that traffic control plans will be implemented by the hired Contractor to assure the vehicles, machinery, equipment, and supplies do not block traffic for an extended period. Traffic control plans will likely include flaggers, signs, traffic cones, road closure signs and other approved Manual on Uniform Traffic Control Devices (MUTCD) traffic control during construction to minimize local impacts. A utility corridor with utility piping will cross SE Lusted Hill Road. As a result, this road may be shut down during installation activity.

Water Bureau designated staff will inform impacted owners within the Project area of the proposed legislation to obtain eminent domain authority to acquire property rights on their property. Based on this information, area owners may testify at the City Council meeting. No other individuals are anticipated to testify.

100% Renewable Goal:

This action will not increase or decrease the City's total energy use. This action will not increase or decrease the City's renewable energy use.

Budgetary Impact Worksheet

Does this action change appropriations?

YES: Please complete the information below.

NO: Skip this section

Fund	Fund Center	Commitment Item	Functional Area	Funded Program	Grant	Sponsored Program	Amount

6/17/19
Date

Michael Stuhr, P.E., Administrator

WILL BE ABANDONED in 2027.²
LUSTED HILL ABANDONED TOO.

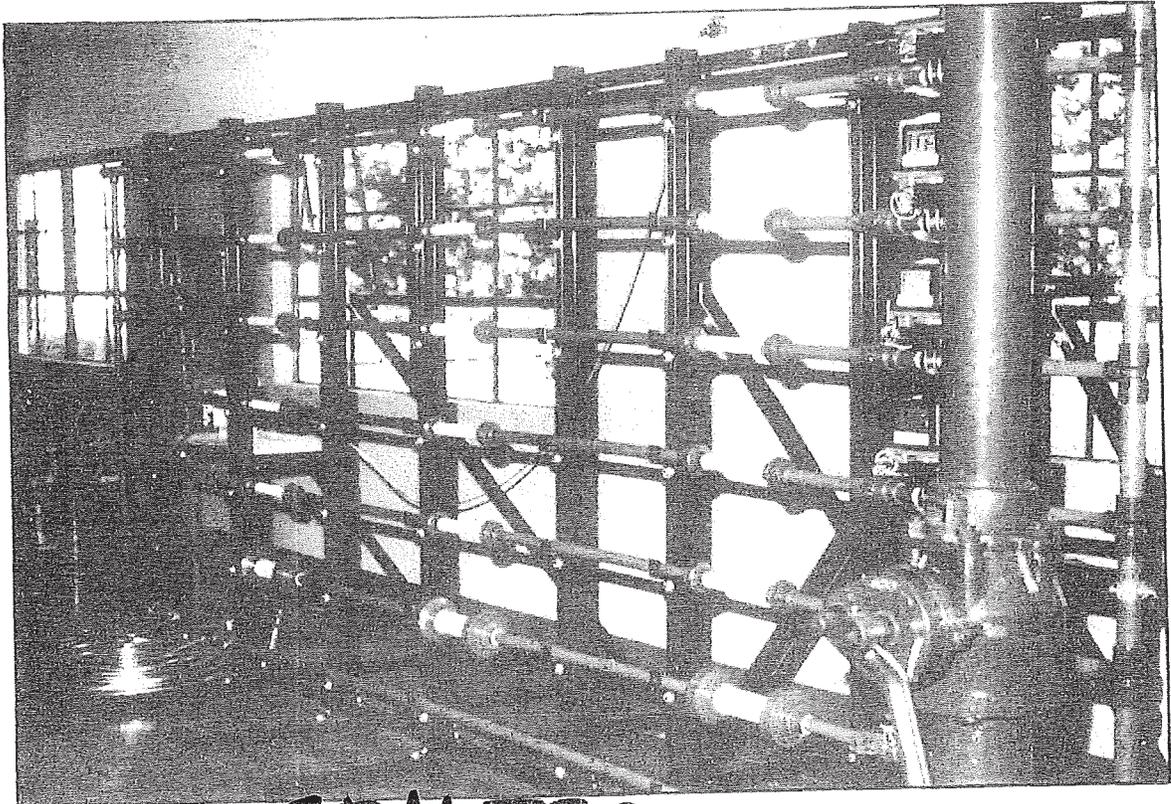
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17609-01

BUREAU OF WATER WORKS
PORTLAND, OREGON

INTERNAL CORROSION MITIGATION STUDY
FINAL REPORT

NOVEMBER 1982

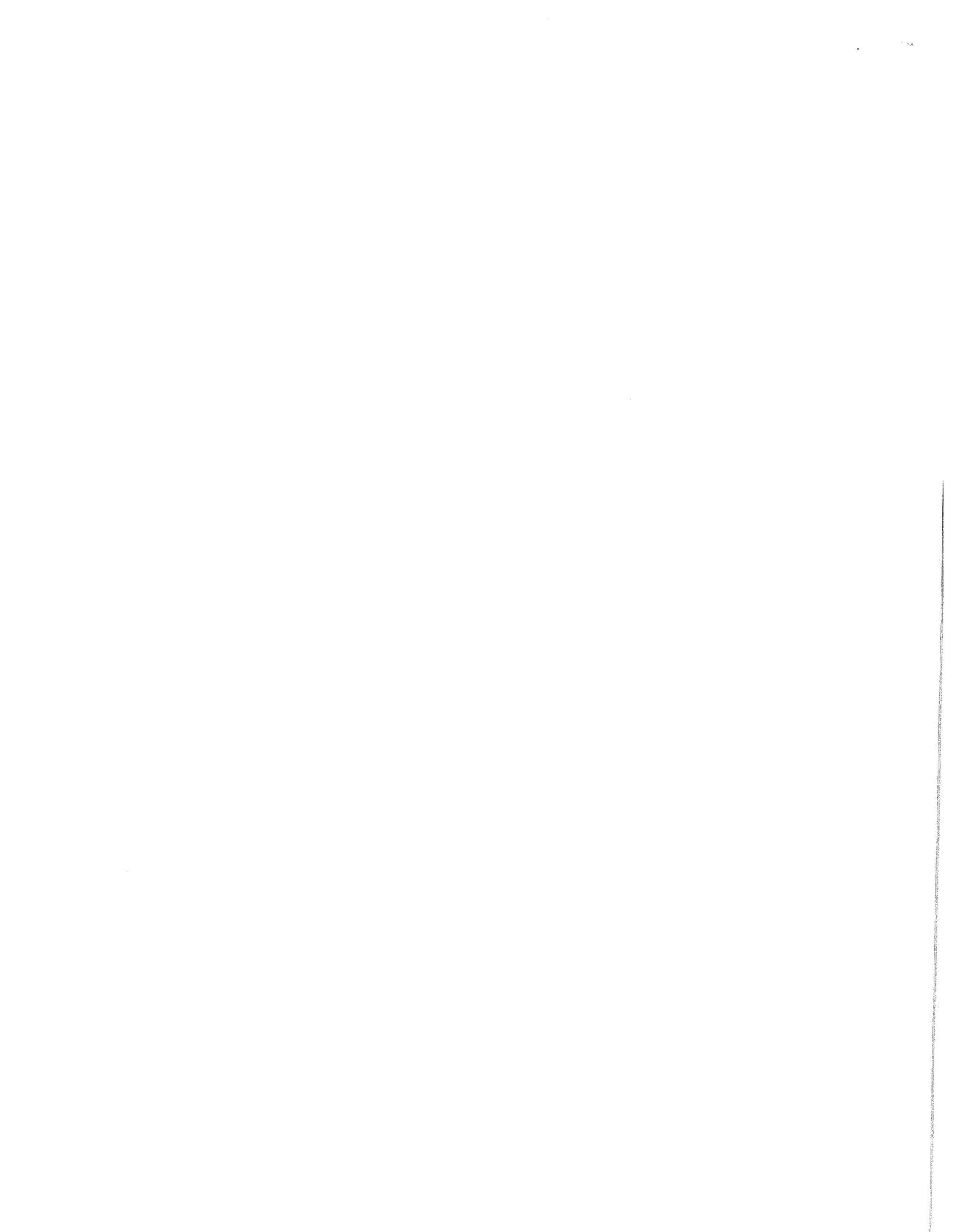


STANTEC 2018
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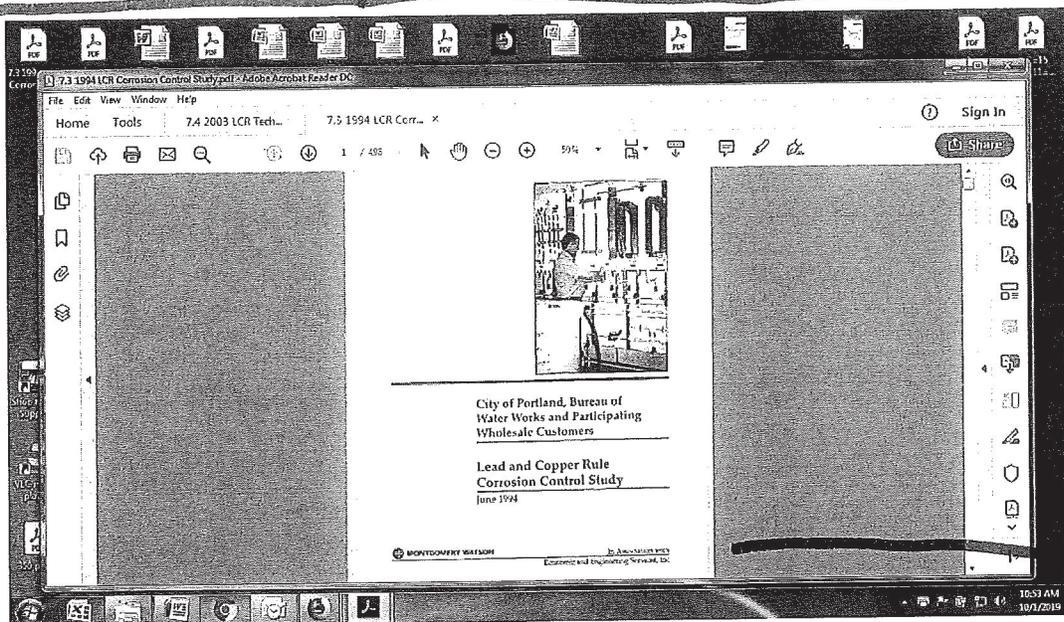
Montgomery Watson Harza
↑

JAMES M. MONTGOMERY, CONSULTING ENGINEERS, INC.





Screenshot of cover for PWB's only bona fide Corrosion Control Study, 1994



TREATMENT OPTIONS

The corrosion control measures available for domestic water like that of Portland include: (1) blending with harder, more alkaline water, (2) elevation of pH and alkalinity by addition of lime and soda ash, (3) sodium silicate corrosion inhibitor, (4) zinc polyphosphate corrosion inhibitor, and (5) zinc monobasic phosphate corrosion inhibitor. All of these techniques have been used by other cities, with various degrees of success.

Elevation of the pH, such as by addition of lime or caustic soda, would have the beneficial effect of reducing the levels of copper and lead leaching, since both of these species are less soluble at higher pH's. However, pH elevation by itself, without alkalinity addition, could exasperate the galvanized steel corrosion, as shown in Figures 1-13 and 1-14. For this reason, increases in the pH should be accompanied by increases in the alkalinity, in order to maintain the existing low steel corrosion rates.

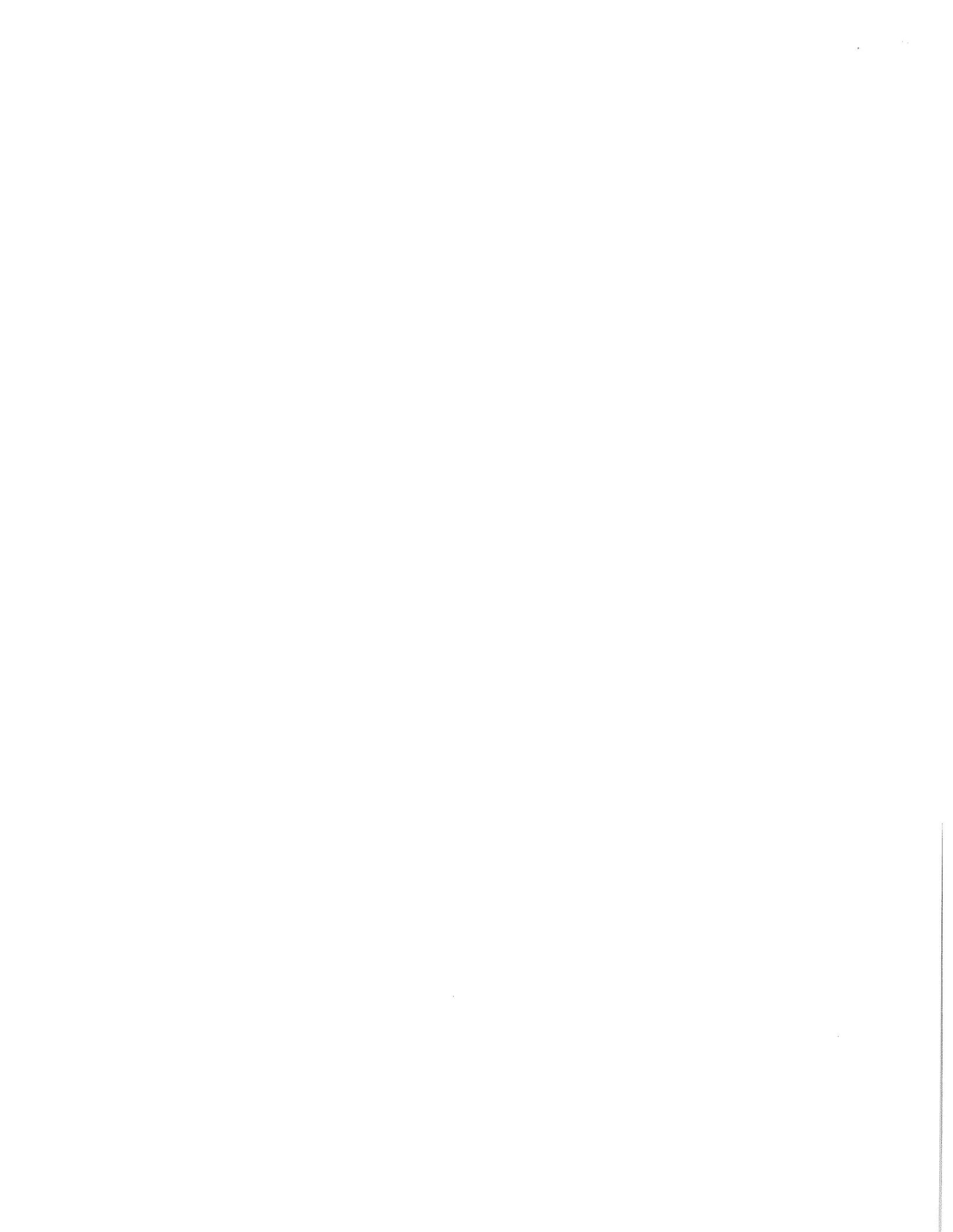
No effects could be seen indicating that there are differences in corrosion protection between sodium hydroxide, lime, sodium bicarbonate and carbon dioxide when used to reach equivalent pH and alkalinity values.

Phosphate and zinc phosphate, when the pH and alkalinity are increased, are effective in reducing corrosion rates and, especially Pb release.

Silicate and a silicate/phosphate inhibitor were effective in reducing copper corrosion and release, but less so for lead/tin solder.

The groundwater was the least corrosive water tested. Its inhibiting effect was quite apparent when blended 50:50 with the chloraminated Bull Run water.

Montgomery
Watson
↓
STANTEC



Final Report for

Portland Water Bureau and
Region X US Environmental Protection Agency
Review of Corrosion Control Practices for
Portland Water Bureau Water Sources

September 2003

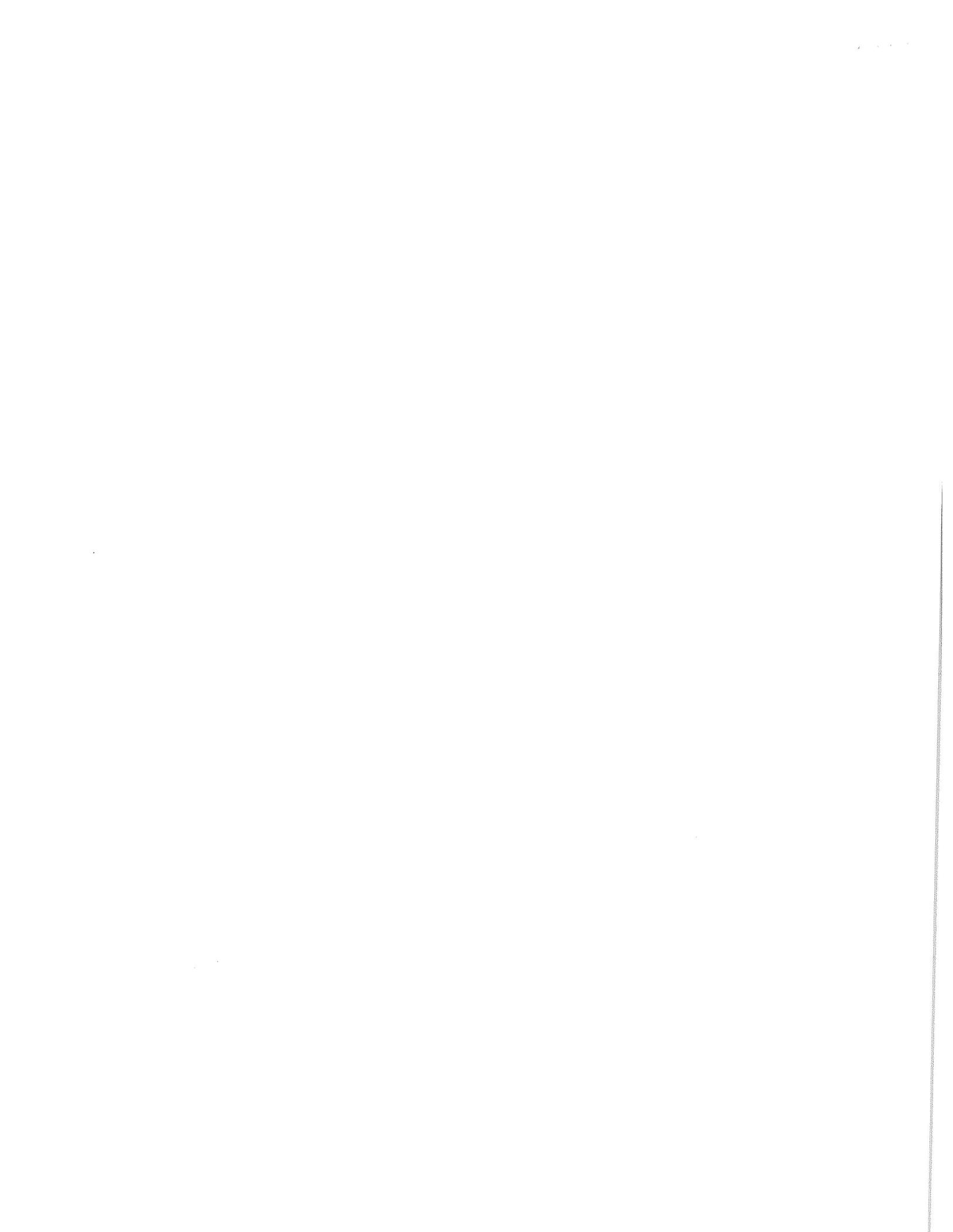
Prepared by the Technical Advisory Committee
Dr. Michelle Frey, McGuire Environmental Consultants
Gregory J. Kirmeyer, Economic and Engineering Services, Inc.
Anne Sandvig, Sandvig Consulting
Michael Schock, USEPA
Dr. Vernon Snoeyink, University of Illinois
Dr. Rhodes Trussell, Montgomery Watson Harza

EXCERPTS from this report:

In 1996, the Bureau initiated two studies: a design study for facilities to feed the corrosion control chemicals, and a planning study to develop alternatives to chemical treatment, i.e., approaches that did not involve chemical additions.

The design study recommended that the Bureau plan to adjust pH and alkalinity using up to three chemicals; sodium hydroxide, soda ash and CO₂. The concurrent planning study addressing nonchemical alternatives concluded that drinking water is not a major route of lead exposure in the Portland area

→ It is recommended that the Bureau avoid the use of lime unless operations staff is willing to take on a dirty gritty chemical.



2017
August 29, 2017

Testimony from Dee White

My name is Dee White.

924 Approve findings to authorize an exemption to the competitive bidding requirements and authorize the use of the alternative contracting method of Construction Manager/General Contractor in connection with the Bull Run Filtration Project for an estimated amount of \$350,000,000 (Second Reading Agenda 898)

925 Authorize a contract with Brown and Caldwell, Inc. for the Program Management and Support Services for the Bull Run Filtration Project for a total not-to-exceed amount of \$67,891,398 (Second Reading Agenda 899)

Because of: 1) an utter lack of transparency, and 2) redundant, duplicate contracting, Portland ratepayers could be faced with paying for 2 treatment projects: one (Bull Run Filtration Project) that contractually is beyond the scope of the project as described in the Ordinance and the Impact Statement and another treatment project (Corrosion Control Project) that is redundant and unsubstantial.

The Brown and Caldwell contract (Proposed Contract) also states that there will eventually be two design contracts that are apparently the subject of agenda #898 below, for a CM/GC contract: one for the treatment plant (WTP) and one for pipes (Pipelines). I believe these concerns I have also involve intentional misrepresentations.

First, I would like to point out:

- 1) the water bureau has a brand new \$60 million facility on N. Interstate, Portland, that includes maintenance, administration, and a state-of-the-art water quality lab
- 2) the recently expanded (2013) Lusted Hill facility currently provides for Bull Run water disinfection and corrosion control.

Excerpts from the Impact Statement:

The purpose of this legislation is to authorize a Professional, Technical, and Expert Services contract with Brown and Caldwell, Inc. for Program Management and Support Services for the Bull Run Filtration Project (Project).

The cost for planning, design, and construction of a filtration plant is estimated to be....

Excerpts from the Ordinance:

Authorize a contract with Brown and Caldwell, Inc. for Program Management and Support Services for the Bull Run Filtration Project.....

.....to develop and implement a pilot program and deliver a complex water treatment facility capable of complying with the Long Term 2 Enhanced Surface Water Treatment Rule.

Excerpts from the Proposed Contract:

The Project will plan, design, and construct all treatment systems related to the Bull Run Supply including filtration, pre/post treatment systems, disinfection, and corrosion control. <emphasis mine>

Identify basic parameters for the project's filtration process structures and non-process buildings that include Administration/Operations, Maintenance, and Water Quality Laboratories.

Contractor will conduct a field assessment along the proposed pipeline routes and of the proposed WTP site to determine if there are cultural resources

Expectations for this task include the following:

- Two design contracts (WTP and Pipelines)

Here is another concern about this Proposed Contract: redundant, duplicative contracting

1. Ordinance #188272 Corrosion control contract March 2017

Authorize a contract with Confluence Engineering Group, LLC in the amount of \$664,930 for the Corrosion Control Treatment Pilot Project (Ordinance)

The work performed by Confluence Engineering Group, LLC will be divided into two phases. Phase 1 will conclude with development of an experimental plan for the Treatment Pilot. Phase 2 will conclude with recommendations for full-scale implementation of improved corrosion control treatment

The Water Bureau recommends approval of the Corrosion Control Treatment Pilot as a first step in a multi-phase project that would ultimately include design and construction of a corrosion control treatment facility to implement additional treatment.

Excerpts from Proposed Contract:

Please note that there are numerous referrals to corrosion control, corrosion chemicals and pilot testing. Here are a few:

Page 7 of 13 <emphasis mine>

NAME	DMWESB CERTIFICATION TYPE	ROLE ON PROJECT	SUBCONTRACT AMOUNT
Akana	D/MBE	Civil	\$300,000
Aladon	RCD/M		\$390,000
Assessment Associates, Inc.	ESB	Environmental Assessment	\$200,000
Asset Management Professionals	MBE/ESB	Asset Management	\$250,000
Barney & Worth	WBE	Communications	\$3,370,000
CFM Strategic Communications	Public Affairs		\$150,000
CMTS	D/MBE	Construction Inspections	\$925,000
Confluence Engineering Group, LLC	and Corrosion	Water Quality	\$1,220,000

Additional information will be added to the website as more is known about the filtration and corrosion control projects, process, plant capacity and program schedule.

Piloting Objective To conduct a pilot investigation that collects the data required to recommend the appropriate treatment processes and test high-rate granular media filtration over seasonal variations and corrosion control.

2. Ordinance #188620 Stantec Consulting Services CM/GC contract September 2017

Authorize a contract with Stantec Consulting Services, Inc. in the amount of \$3,325,000 for the Corrosion Control Improvements Project (Ordinance)

The goal of the Corrosion Improvements Project (Project) is to design and construct a corrosion control treatment facility at the Water Bureau's Lusted Hill Facility.

Excerpt from the Proposed Contract

The Project will plan, design, and construct all treatment systems related to the Bull Run Supply including filtration, pre/post treatment systems, disinfection, and corrosion control.

3. Ordinance #188621 CM/GC contract \$11,000,000 Sept. 2017

Approve findings to authorize an exemption to the competitive bidding requirements and authorize the use of the alternative contracting method of Construction Manager/General Contractor all in connection with the Corrosion Control Improvements Project for an estimated amount of \$11,000,000 (Ordinance).

Please note that this is a separate project being contracted for at Lusted Hill. There are multiple contractors that are contracting with both of these overlapping projects.

Below are my concerns with the CM/CG no-bid contracting method.

As I said in my testimony on August 22, allowing for this contracting method at this point in time is putting the cart before the horse and is putting the ratepayers at risk for unexpected, unforeseen scope expansions and increases in project costs for which they will be held responsible for paying.

This method of contracting, when used by the water bureau, has proven to be very problematic for the ratepayers in that the same contractors and engineering consulting firms have persisted in winning these large CM/GC contracts only to have the project fail or as in the case of Washington Park demolition, have delays and revisions to the scope and costs.

From April 12, 2018 PUB meeting minutes:

Those funds will be moved to the water fund contingency. \$25 million of the reduction is due to Washington Park delays because of design and constructability issues with the project. Those concerns delayed construction until summer.

From the Oregonian September 23, 2015

Water engineers issued the new estimate after more analysis of Washington Park's geology. The city estimated in 2009 that the project would cost \$62.3 million. The estimate rose to \$76.3 million in 2013 after more study.

The new \$170 million estimate is a result of unstable soil conditions in the park and concerns associated with a potential earthquake.

Powell Butte II: this is another CG/GM contract that started at \$40 million and after council approval amending the scope, increased to \$138 million. The new tank subsequently failed due to cracking and cost another \$14 million to fix. Please note that Powell Butte and Washington Park had the same designer and contractor and it is highly possible that he will be the preferred vendor for this CM/GC Filtration Project, unless the requirement for past performance and related experience is added to the procurement procedure and followed.

From the Daily Journal of Commerce:

Cracks slow Powell Butte reservoir construction

By: Jeff McDonald in Construction May 27, 2014 4:06 pm

The Portland Water Bureau says the \$138 million project to build a new Powell Butte reservoir is on budget and will be done on time, despite the discovery of approximately 3,200 cracks.

Here is another concern: intentional assumptions of contracting method and sloppy writing In part of the activities and deliverables in the Agenda Item 899 above, the Proposed Contract assumes the design/build contract is going to be CM/GC, which is false. The method of procurement has not been voted on.

Page 5 of 13 Proposed Contract

2. Construction of the Project shall be delivered through a Construction Manager / General Contractor (CM/GC) procurement process.

Page 9 of Exhibit A (page 22 of the pdf) Proposed Contract: Community Benefits Agreement: Develop a Community Benefits Agreement (CBA) or similar agreement for the Filtration Plant CM/GC contract.

Finally, attached to this ordinance #924 for CM/GC, Exhibit A, page 16 <emphasis mine>:

IV. CONCLUSION

The City of Portland meets the requirements for allowing an exemption to the competitive bidding process as identified in ORS 279C.335 (2). Use of CM/GC alternative procurement process for the Washington Park Improvement's Project.....

Yes, this is a sloppy mistake but it points to the procurement team using a boiler-plate template for writing legislation that has never been genuinely questioned and unflinching wins Council approval.

August 29, 2018 Testimony

924 Approve findings to authorize an exemption to the competitive bidding requirements and authorize the use of the alternative contracting method of Construction Manager/General Contractor in connection with the Bull Run Filtration Project for an estimated amount of \$350,000,000 (Second Reading Agenda 898)

925 Authorize a contract with Brown and Caldwell, Inc. for the Program Management and Support Services for the Bull Run Filtration Project for a total not-to-exceed amount of \$67,891,398 (Second Reading Agenda 899)

contract

My name is Dee White.

I am extremely concerned and disgusted with the Portland Water Bureau's Bull Run treatment plant plans and the impact that it is going to have on the city's financial status in contrast to the extreme burden it is going to place on the ratepayers. THERE IS NO TRANSPARENCY here and I seriously believe that unless the city is open and honest about the misbehavior going on in the water bureau, the public trust is going to completely disappear. This **piecemeal, drawn out, opaque approach** that is being taken by the city/water bureau is terrible governance and stomps all over the city's main purpose and that is to provide for the common good. The Bull Run Treatment plant is going to end up costing at least a billion dollars, not including bond service.

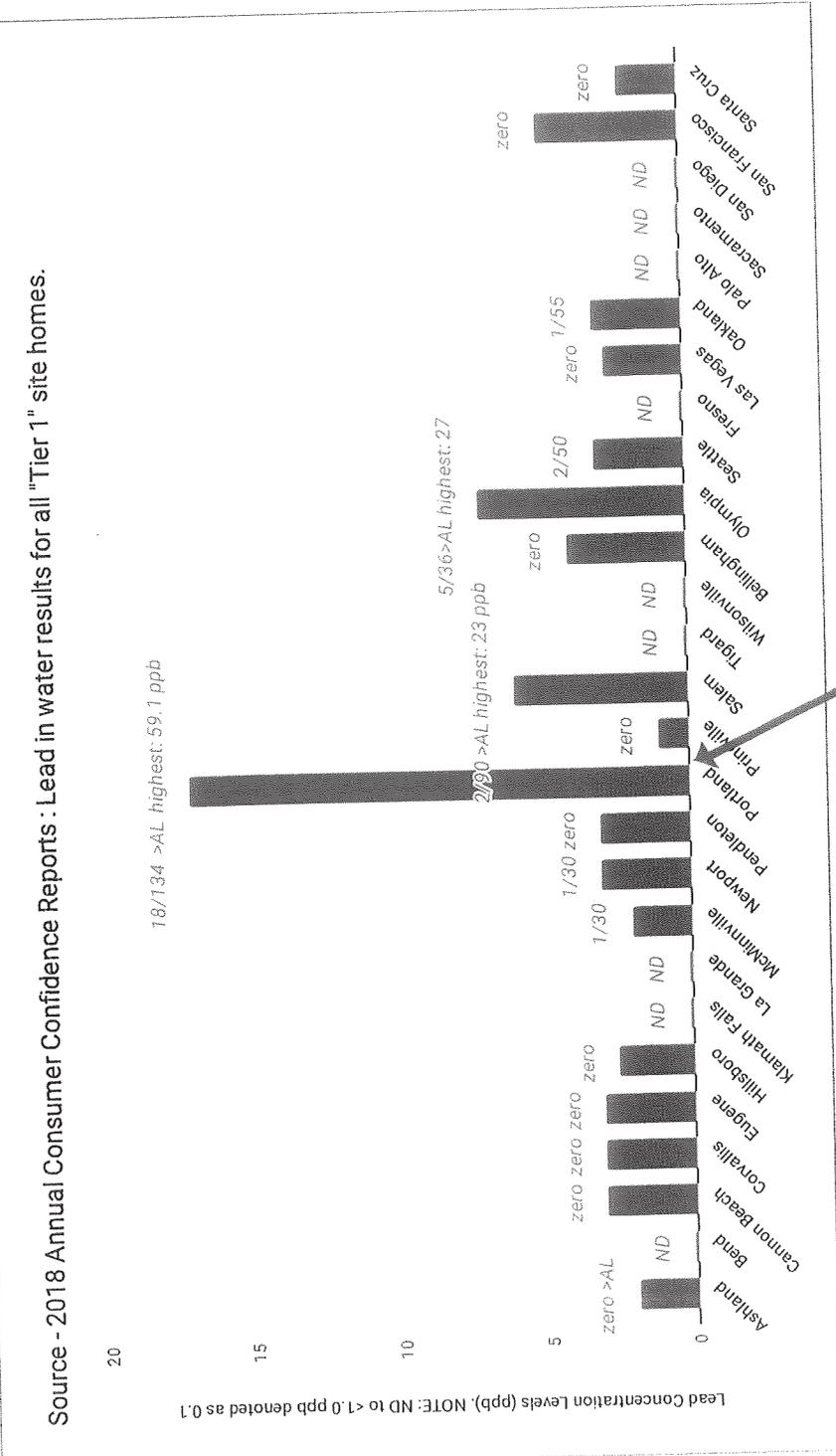
Please take a look at the attached report found at the City Budget Office web site: "***Bull Run Treatment Projects Short-Term Communication Plan & Preliminary Framework Guidance***" You will see that among other egregious statements i.e key decisions already made, on pages 1 and 13, please see that in addition to a treatment plant that is going to treat for ALL treatments, there is also a NEW CONDUIT 5 in the Bull Run Treatment Project plan. A new conduit will cost at least another \$400 million. Plus 5 miles of pipes. Neither of these unknown-to-the-public components of this treatment plant are included in the no-bid contract y'all are voting on today. This is not right.

My brain is sore from having to plow through these deplorable, unsubstantial documents that the water bureau pumps out continuously. I want to let you know that I will never give up fighting for justice for all ratepayers and citizens of Portland and honesty from the water bureau. The fact that the water bureau is making up official sounding phrases like "ICCT" for improved corrosion control in place of the federal Lead and Copper Rule's requirement for OCCT – optimized corrosion control treatment – is simply craven and evil and in my opinion, all of these well-paid communicators on this communications panel should at the very least be fired. Whether or not they go to prison like what is happening in Flint remains to be seen.

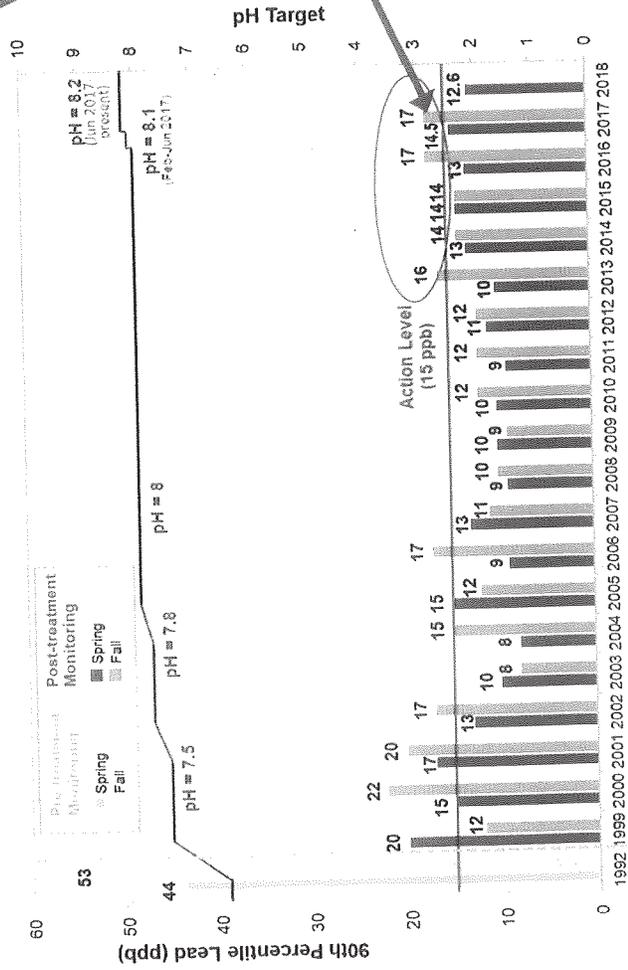
THERE IS NO SAFE LEVEL OF LEAD EVER AND CRYPTOSPORIDIUM IS AND WILL BE PROVEN TO BE A NON-ISSUE.

I have also attached former water bureau chief engineer and currently partner at Jacobs/CH2MHill Portland, Joe Glicker's manifesto "*Convincing the Public*", which is the water bureau's upper management's Bible. Everything is going according to plan and that is tricking the public into believing that cryptosporidium is bad and lead is not a problem. It's criminal and he along with the water bureau bureaucrats and the elected official should be fined and incarcerated.

Source - 2018 Annual Consumer Confidence Reports : Lead in water results for all "Tier 1" site homes.



Portland Joint Monitoring 90th Percentile Lead Levels



FACTS about Portland Lead in Water

- **There is no safe level of lead.** Lead is a potent neurotoxin. **You cannot see, smell or taste lead in water.** Lead especially impacts pregnant women, formula-fed infants, and children. More than 400,000 of all adult deaths every year are linked to chronic lead exposure.
- 20 years of poor Bureau maintenance and sub-optimal water treatment has resulted in Portland having the highest water lead levels of any western region city and of all U.S. large water utilities.
- Surrounding west coast cities with the same style of plumbing, same old homes, schools, and buildings have **significantly** lower levels of lead in water compared to Portland homes + schools.
- Portland has exceeded the federal action level -15 ppb- **NINE** times over the past 20 years. Portland intentionally uses **NO optimal** treatment, to protect industry interest over public health.

FACTS about Filtration “for cryptosporidium”

- Portland’s watershed enjoys federal protection. With no presence of infectious strains - hominis or parvum - of the microorganism cryptosporidium, we **do not need** filtration to remove them!
- Cryptosporidium found here:
“**Were not the ones linked to human outbreaks**”; not Parvum or Hominis. – PWB
“**We did not see a human health problem. No detectable [Cryptosporidium] problem**” - Dr. Paul Lewis, Tri-County Health Officer and Pediatrician

WHAT IS THIS GOING TO COST WATER CUSTOMERS?

- Corrosion Control of lead: \$20 million for **sub-optimal corrosion control** that will **not best protect** customers from this potent and irreversible neurotoxin.
- Filtration for Cryptosporidium: \$500,000,000 to treat for a microorganism **that has not been found** in our federally protected, pristine source of drinking water.

ASK THEM (Questions for Water Commissioner, City, or Portland Water Bureau):

- Why are you **NOT minimizing** lead in customer drinking water? While our neighbor-cities ARE!
- Why are you not providing **FREE water filters** to expectant mothers/families with young children?
- Why should customers pay the cost for replacing our old corroded pipes and fixtures, when you have used **sub-optimal treatment + maintenance, which accelerates plumbing corrosion?**

TELL THEM:

- You do not want to pay for a costly Filtration plant, when the public was not consulted. And, Filtration won't even address PWB's lead in water issues, a dangerous irreversible neurotoxin.
- You want them to do the job they are supposed to do: *deliver* clean, reliable water to our taps.

11/5/18 @6:28 <https://www.kboo.fm/media/68966-portland-pursues-alternative-compliance-epa-lead-levels>

There is no guaranteed health benefit for your family with either of these ill-conceived Water infrastructure projects, paid for by us and future generations.

Date: October 7, 2019
To: Public Utility Board for the City of Portland
From: Citizens for Peaceful Rural Living
RE: Portland Water Bureau, Bull Run Filtration Project Update

Board Members,

Thank you for the opportunity to provide additional comment subsequent to the October 1st meeting on the Portland Water Bureau (“PWB”) presentation on the proposed Bull Run Filtration facility (“BRF”). As discussed near the end of that meeting, our group had numerous issues regarding the PWB’s presentation that we wished to respond to, as follows:

1. The most significant unanswered question on the proposed filtration facility is, “At what point does the projected facility cost suggest a reevaluation of treatment technology and siting?”. This question was generally asked by a PUB member, but not sufficiently answered. We believe the PUB should request PWB and the City Council to reconsider their current path by returning to the formal decision framework and considering the revised budget. The current path was locked in based upon now-outdated evidence and far different estimates of cost to the ratepayer.
2. The PWB engaged in an extensive evaluation of potential technologies to address the EPA’s Cryptosporidium mandate, and an evaluation of potential sites to implement the chosen treatment method (particulate filtration). Each of these decision processes is extensively documented by PWB on their website.¹ Throughout these documents, “cost” was considered to be an important aspect (“...develop capital and operating costs so that decision-makers could fairly evaluate the alternatives”²; also, “The top three (community) values are cost, public health/water quality, and resilience.”³).
3. The Portland City Council approved a budget in the range of \$350 to \$500 million on December 12, 2018. From testimony at the PWB/Council “work session” September 19, 2019, water conduit (“pipe”) improvement costs were not included in the total project cost. New cost estimates from that work session demonstrate the facility cost at \$573 to \$643 million, and the necessary water conduit improvements an additional \$91 to \$198 million. Total project costs now range from \$670 to \$850 million, with the financial experts indicating a possible increase of 50% (in other words, the total project could be \$1.275 billion).⁴ If decision makers had known the cost would be double, or potentially triple, the original estimates, would they have made different decisions? Is it possible that “This is intentional malfeasance by the bureaucracy.”⁵?
4. “With just a few weeks to make a decision, two key members of Portland’s City Council say they are undecided on whether the city and its ratepayers should spend up to \$500 million building a new water filtration plant or choose a more affordable ultraviolet light system estimated at \$110 million. ‘There’s not a question, if money were no object we’d move today on the filtration system’, Wheeler said. ‘But money is an object. Every dollar we spend on this system leads to increased

water rates for users throughout the metro area, so I have to balance these two competing interests’.”⁶

5. “Seattle and San Francisco have built ultraviolet plants to comply with the EPA’s LT2 rule, and five years ago, the Portland City Council directed the Water Bureau to develop plans for a UV system as a hedge in case the city didn’t receive its waiver. ‘What you see in front of you here, on this table....are the specifications for a UV plant’, Water Bureau Director Mike Stuhr told the council. ‘This pile of paper is worth \$16 million, so you have a UV design on the shelf’, he said. Thanks to those existing plans, Stuhr said the city could complete construction on a UV plant at the Bull Run’s headworks facility within five years, at an estimated cost of \$105 million.....Stuhr told the commissioners he personally favored the cheaper ultraviolet treatment option, due to the ‘stiff burden’ of costly projects water ratepayers are already funding.”⁶ Of course, this option would also serve to preserve farmland and to avoid expensive and, for property owners, long-running and highly stressful disputes over eminent domain.
6. Currently, the PWB does not list the land use process as a “risk” to the project, yet acknowledges the proposed facility is a conditional use that must be approved by a Multnomah County hearings officer. One of the conditional use criteria requires that the BRF is ‘consistent with the character of the area’.⁷ Is a 40-acre industrial water treatment facility consistent with the existing agricultural and residential uses currently surrounding PWB’s property? Our group has hired a well-known land use attorney for purposes of challenging PWB at the Multnomah County land use hearing, and for further appeals to LUBA and the Oregon Court of Appeals, if necessary. Shouldn’t that be considered as a ‘risk’ to the project? The best available legal guidance indicates that PWB is at significant risk, particularly since several hundred million dollars may be invested in the planning and design, before the land use approval can be achieved (if indeed it can be).
7. In May 2017, the Oregon Health Authority (OHA) revoked the treatment variance due to high oocyst numbers detected at Bull Run during January through March of 2017. However, it is unclear whether a *Cryptosporidium* threat to human health exists. Although oocyst numbers were high in 2017, the species known to negatively affect human health were not identified (i.e., *C. parvum* and *C. hominus*). In the one documented instance (March 8, 2017) where species were identified, the oocyst concentrations of harmful species were well below the EPA threshold of 0.075 oocysts/liter. Although the thirteen-year-old EPA-required lab methodology does not necessitate species identification, several published scientific studies outline the flaws of the EPA method and recommend secondary testing to confirm results. Furthermore, it is unclear whether the data used to inform the variance revocation is reliable. The Williston, Vermont-based laboratory (Analytical Services, Inc.) used by PWB were investigated for procedural non-compliance for work completed prior to April, 2016.⁸ Yet, PWB continued to use this laboratory, until 2017. In 2017 - the year of high oocyst concentrations - PWB began to run their own analyses on the water samples they collected. In summary, building a billion dollar filtration plant is imprudent given the uncertainty in the oocyst data and lack of evidence for cryptosporidiosis cases among PWB water consumers.
8. One important role of OHA is to enforce EPA’s LT2 Rule to ensure that PWB complies with federal regulations. It is now clear that the LT2 Rule is being used to justify a filtration plant that exceeds

the purpose of treating *Cryptosporidium*. The large financial burden to be placed on PWB ratepayers is to cover the cost of filtering out sediment from the Bull Run reservoir. According to Commissioner Fritz¹¹, the main purposes of this filtration plant are: (a) to ensure that water demands can be supplied to a growing population through the ability to draw from deeper layers of the reservoir; and, (b) to protect water from any unknown potential negative impacts resulting from forest fires. These reasons were not the basis for project approval to City Council back in 2017. If treating the water for *Cryptosporidium* is the factual reason for treatment, then the ratepayer deserves a lower cost approach that achieves meeting federal regulations. PWB and the City have already invested in the design of an ultraviolet (UV), similar to the approach of the larger cities of Seattle and San Francisco.⁶ UV is a viable and cost-effective treatment that does not significantly impact ratepayers' pockets. Furthermore, ratepayers and the City will not be unnecessarily rushed into the financial burden of the design, building, and operation of a facility that addresses problems we currently do not have.

9. There were questions from the PUB members around the ability of PWB to meet water demand in the event of the various catastrophes that are being used for justification. The Columbia South Shore wellfield has provided ample supply thus far when Bull Run has been offline (e.g., too turbid to use). The truth is that water demand on the PWB system is shrinking, not expanding, as reported by a PWB internal memo from 2017: "Overall, demand is projected to be lower in 2045 than today. Summer average demand is expected to decline from approx. 120 mgd in 2010 (actual) to approximately 110 mgd in 2045 (modeled, stress year weather)."⁹
10. The construction of the BRF at Carpenter Lane is projected to require 123,000 total heavy truck trips.¹⁰ Assuming even truck traffic over the 5-year construction period and no weekend work, this equates to 95 truck trips/day. We've been told by PWB that the majority of the heavy truck traffic will be in the first 2 to 3 years of construction, which means those truck trips will likely exceed 200 trips/day. Has PWB included road reconstruction costs in its current budget projections? The primary access roadway, Dodge Park Boulevard, currently averages under 3 heavy truck trips per day.
11. So far, the effect to Portland ratepayers has assumed generally "best-case" analysis. We believe that PWB should provide estimates on impacts to ratepayers that are based on "worst-case" scenarios. For example, assume wholesale customers continue to leave the PWB system due to the high cost of water and eroding relations with PWB staff (placing their share of the capital burden onto City users), and take into account the current \$850 million times the 50% upside error factor (total BRF cost = \$1.275 billion). What will ratepayers be required to pay per month if the worst-case scenarios occur?

In summary, the members of Citizens for Peaceful Rural Living believe there is overwhelming evidence which mandates the PUB to recommend to the Portland City Council that this increased budget is not only unwarranted, but irresponsible spending on behalf of its Portland constituency. The BRF facility was chosen by stakeholders when the cost was believed to be somewhere between \$350 to \$500 million. We strongly believe that the PWB and City Council should revisit their own decision criteria to reevaluate the available alternatives and final decision(s).

Thank you for allowing us to supplement the record. This has allowed us to be more complete and accurate in providing the PUB with the factual elements we wished to provide to you at your hearing.

Sincerely,

Citizens for Peaceful Rural Living, represented at the PUB/PWB meeting on October 1st by:

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Notes:

¹ See the archive documents at <https://www.portlandoregon.gov/water/77548>

² PWB memo "Filtration Plant Key Decisions and Process", August 31, 2018

³ PWB consultant FDR technical memo, "Filtration Plant Project Alternative Delivery Methods – Final", Appendix B, "Community Values Input on Alternative Delivery Approach", February 27, 2018

⁴ PWB "Cost Updates and Options", September 19, 2019, presented to Portland City Council

⁵ "Portland's Rising Bills are Purposeful Accidents", Cascade Policy Institute, September 25, 2019. See entire, short article at: https://cascadepolicy.org/economic-opportunity/portlands-rising-bills-are-purposeful-accidents/?fbclid=IwAR2aHse-yX37II_zR1t7w8ryc8xeJOrcIDnSxJSm3RcEdFe-nVsgDplhqeQ

⁶ "Portland Weighs \$500 Million Water Treatment Plant", Amelia Templeton, OPB, June 27, 2017; see: <https://www.opb.org/news/article/portland-water-treatment-plant-cryptosporidium-proposal/>

⁷ Multnomah County Code, § 36.6010 (A)

⁸ See full article on Analytical Services here: <https://www.burlingtonfreepress.com/story/news/2016/03/29/williston-water-testing-lab-loses-accreditation/82387940/>

⁹ PWB internal Technical Memo, "Projected Water Demand", February 28, 2017, pg. 9

¹⁰ PWB consultant HDR, Technical Memorandum dated September 11, 2018, Sections 6.4 and 6.12

¹¹ Public comment by Commissioner Fritz to Filtration Plant Site Advisory Group, October 3, 2019, Sandy High School, Sandy, Oregon.