

Denver Water Lead Reduction Program Public Comment Summary July-October 2019

Denver Water conducted two public comment periods to gather feedback on its Lead Reduction Program. The first comment period ran from July 12 to Aug. 7 during Denver Water's development of the Variance Request proposal, and the second ran from Sept. 10 to Oct. 10 following the submission of the proposal to the Environmental Protection Agency and Colorado Department of Health and Environment.

Opportunities to provide feedback were promoted through a variety of engagement channels such as newsletters, targeted emails to stakeholders and customers who have expressed an interest in Denver Water's lead reduction efforts, Denver Water's TAP news site distribution, news releases, social media, the utility's partner Distributors, neighborhood groups and more.

During the two four-week comment periods, Denver Water collected feedback through an online survey and formal letters of support. Denver Water received **572 survey responses** from unique IP addresses. **More than 97% of respondents support the Lead Reduction Program.** The responses emphasized benefits for future generations, environmental health and protecting infants and children. Thirty-five organizations, inclusive of environmental organizations, utilities, public health groups, Distributors and other key stakeholders, provided letters of support.

Key input themes and highlights are captured below, followed by [question responses](#), [comments](#) and [letters of support](#).

Key Input Themes

- **Long-term Benefits:** Most respondents were interested in the long-term benefits of the program, including protection for young and growing families for generations to come. Respondents appreciated Denver Water's initiative to put forward the permanent solution of removing lead service lines rather than introducing a new system component (orthophosphate), which would not address the root cause of the problem.

"We count ourselves lucky because we know about our own service line, but there must be thousands of families in our same situation who do not know the dangers posed to their children. Therefore, we strongly support this widespread lead service line replacement program on behalf of families with infants or young children who aren't aware of potential irreparable harm that may be caused or whose financial situations make lead service line replacement an insurmountable burden."

- **Environmental Impact:** Respondents value the environmental safeguards inherent in the Lead Reduction Program, fearing the potential side effects of orthophosphate for local reservoirs, rivers and streams. Concern around the potential for algae bloom growth was frequently cited. The expected additional cost for downstream removal of orthophosphate was also seen as a major drawback of that approach when compared to the Lead Reduction Program.

“Please approve this variance!!! This is the best regional solution. Having pH/alkalinity for corrosion control versus orthophosphate and getting the lead removed quicker for public and environmental health makes more sense. This is a region, in the arid west, that cannot deal with the phosphorous addition favorably.”

- **Safer Drinking Water:** Many respondents valued the impact the Lead Reduction Program would have on the safety and quality of drinking water. Respondents with families commented on the importance of clean drinking water for newborns, infants and young children.

“As a new, first-time homeowner with two toddlers, I was dismayed to learn that water in my home contained lead well above the EPA’s action level ... I fully support Denver Water’s ambitious plan and feel strongly that it will benefit the city, the community, and young families for generations to come.”

- **Protecting Those Most at Risk:** Respondents praised the prioritization of filter distribution and lead service line replacement for those most at risk and commented on how a long-term solution is needed as opposed to a chemical fix which is perceived as a Band-Aid, rather than a holistic solution. Some also commented on personal concerns to their health and water use with the impact of orthophosphate.

“As a person with chronic kidney disease, I would need to drink only bottled water if phosphorous levels are increased. This would be too costly for me as a person on Medicare.”

- **Greater Awareness:** According to several respondents, the proposal for the Lead Reduction Program and the community input process has made them aware of this issue as an important one for them and their families. Respondents cite the need for continued efforts to build awareness and education on the topic of lead in drinking water, particularly when it comes to lead service lines.

“I am fortunate to be able to afford a water filter that eliminates lead from my drinking water. However, many of my neighbors and other Denver residents cannot afford it or are completely unaware of the lead that exists in many residents’ drinking water ... Please help keep all Denver residents, young and old, safe and healthy.”

- **Urgency and Timeliness:** Many respondents are in support of the program while hoping the rate of lead service line replacement could be further accelerated to shorten the projected 15-year replacement schedule. These respondents emphasized the critical nature and urgency of the issue, both in Denver and across the country, and underscored the importance of quick, decisive action.

“It is due time that we begin to address the dated and damaged infrastructure of our water supply. We need to learn from the Flint Michigan situation and get ahead of the water infrastructure issue. We don't want to poison our population by providing contaminated water.”

Organizations Providing Letters in Support of the Program

- Bancroft Clover Water & Sanitation District
- Barr Milton Watershed Association
- Bear Creek Water & Sanitation District
- Board of Water Works of Pueblo Colorado
- Cherry Creek Basin Water Quality Authority
- City of Arvada
- City of Glendale
- City of Thornton
- Clean Water Action/Clean Water Fund
- Colorado Parks and Wildlife
- Colorado Trout Unlimited
- Colorado Wastewater Utility Council
- Conservation Colorado
- Cory Gardner, United States Senator
- Denver Mayor Michael Hancock
- Denver Public Health & Environment
- Denver Trout Unlimited
- Denver Water Citizens Advisory Committee
- Ed Perlmutter, Congressman 7th District Colorado
- Environmental Defense Fund
- The Farmers Reservoir & Irrigation Company
- Grand Water & Sanitation District
- The Greenway Foundation
- Lakehurst Water & Sanitation District
- Meadowbrook Water & Sanitation District
- Metro Wastewater Reclamation District
- National Association of Clean Water Agencies
- Platte Canyon Water & Sanitation/Southwest Metropolitan Water & Sanitation District
- Project TENDR
- South Platte Coalition for Urban River Education
- Southgate Water & Sanitation District
- Southwest Suburban Denver Water & Sanitation District
- Safe Water Engineering
- Tri-County Health Department
- Wheat Ridge Sanitation District
- Willowbrook Water & Sanitation District

Breakdown of Most Common Respondent ZIP codes and Corresponding Results

ZIP Code	Neighborhoods	Number of Respondents	Percentage of Total Respondents	Percentage of Program Support (Strongly support and more likely to support)
80210	Cory Merrill, Platte Park, Rosedale, Southeast (SE), University, University Park, Washington Park, Washington Park West, Wellshire	65	11%	100%
80220	Crestmoor, East Colfax, Hale, Hilltop, Montclair, Northeast (NE), Park Hill, South Park Hill, Southeast (SE)	64	10%	99%
80205	Ballpark, City Park, City Park West, Clayton, Cole, Curtis Park, Five Points, North Capitol Hill, Northeast (NE), Skyland, Uptown, Whittier	49	8%	100%
80207	North Park Hill, Northeast (NE), Northeast Park Hill, Park Hill, South Park Hill, Stapleton	48	8%	98%
80209	Belcaro, Bonnie Brae, Cherry Creek, Country Club, Polo Grounds, Southeast (SE), Speer, Washington Park, Washington Park West	39	6%	100%
80211	Berkeley, Highland, Jefferson Park, Northwest, Sloan Lake, Sunnyside, West Highland	39	6%	100%
80212	Barkeley Village, Berkeley, Berkeley Gardens, Berkeley Industrial Park, Berkeley Village, Lowell, Mastin Industrial Park, Northwest, Regis, Regis Place, Saint Claire, Sloan Lake, Sunnyside Manor, Tennyson Industrial Park, West Highland	38	6%	95%
80206	Cheesman Park, Cherry Creek, City Park, City Park West, Congress Park, Country Club, Southeast (SE), Uptown	35	6%	97%
80204	Auraria, Baker, Barnum, Barnum West, CBD (Central Business District), Civic Center, Colfax, Downtown (Central Business District), Golden Triangle, Lincoln Park (La Alma), Lower Downtown (LoDo), Sheridan Boulevard, Sloan Lake, Southwest (SW), Sun Valley, Union Station, Valverde, Villa Park	29	5%	97%
80223	Athmar Park, Baker, College View, Overland, Ruby Hill, South Platte, Southwest (SW), Valverde	20	3%	100%
80218	Alamo Placita, Capitol Hill, Cheesman Park, City Park West, Country Club, Five Points, North Capitol Hill, Speer, Uptown	17	3%	94%
80120	Wolhurst, Denver Seminary, Littleton	15	2%	100%

Additional respondent ZIP codes included:

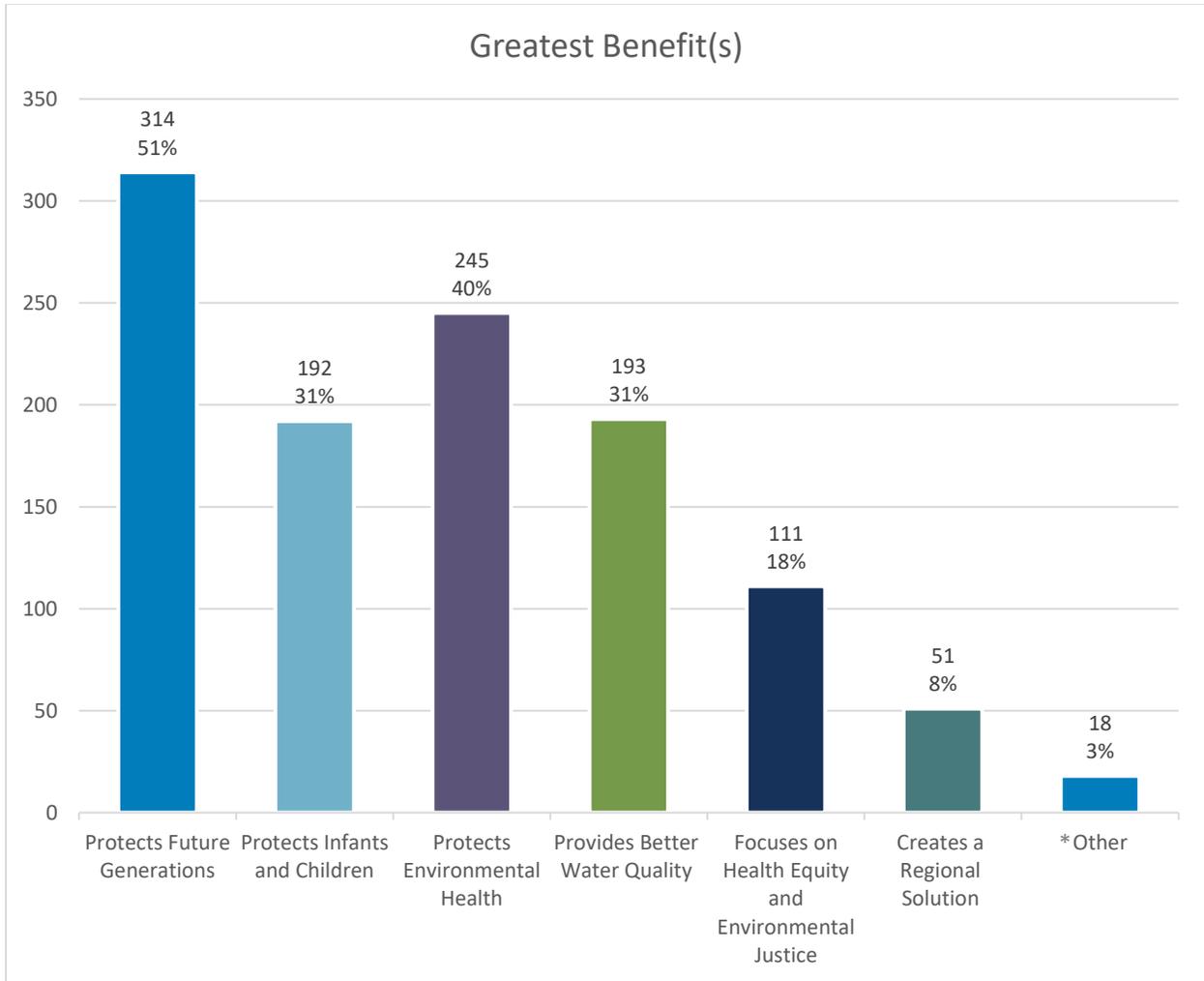
ZIP code	Number of Respondents	Percentage of Total Respondents
80203	10	2%
80231	9	1%
80221	8	1%
80123	7	1%
80229	6	1%
80111	5	1%
80219	5	1%
80238	5	1%
80246	5	1%
80216	4	1%
80222	4	1%
80602	4	1%
80004	3	<1%
80121	3	<1%
80202	3	<1%
80215	3	<1%
80232	3	<1%
80235	3	<1%
80236	3	<1%
80237	3	<1%
80333	3	<1%
20009	2	<1%
80014	2	<1%
80015	2	<1%
80016	2	<1%
80110	2	<1%
80112	2	<1%
80214	2	<1%
80247	2	<1%
80249	2	<1%
80550	2	<1%
01027	1	<1%
22937	1	<1%
80007	1	<1%
80010	1	<1%

80020	1	<1%
80021	1	<1%
80022	1	<1%
80023	1	<1%
80026	1	<1%
80031	1	<1%
80033	1	<1%
80035	1	<1%
80122	1	< <u>1%</u>
80128	1	< <u>1%</u>
80224	1	< <u>1%</u>
80226	1	< <u>1%</u>
80228	1	< <u>1%</u>
80230	1	< <u>1%</u>
80239	1	< <u>1%</u>
80241	1	< <u>1%</u>
80250	1	< <u>1%</u>
80401	1	< <u>1%</u>
80504	1	< <u>1%</u>
80621	1	< <u>1%</u>
80651	1	< <u>1%</u>
81003	1	< <u>1%</u>
81623	1	< <u>1%</u>
89231	1	< <u>1%</u>
92024	1	< <u>1%</u>
803204*	1	< <u>1%</u>

**ZIP codes are presented as entered by respondents.*

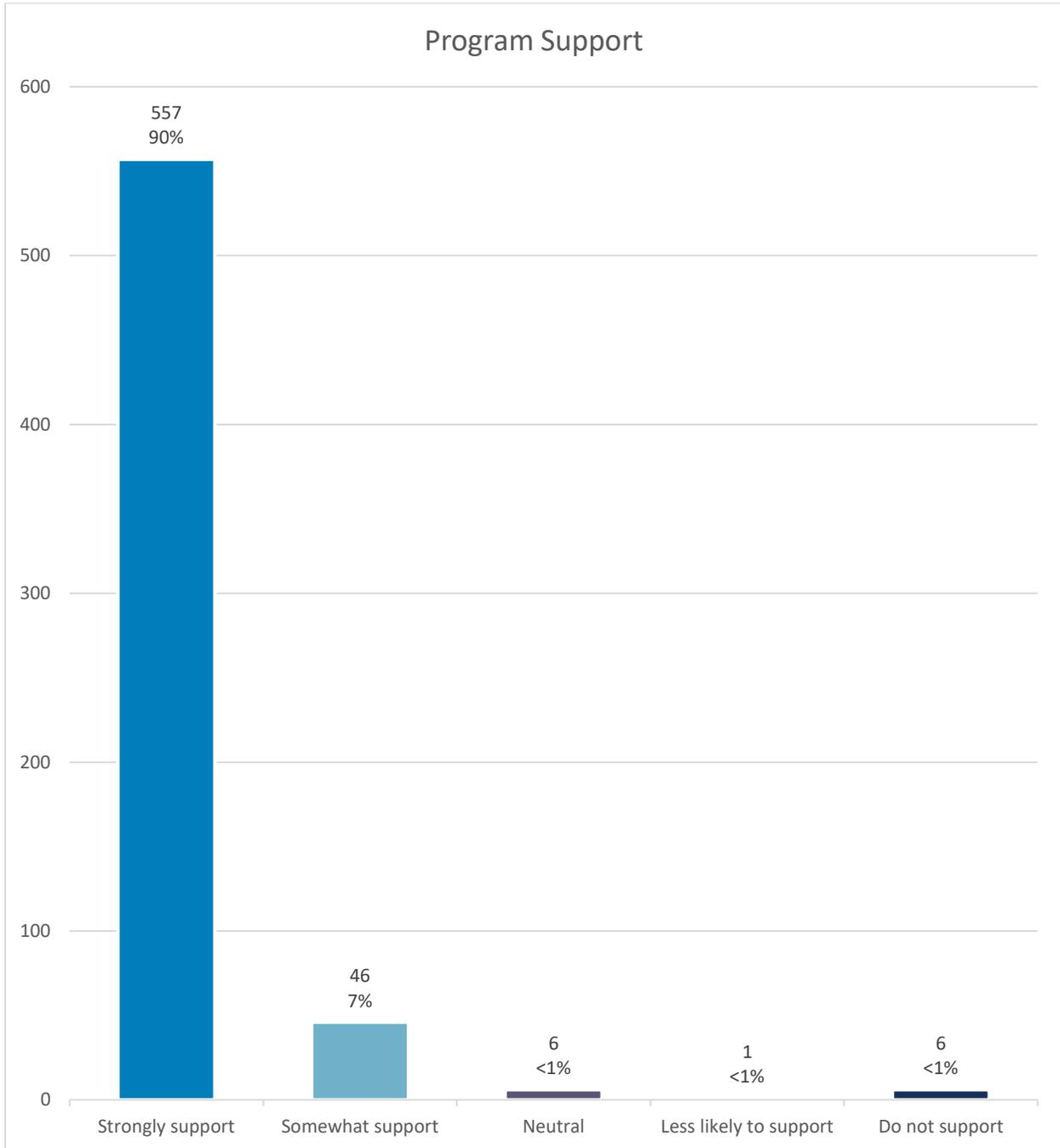
QUESTION ANSWER RESULTS

1. What do you see as the greatest benefit of the proposed Lead Reduction Program?
(Select up to two)



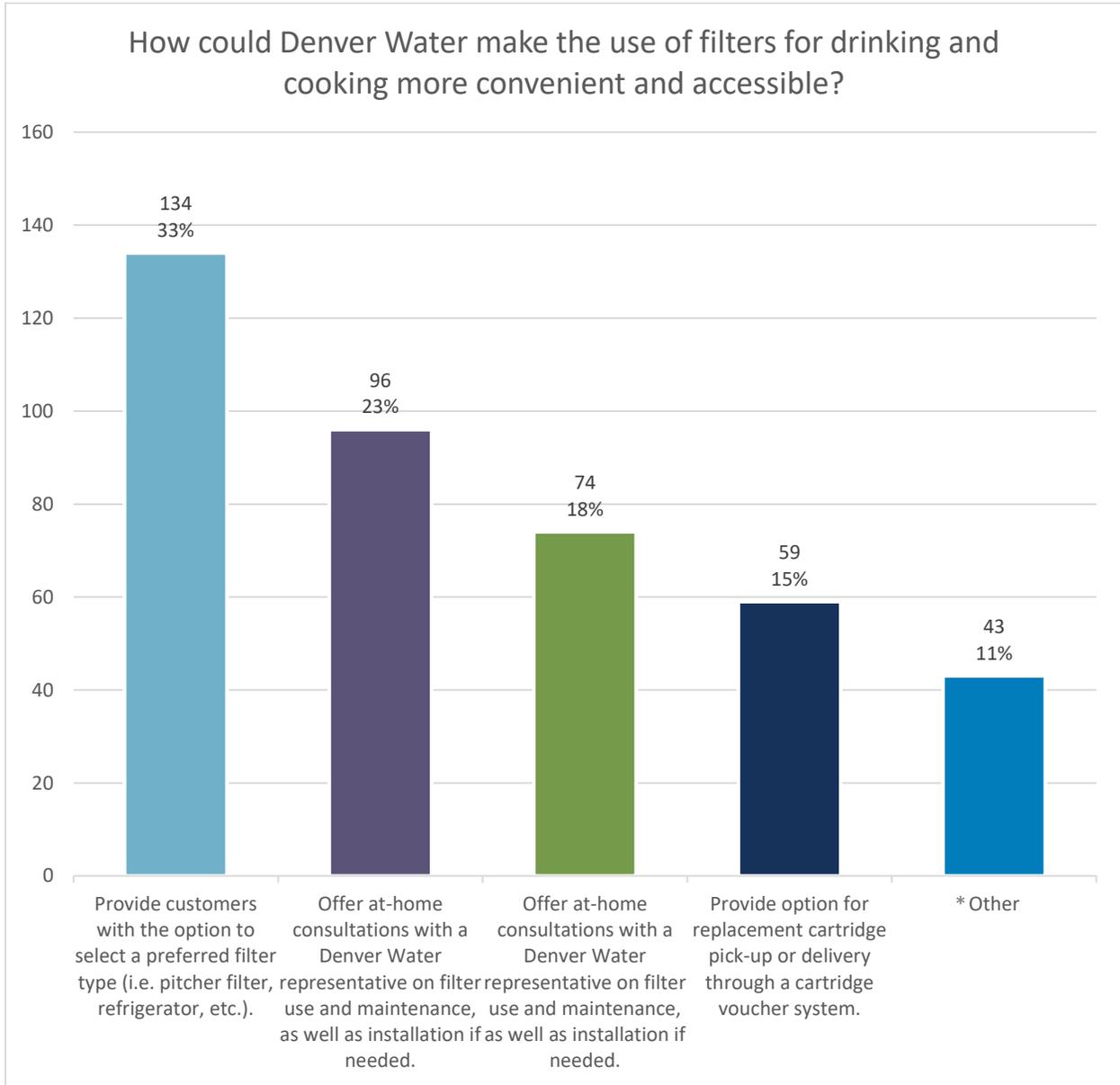
***“Other” responses available following response result graphs.*

2. How would you characterize your overall support for the proposed Lead Reduction Program?



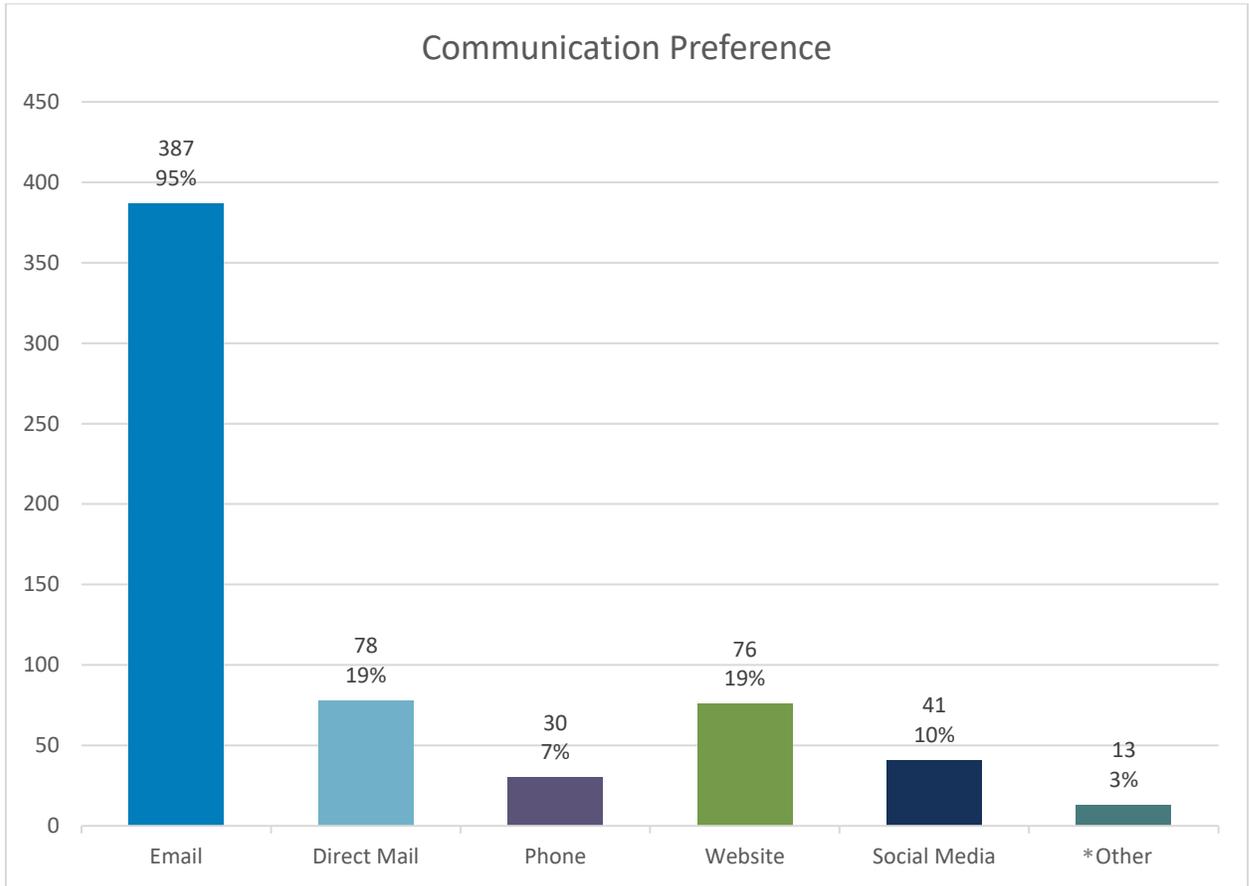
Additional Questions from Initial Survey

1. As part of the proposed Lead Reduction Program, Denver Water would provide at-home filters to customers with a suspected lead service line, free of charge. How could Denver Water make the use of filters for drinking and cooking more convenient and accessible? (Select one)



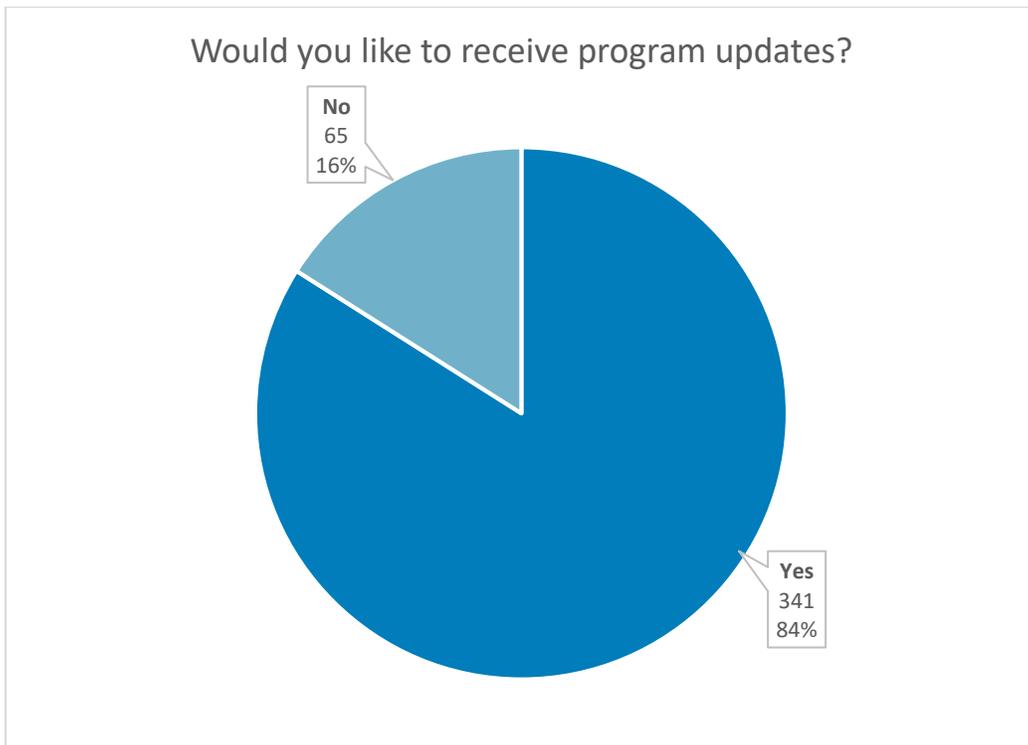
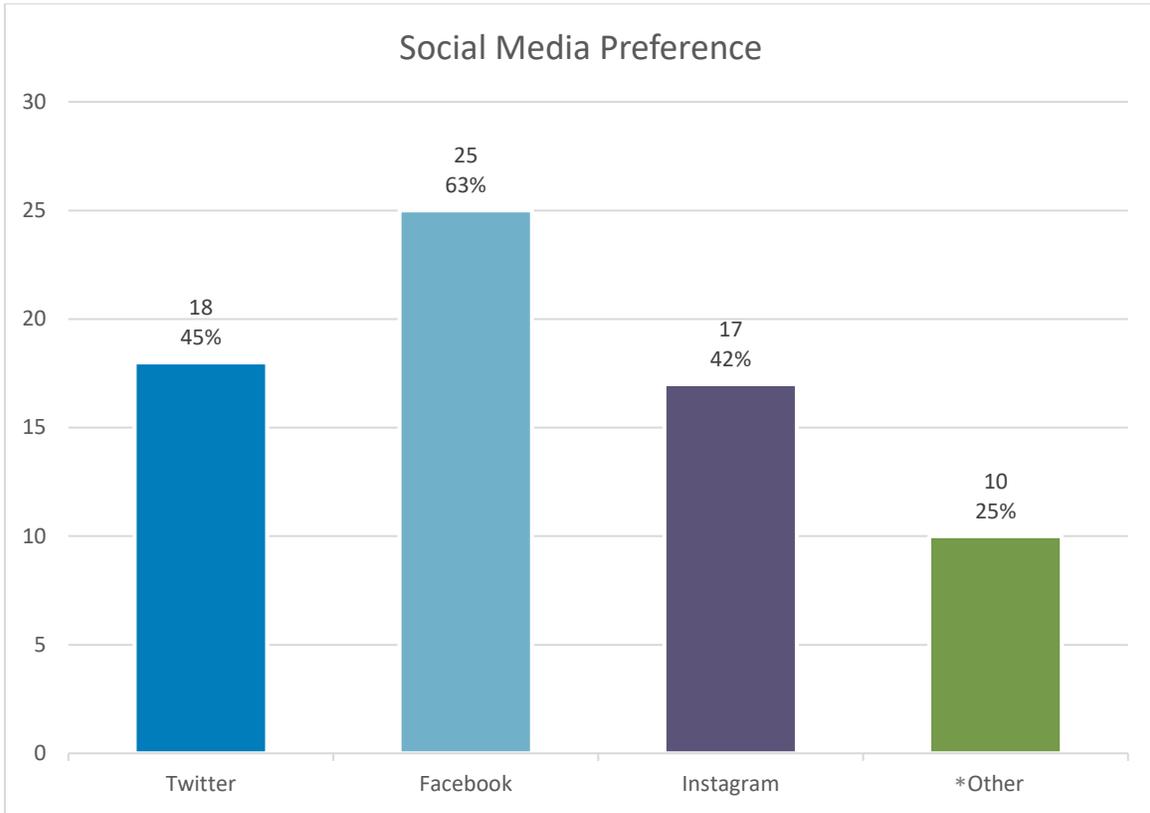
***“Other” responses available following response result graphs.*

2. What is your preference for how we communicate information and updates on the proposed Lead Reduction Program Plan? (Select all that apply)



**"Other" responses available following response result graphs.*

3. Which social media option is your preference for how we communicate information and updates on the proposed Lead Reduction Program Plan? (Select all that apply)



RAW COMMENTS

The following comments are included as they were received, including the language in which they were written, with the exception of removing any personal identifiers if present. No edits have been made to spelling, grammar or punctuation.

“Other” responses to “What do you see as the greatest benefit of the proposed Lead Reduction Program? (Select up to two)”
The DWD's proposed mixture of remedies is markedly better than simply adding a potential pollutant to wastewater and/or landscaping run-off.
...
This program benefits and protects consumers who have the means to replace their inside lead water pipes. When the city replaces water lines into people's homes and businesses, those of us with interior lead lines will continue to be exposed to lead.
silly question. Is it better to drink lead free water? of course. For all reasons above and more
I responded as described above - I will have a lot of expense to relocate my "in house" plumbing lines to a new location to hook up to new lines pulled from the street
All of the above.
I believe the root cause of the issue must be addressed, instead of a bandaid, for current residents and future generations.
repairing outdated infrastructure
Offers a more complete solution to the lead problem than any alternative
This program addresses a minority of all Denver Water customers.
all of the above.
Protects not just infants and children but also young adults, and animals in the home as well.

Additional Raw Comments from Initial Survey

“Other” responses to “How could Denver Water make the use of filters for drinking and cooking more convenient and accessible?”
all of the above
All of these options are important for helping residents use filters correctly and consistently
The basic thrust of this aspect of the lead remediation program is good. We don't have any preferences as to the four proposed methods for distributing filters.
...
Deliver filters to every home and offer consultation at the time of the delivery or scheduled at a later date, if requested.
Provide a list of allowable filters and then provide a statement credit when homeowner submits a receipt - similar to efficient toilet program. Add in a cartridge <u>pick-up</u> delivery program for ongoing maintenance..
I can't answer this one as I don't know the different types of filter types, or the difference between filters vs cartridges. Don't know where I'd have to go to pick up filter or voucher. If installation on the faucet is an option, I'd prefer that over a pitcher. But I need more information to be able to answer this, Maybe i need to <u>re-read</u> the
I think all of the above are important - customer needs to know what will work best for them and then have the opportunity to get that filter or cartridge in the easiest way possible (home delivery seems better)
All of the above
Would like to see filter attached to the main facet (in Kitchen)

I have been using an EverPure filter for 20 years - if <u>denver</u> will provide filter replacements - that would be terrific. My lines are lead - 1910 - I have submitted this response a couple weeks ago - it took a lot of read - read everything - resounded - call the water dept to express my interest in the possibility of a line replacement program in 2020 - I was told I would be contacted by that department (handling the lead issue once the decisions have been made - - have heard nothing.
Free, free filter replacements, delivered to homes,
Faucet filter
Faucet filter with delivery cartridge replacement
All of the above.
My choice is whatever would most increase access and participation for households most affected, especially in high-poverty areas. Otherwise I'd say being able to choose type of filter is would be helpful to make sure it's relevant to usage.
Provide water filters for ice makers
Provide the option of a whole house filter. This would make any water in the house safe to drink and use for cooking.
Provide water service and delivery like deep rock 5 gallon bottles and dispensers
Free filtration system
I have had a filter (Everpure) on my kitchen sink and ice maker since I moved into my house in 1996
Provide preferred filter type AND offer consultation. Be clear about why the filters are necessary and how and when they should be used
I want lead lines removed!
Test water at home, recommend type of filter and provide filter of choice
X
It would be great if Denver water could supply an easy at home test kit to help determine if your pipes introduce lead into your drinking water
Install whole home filtration system
Replace lines quickly. Already filling water filters to keep up with family drinking water use is cumbersome. In time, I can see folks getting lazy with dealing with it.
all of the above.
Offer undersink units
A combination of these needs to be offered rather than just one. For example combining the option of a preferred filter type, at home consultation and filter <u>pick-up</u> and delivery.
I understand you are requesting I select only one option, but I believe all of these options would equally make the use of filters more convenient and accessible, and I hope you decide to employ all of these options
Provide whole house water filters to be installed on the actual water line, or replace the lead pipes entirely.
Provide maintenance support for existing filters that customers have already installed
Filters need to also be installed in the showers and bathroom sinks where we brush our teeth. It will only really help if it's a whole-house filter, and my vote is for having all of the above available. Especially with the high prices we pay for water and wastewater.
I'm worried that the pitcher filter will be too slow for families to use for their needs. But the alternatives are not cost effective.
Kitchen sink filter for those without fridge filter option?
Offer filtration for whole house/water main
Familiarize customers with kitchen water faucets that connect to filters <u>under-the-counter</u> .
Tell me where I can pick up my free (ideally) filter.
Replace service lines ASAP and/or provide subsidies to contract third party vendors to do so.

Provide under sink or whole house option as well rather than single source such as Refrigerator or single Pitcher.

Different customers may have different needs. We already have an in-refrigerator filter, and I'd appreciate replacement filters, but that probably isn't the most helpful for other households.

“Other” responses to “What is your preference for how we communicate information and updates on the proposed Lead Reduction Program Plan? (Select all that apply)”

...

Denver Water should use as many different means of communication that are feasible in order to reach the most people.

I would like to get on the list if the replacement program is the final solution that the Water department decides to take!! I've tried to do what I can to make my interest known. I tested my water in April (your program - followed instruction explicitly!!)- it's not good

text/SMS with a short update and link to details

Text

Bill inserts

text message

Denver Water TAP Headlines

text message. a number of residents in our community do not have email but do use text. It is critical that everyone has access to the information that could affect their, and their children's, health.

outreach tables at community events and flyers through schools, community centers, etc.

Nextdoor

Nextdoor.com

Some neighbors might only be reachable via direct mail

“Other” responses to “Which social media option is your preference for how we communicate information and updates on the proposed Lead Reduction Program Plan? (Select all that apply)”

Via email: [email address]

There are options for automatic cross-posting on multiple social media platforms. No need to restrict sharing.

None used

email, us mail

Use all available social media tools.

I don't follow Denver Water currently on any social media

x

Neighborhood Email Exchanges

Hold a press conference(s). Get the Mayor to talk about it in his regular Friday broadcasts

Nextdoor

What would make you more likely to support the Lead Reduction Program? (For those who selected “neutral,” “less likely to support” or “do not support” in response to “How would you characterize your overall support for the proposed Lead Reduction Program?”)

...

The report states on page 7 that the biggest issue is "customer owned service lines". I'd like to know why the 2012 exceedance of the lead action level took 5 years to result in the Optimal Corrosion Report. If Denver Water did not complete the lead service line pipe rack

study during that time, then what new data was used to cause the Colorado Department of Public Health and Environment to designate the use of orthophosphate? I assume that this department knew that orthophosphates "could negatively affect rivers, streams and lakes in our region". Why, then, did they suggest that solution? What are the figures regarding the cost of treating orthophosphate corrosion at waste water treatment plants? Would the addition of orthophosphates provide lead protection for the pipes in people's homes? My concern is that people without the means to replace their inside pipes and fixtures will be less protected from lead poisoning than Denver residents who have the means to incur these costs. Are we choosing between privately run water treatment facilities' budgets and Denver residents' budgets? I don't know enough about the Denver Water Dept and it's stakeholders but if this about saving corporate dollars at consumers' expense then this is a Health Equity and Environmental Justice issue.

For DENVER to REALLY do something about this problem!!

I would support it if the cost was not passed on to unaffected customers. Those with lead pipes should bear the cost of mitigation.

If it didn't involve adding chemicals to my water. If you haven't already, please watch documentary "The Devil You Know" about DuPont and 3M dumping toxic chemicals from Teflon. This also involves a water company, the EPA and a chemical in the water. I hope this is nothing like this. Water is a precious resource we all use and it would be unwise to add harmful additives without knowing the long term effects

Additional Raw Comments from Second Survey

Additional Comments (General)

I support the proposal to identify and remove lead lines to homes, and to provide filters in the interim, at no cost to the homeowners. I think this is a better alternative than adding orthophosphate to the water supply. Lead pollution is such a serious health hazard, for all ages of people but especially for children. Removing the lead pipes sounds like a very positive solution to a serious problem.

This will cause more algae in lakes down stream which are already so thick with the stuff. Please consider another option.

[email address]

Denver Water tested our water a few years ago and results showed lead. I'm glad to see that Denver Water is finally taking action to fix the issue.

While I strongly support this action, I would support this even more if the 15 year timeline were reduced by half!

As a lake user whose health is continually threatened by algae I'm there water, I strongly support a measure that will help keep lake water cleaner!

The most effective means of treating a hazard is removal of the hazard (i.e. removal of lead in the system through the Lead Reduction Program's service line replacement). History has shown that efforts to mitigate a problem through introduction of a new system component (in this case, the orthophosphate treatment) can create unintended negative consequences that must also be addressed. Let's solve the problem in the initial attempt and support the full replacement of lead service lines.

[email address]

[email address]

[email address]

I live in Platt park,one of Denver's old Neighbor goods. I am very concerned about this health risk because we have many young Families

If anything, an even higher rate of lead service replacement is desirable, provided it is feasible

I, [name], live at [address] since March of 2018. My home was built in 1927 so when I purchased the property I requested a lead test kit from Denver Water, because the intake pipes to my property have lead in them. The tests revealed lead is leaching into the water, so I filter the water I drink. The cost of the filter is an expense out of my pocket. In the last year I have become pregnant and gave birth to my son on October 3, 2019. I am concerned about the lead exposure to me as I am breastfeeding my baby, and exposure to lead can negatively effect his development. I believe the solution to the lead in the water supply is simple; Denver Water replaces the intake valves and pipes to the home with a high risk of lead exposure to remove the risk at the source. Adding orthophosphate will adversely impact the stormwater and being a headwater state for the country I think Denver Water should act more responsibly instead of implimenting a quick fix without fully understanding the intricacies of all potential unintended consequences of adding orthophosphate to our water supply. Although replacing intake pipes might initially cost Denver Water a substancial amount of money upfront, in the long run it will cost far less than experimenting with the future water quality by adding orthophosphates.I encourage Denver Water, CDPHE, and the EPA to consider a hierarchy of the environmental health when making such a significant change to the drinking water provided to the people and discharged back into the environment to be used by wildlife and humans alike downstream. Please do not sacrifice human health and the environment to provide a short-term solution which can be reduced if not eliminated at the source. I trust Denver Water, CDPHE and EPA will take the appropriate measures to protect the people they serve while weighing the environmental impact the orthophosphates will have on our most precious resource. Thank you for your time and consideration with this important decision.

[email address]

Phosphorus in wastewater plants can be extremely costly to remove - preventing its addition upstream is a huge benefit to both the environment and rate payers. Replacing lead services lines and in-home solder will eventually remove this as a problem.

I would support the service main replacement by the city and not the property owner.

This is a critical project to overall city health. I really appreciate the ambitious efforts coming from Denver Water to get lead out of our household tap water.

How will this plan address documented lead in interior plumbing in Denver Public Schools, acknowledging that no level of lead exposure is safe for children? It seems unlikely that Denver will completely remediate that problem within the next year, or within the next 5 years. Denver should completely remove lead plumbing and fixtures from Denver Public Schools

I support Denver Water's current lead reduction proposal. It's a permanent fix in a reasonable amount of time, and the interim band-aid (providing us with filters) means we have a reasonable and effective means of preventing lead in our drinking-water until the lines get removed. I feel that adding orthophosphate not only doesn't fundamentally address the problem, it also has unpleasant and expensive side-effects. Last, I think this is a great time to tackle a difficult problem when "lead" is back in the national vernacular after the debacle in Flint, Michigan.

Provide incentives to individual property owners to replace lead lines sooner by waiving permit/inspection fees.

It is imperative to remove lead in the water that is used in homes. I emphatically support replacing service lines. I dread the addition of orthophosphate to the water supply because of unintended consequences. Thank you.

My home is 90 yrs old and the pipes to my home have never been changed. Yes I have lead but I filter my drinking water and I have tested negative for lead exposure. When this house sells, it will be scraped. No sense replacing pipes here

As a new, first-time homeowner with a two toddlers, I was dismayed to learn that water in my home contained lead well above the [EPA's](#) action level. Since the home was fully remodeled in 2014, I had assumed everything would be safe for my young family. We quickly purchased a water filter that we have used for all drinking and cooking. I solicited and received several quotes to replace the service line, but at \$10,000+ it is just not economically feasible at this time to pay for the work. So, we are still using our filter and hope that we may be able to afford the service line replacement and be certain that our children are drinking safe water. I fully support Denver Water's ambitious plan and feel strongly that it will benefit the city, the community, and young families for generations to come. Unfortunately, I suspect others have not talked advantage of the free lead water test and are unknowingly consuming unsafe water. That is why it is imperative to just fix the problem at its root cause to eliminate the issue for good.

Thank you for the thought put into this plan! Denver has so many older homes (like mine) that this seems a great plan which can reach and offer help and education for all.

This proposed plan is a win for both the environment and water users. Please approve this long-term solution that will quickly benefit so many. The existing information on lead from service lines is not widely distributed or well explained to [home owners](#). Replacing the service lines in 15 years or less would be very, very beneficial and goes a long way to prevent lead from getting into our drinking water. That is better than adding higher doses of more chemicals, which causes other problems.

I strongly support the proposed lead reduction program. Lead in drinking water is a nationwide issue, and I am glad that Denver Water is addressing it. I think the proposed program will protect both the population served by Denver Water, as well as protecting the environment. I think this solution is a win-win.

As a homeowner I have to fund my own repairs and upgrades. I don't agree with the plan to assess property owners who do not require these upgrades.

Homeowners should not have to pay for new copper water lines. The city should be paying for any homes that have lead water lines.

My water was tested recently and is 5 times over the [EPA](#) safe standard for lead. I really need my service line replaced ASAP. I'm 67 and can't wait 10-15 years for that. The Berkeley Park neighborhood is one of the worst for lead in the city. Please start your service line replacement here! I have copper pipes in my house so it's the service line that's the problem. I use bottled water and it's cumbersome to keep buying it. I don't dare let my 2-year-old granddaughter drink a drop.

Denver is taking a smart approach by investing in infrastructure improvements, rather than chemical band-aids. This stuff costs money, but let Denver experiment so other municipalities and states can learn from the results. Federalism at work!

Agree with the filter program. I would like significantly more than <u>7%</u> of service lines replaced per year.
This is the right thing to do. " <u>Band-aid</u> " fixes like the orthophosphate additive always wind up costing more in the long run while leaving the possibility of unintended or unknown issues in the interim.
Denver Water should find another way to get lead out of Denver's water than adding orthophosphates. Ex: removing lead pipes
[email address]
The City of Thornton fully supports Denver Water's Lead Reduction Program Plan alternative. I strongly urge <u>denver</u> water NOT to introduce orthophosphate into the Denver water system, but rather to replace lead pipes. As a person with chronic kidney disease, I would need to drink only bottled water if phosphorous levels are increased. This would be too costly for me as a person on Medicare. I need to drink 72 oz. of water daily! Thank you.
My sister and friends live in Denver and I want them safe!
I support Denver Water's plan to fully remove all lead pipes in its service area because it: Goes after the source of lead instead of just treating the symptoms. Provides health protection while customers wait to have service lines replaced. Focuses on health equity and environmental justice. Prioritizes protecting the most vulnerable. Ensures impacted community members a seat at the table. Protects water quality and the environment. Protecting all of our communities from lead exposure must be a top priority. We also must continue to make progress toward reducing nutrient pollution in our rivers, streams, <u>and</u> reservoirs. Denver Water's Lead Reduction Program offers a holistic approach to lead reduction.
It is due time that we begin to address the dated and damaged infrastructure of our water supply. We need to learn from the <u>Flint Michigan</u> situation and get ahead of the water infrastructure issue. We don't want to poison our population by providing contaminated water. Let's get ahead of the problem and resolve these issues . I fully support and expect th water department to implement the plan to overhaul the pipelines. Thank you
[email address]
I am thrilled that Denver Water is taking the lead on implementing this extremely important public health program. Thank you!
<u>15 year</u> replacement period too long. <u>5 years</u> .
I would like to be included in the program
Using a holistic approach to combating lead in water shows that the government is not just looking at a quick and easy solution, but a <u>long term</u> solution to last generations.
this service is extremely important to me as a 37 year <u>home owner</u> in the effected area. thank you for bringing it to my attention.
There are many owners that will replace the service line only from the home/building to the meter (without a permit). And if the remaining service line is lead, you know how dangerous that the disturbance is for everyone in the vicinity. My opinion is that if you would take responsibility of the part of the lead service lines from the meter to the tap you will get more residents and business owners to replace their lead services. At least you could consider waiving the tap fee, etc. Adding more chemicals to the water is not a good solution. Thank you.
I am supportive of this solution because it solves the problem more quickly (15 years), provides protection to all affected communities during this time (filters for homes), and protects our rivers and streams (no orthophosphates). This a much better solution than using orthophosphates for many decades!
I believe that the proposed Lead Reduction Program Plan provides a greater level of protection to human health than would be accomplished by the addition of orthophosphate to

the drinking water of all Denver Water customers while the lead service lines remain in place for up to 50 years. The accelerated removal of the lead lines, coupled with filtration, is a more protective approach in my opinion.

Pertinent to start the removal of lead from drinking water. Once this is in your system it will be in your DNA which will be passed down to your unborn baby. This will affect us now and it will affect our future generations.

Please see the Comments Letter to Denver Water submitted by Pueblo Water to the above email address.

My toddler had elevated lead in his blood, so I support these efforts to reduce contaminants in the water.

As a Denver Water customer I support the proposed Lead Reduction Program. I would rather have the lead lines removed which is a permanent fix, rather than having chemicals added to the water I drink which impacts everybody regardless of whether they have lead lines or not. I don't like the idea of a new chemical being added to my drinking water, even if it is deemed "safe". Years ago people thought asbestos and DDT were safe too.

I strongly support the proposed Plan, because it is more effective and has fewer environmental impacts than introducing orthophosphates to the system.

I'm a Denver Water customer living in the town of [Columbine Valley, CO](#). I fully support DW's Lead Reduction Program. We need to get rid of the risk of lead in drinking water, but not at the huge cost to the environment of adding orthophosphates to the water.

The proposal to replace the lead services lines and provide filters during the interim is the best long-term plan. Adding orthophosphate to the water is harmful for downstream users and will cost more over the long term. Please don't add orthophosphate to our water.

I strongly support the proposed Lead Reduction Program and applaud this effort and the strong communication that has accompanied it. They're starting to see increased need for support services for [Flint MI kids](#) who are now exhibiting developmental issues from lead exposure. This is a huge problem that leaks into other areas of life and becomes more costly the longer we wait. I'm happy to see a regional solution proposed and support fast action.

Cherry Creek Basin Water Quality Authority has submitted a letter to the [EPA](#) re Denver Water OCCT variance.

At great expense to myself I replaced my lead service line 2-3 yrs ago after it failed. I have come to believe this failure was exacerbated by Denver Water increasing water pressure to accommodate all of the commercial and residential construction underway in my area. I would like to see a component of the replacement plan to reimburse or cost share for those who have proactively taken the personal responsibility of replacing their residential service lines.

EDF will send comments to lead@denverwater.org.

Please approve this variance!!! This is the best regional solution. Having pH/alkalinity for corrosion control versus orthophosphate and getting the lead removed quicker for public and environmental health makes more sense. This is a region, in the arid west, that cannot deal with the phosphorus addition favorably.

My only concern is why, after [Flint Michigan's](#) issues in 2014 has it taken 5years for Denver Water to figure out there might be problems in the older parts of the city???

I just moved into the neighborhood a couple of months ago. I was shocked to find out that we have lead lines in our home that we are renting. We were never provided with a disclosure as required by law and am finding out that the owner is trying his best not to spend any money on these properties to improve them. It wasn't until a plumber came out to repair a busted pipe that I was told not to drink the water. New people to the area need to be made aware of these issues since the owners don't care to inform us.

Please accelerate your lead pipe removal program. I've lived in my home in East Denver, built in 1948, for 45 years. I'm sure I've consumed a lot of lead in that time.
Two wrongs don't make a right. Adding an additional pollutant to our urban water system should not be labeled "optimal." It is not. The Variance is much more protective of public health and a healthy environment on which humans depend. Denver Water is to be commended in setting forth a better path. The Safe Drinking Water Act and Clean Water Act should not be pitted against each other and the Variance harmonizes them. Grant the Variance.
For the benefit of millions of people, it is imperative that we immediately supply lead filters and begin replacing lead infrastructure. In implementing this variance initiative, we are saving ourselves future health, environmental and financial costs. Please move quickly on this - time is of the essence.
It would be helpful to understand the timing and logistics for the filter distribution. Are all Denver Water users getting filters? Are the filters <u>house-wide</u> filters or on each tap? Also, is there a program for <u>home owners</u> to have their water tested in their home? Testing can be expensive, can Denver Water help with those costs?
It makes more sense to remove the long-term source of harmful lead than to add phosphate to water and cause other problems i.e. algae blooms.
as a homeowner who knows I have lead pipes I welcome this initiative!
It's completely Voluntary, thus there will likely be little benefit.
Has anyone considered the impact on chlorine disinfection efficiency by raising the pH? <u>Healthcare</u> facilities that rely on incoming disinfectant could see their bacteria levels go up and increased exposure to Legionella.
Thank you for getting this information out to homeowners like me, who live in older houses in Denver.
I am highly concerned about orthophosphates being added to the water as we already see algae blooms in our waterways that are normally enjoyed as a recreation amenity and habitat for birds, fish and aquatic bugs. Adding orthophosphate is a <u>band-aid</u> that causes long-term harm beyond its intended solution. The only way to ensure the health and safety of the public is to remove the lead at its source. Take the lead out completely. This plan is the right way to solve this issue of lead in drinking water and I commend Denver Water for taking the proactive steps to do so when so many other water providers across the country are not.
Given the climate crisis we are currently in and doing very little to thwart, it seems to me that any steps that will actually solve a problem, rather than put a bandaid over it so it can just fester and worsen later (i.e. adding more chemicals to our water that will create more environmental problems) should be the first and immediate steps we take. I would like to see our planet survive more generations beyond mine and my children.
I am extremely impressed by the thorough, yet concise plan proposed by Denver Water to resolve this issue. I am in total support of their proposal versus the addition of orthophosphate to the water. The cost savings alone would be enough, but the additional long term solution and environmental benefit makes the other option a "no" for me.
I appreciate the steps Denver Water is taking to keep lead out of our supply, as well as to keep other additives from our water. Their proposal is better for the environment, people's health and everyone's budget.
I'm very supportive of this proactive program but have two comments: (1) I'm hopeful that the filter kit distribution program can be more effective than it has proven to be in other cities as I know that can be a challenging part of this for the homes that do not get an immediate replacement. (2) I'm upset that I just spent money to replace our lead service line and will not see any benefit from this program.
It is critical to create a solution that is long lasting and does not incur known unintended consequences. We can do better than this.

Water pressure and health effects are important. The lead reduction program is critical to making sure Denver is a world class city!
Great job, Denver Water. We do not want more nutrients added to the water!
Putting additives in the water is just a <u>band-aid</u> that has problems of its own. The Lead reduction is the solution/fix to this problem.most
This just makes sense - why is this even a quesiton. Clean water, cleaner environment, and brighter outlook on the future.
[email address]
I ask that you please refrain from adding phosphorus to the drinking water to control lead. Phosphorus is the main cause of algal blooms causing serious degradation of water quality.
I am fortunate to be able to afford a water filter that eliminates lead from my drinking water. However, many of my neighbors and other Denver residents cannot afford it or are completely unaware of the lead that exists in many residents' drinking water (I had mine tested and know it's above recommended levels). The government is responsible for ensuring that every resident has safe drinking water, and I think this plan goes far in doing just that. The additional benefit of eliminating an additional phosphorous from our systems is another reason I strongly support this plan. Please help keep all Denver residents, young and old, safe and healthy.
As a Denver Water customer under a master meter to Consolidated Mutual Water Co. in Lakewood Co. Will Denver Water replace my service line if it is lead? I believe I am part of the 1.4 million customers served by Denver Water but am not sure how the replacement program is designed as I pay Consolidated Mutual not Denver Water directly. I fully support this effort Denver Water to remove all lead service lines rather than introduce Orthophosphate as the reduction method.
This is a proactive approach with a better long term solution than orthophosphate addition.
I am a strong supporter of this initiative. One consideration I have is in regards to the cost of the homeowners of Denver. I live in a less-than-1000 foot dwelling built in 1923. My tax rates are based upon the value of my house; living in Washington Park means my house's value has risen. I pay higher property taxes as a result of where I live versus the size of my house. Due to these higher collected taxes, I believe grants <u>vs.</u> loans and other financial affordability issues should not be determined soley based on <u>zip codes</u> . At least some of us in "high income areas" do not have high incomes to come up with a substantial cost of replacing service lines (even with loans and discounts).
My wife and I purchased a 90-year-old house partly because our finances do not allow us to move into new housing. In addition, we support sustainable dwellings and would rather preserve these old structures than support tearing them down. Unfortunately, this house has a lead service line that we did not know about, and my wife gave birth within a year of moving in. Obviously, replacing our own lead service line is extremely important to us to protect the health of our son. We count ourselves lucky because we know about our own service line, but there must be thousands of families in our same situation who do not know the dangers posed to their children. Therefore, we strongly support this widespread lead service line replacement program on behalf of families with infants or young children who aren't aware of potential irreparable harm that may be caused or whose financial situations make lead service line replacement an insurmountable burden. Thank you for taking action and being a leader among municipalities throughout the country!
After years of removing phosphate sources from waste water, the suggestion that a new possibly permanent source be created, seems rather ignorant of the sorry history of human unintended consequences. I strongly support any other means to resolve this issue and strongly oppose the phosphate mandate.

I think the ONLY environmentally and socially responsible thing for Denver Water to do is to replace lead service lines. Adding the orthophosphate is not sustainable and could possibly fail, not to mention the cost to retool the water treatment plants. What happened in Flint was an absolute catastrophe and if we don't address the issue of lead service lines here, it could happen in Denver.

I own two properties that have been identified as potentially containing lead service lines. I strongly support this solution as it takes the costumers, environment and overall health of all residents in the Denver Metro region.

I strongly support the holistic approach. As a homeowner with a lead service line, I appreciate Denver Water's efforts to actually remove the root of the problem and not just add more chemicals to the water.

[email address]

Anything that introduces phosphate into waste water would be environmentally problematic. Not only that, it would probably cause issues for ESRD patients and other people that are medically compromised. Replacing the service lines is a long term solution that will protect citizens and the environment.

Please allow the City of Denver to really fix the problem by replacing the actual lead lines, and NOT just adding chemicals to our water. Thank you.

[email address]

I had my home's drinking water tested recently. My home has an old lead service line and the test informed me that my water had very high levels of lead. Repairing the service line is cost prohibitive and my family is currently buying 5 gallons jugs of drinking water from the grocery store to protect our health. I fear that many families in the Denver area also have high lead volumes in their drinking water but are have not yet taken the first step of testing their water. I support the idea of Denver Water proactively identifying and replacing lead service lines.

As a homeowner with a potential lead service line it concerns me that the the alternative plan to orthophosphate will take upwards of 15 years to have a meaningful impact.

Orthophosphate, in my understanding, will begin "working" almost immediately. How do we make this alternative plan start working now?

Yes, we need to support the Lead Reduction Program! Let's think about the future and our environment.

LETTERS OF SUPPORT

The following letters of support are included as they were received, in the order they were received.

CORY GARDNER
COLORADO

SUITE SR-354
SENATE RUSSELL OFFICE BUILDING
WASHINGTON, DC 20510
(202) 224-5941

United States Senate

COMMITTEES:
COMMERCE, SCIENCE,
AND TRANSPORTATION
ENERGY AND
NATURAL RESOURCES
FOREIGN RELATIONS

October 22, 2019

Andrew Wheeler
Administrator
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

RE: Denver Water Lead Reduction Program Plan

Dear Administrator Wheeler,

I write to ask for your full and fair consideration of the Lead Reduction Program Plan submitted by Denver Water.

Denver Water, Colorado's oldest and largest water utility, serves 1.4 million people in the city of Denver and the surrounding metro area. Their Lead Reduction Program Plan prioritizes the removal of lead service lines in the Denver Water service area at no direct cost to residents, providing at-home water filters to residents with suspected service from lead service lines, and raising the pH level of drinking water in order to reduce the potential for lead to leach into the water.

This plan submitted by Denver Water will help to insure the delivery of clean water to Colorado residents, and support the safety and health of our metro communities.

Thank you for your full and fair consideration.

Sincerely,



Cory Gardner
United States Senator

NORTH FRONT RANGE WATER QUALITY PLANNING ASSOCIATION

257 Johnstown Center Dr.; Unit 206

Johnstown, CO 80534

970-587-8872 – <http://www.nfrwqpa.org>

MEMO

To: U.S. Environmental Protection Agency

From: Mark Thomas, NFRWQPA Manager

Date: October 17, 2019

Subject: Support Statement for Denver Water Optimal Corrosion Control Treatment (OCCT) Variance Request by the Colorado Wastewater Utility Council.

The North Front Range Water Quality Planning Association (NFRWQPA) is the designated 208 Planning Agency for Weld and Larimer counties. The association has always considered projects with respect to what the best solution is for wastewater treatment, and disposal for the region, whether it is effective and efficient, and whether it maintains or restores water quality in the region.

NFRWQPA is in support of the City of Denver Water Optimal Corrosion Control Treatment (OCCT) variance request to the U.S. Environmental Protection Agency, providing the variance request continues to meet the Drinking Water standards of the Lead and Copper Rule and is protective to public health as the division approved OCCT technique. Denver Water and sub-workgroups have thoroughly investigated and evaluated alternative solutions as result of the exceedance in 2012 which was the city's only exceedance of the lead action level since the Lead and Copper Rule was adopted in 1992. Avoiding adding additional chemicals to the water supply that may affect the water chemistry and negatively impact other drinking water standards is in the best interest of protecting public health and the environment. NFRWQPA association members, as wastewater treatment agencies, are stewards of public health and the environment and recognize the addition of phosphorus to the watershed region can degrade water quality in lakes, rivers, and streams and ultimately the quality of life in the region. Regulation 85 nutrient limits, and even more stringent Regulation 31 limits in the future will require wastewater plants to treat phosphorus and other nutrients to environmental protective standards to maintain and even restore water quality within the watershed river basins. The nonpoint source contribution from lawn and garden irrigation and stormwater to the watershed from potable water dosed with phosphorus is concerning. The proposed variance eliminates an additional phosphorus load to wastewater treatment facilities that is costly to treat and unnecessary by solving the root cause of the issue with an accelerated schedule to remove lead service lines. The addition of phosphorus to drinking water would cause wastewater treatment costs to rise and cause millions of dollars of damage to the South Platte River watershed having recreational economic impacts. The variance focuses on the source of the problem and is a more effective, efficient, and sound approach protective of public health in the long-term; rather than, risking the degradation of our environmental ecology and quality of life from adding phosphorus in which the level of the environmental consequences is unpredictable. Not only does removing the lead service lines protect the environment holistically and permanently, removal protects future drinking water consumers by actually removing the source of the contamination permanently. Economically, the removal of lead service lines is a better investment than other OCCT alternatives which compound the problem for a longer period of time concerning both public health and the environment. The variance of removing lead service lines at an accelerated schedule being the only alternative that completely removes the potential of lead getting into the consumptive water is the best solution.

NFRWQPA would like to thank the U.S. EPA for the opportunity to review and comment on the OCCT variance proposal by the City of Denver. Should you have any questions regarding our comments please feel free to contact me at (970) 587-8872 or mthomas@nfrwqpa.org.

Sincerely,

Mark Thomas
Manager



Coalition for Urban River Evaluation

1527 Cole Blvd., Ste 300, Lakewood, Colorado 80401 • P: (303) 239-5411 • F: (303) 239-5454

October 10, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 W. 12th Ave.
Denver, CO 80204

Submitted by e-mail to Lead@denverwater.org

Subject: Letter of Support for Denver Water's OCCT Variance Proposal

Dear Mr. Lochhead:

South Platte Coalition for Urban River Evaluation (SP CURE) is a non-profit organization originally formed by point-source discharge permit holders along the urban South Platte River. The organization arose from the need for coordinated water-quality monitoring, modeling, and dialogue among its membership. In addition to permit holders, members now also include other entities interested in addressing urban South Platte River water-quality issues related to drinking water, wastewater, and stormwater. We appreciate the opportunity to review and provide comments on Denver Water's variance request and associated Lead Reduction Program Plan submitted to the U.S. Environmental Protection Agency (EPA).

SP CURE supports approval of the variance requested by Denver Water, related to the March 20, 2018 Optimal Corrosion Control Treatment (OCCT) determination issued by the Colorado Department of Public Health and Environment (CDPHE), which directed Denver Water to add orthophosphate (ortho-P) to its drinking water to prevent corrosion of lead service lines and copper service lines with lead solder. In lieu of using ortho-P, Denver Water's variance request proposes to increase the pH of drinking water and provide NSF 53 approved filters to customers with lead service lines or service lines with lead solder. The variance request would also accelerate service line replacement to ensure that all known lead service lines in Denver Water's service area are removed within fifteen years.

Denver Water's variance proposal prioritizes protection of human health while also preventing a potentially significant source of environmental harm, which would otherwise be introduced to the environment in the form of 337,000 pounds per year of added phosphorus to the watershed. SP CURE members understand that water is a limited resource in the arid west, and the risk of extended and prolonged droughts only appears to be increasing. The interface of a highly urbanized area with a stream that has limited flow, and is over allocated, is a unique situation and requires creative thinking. Thus, we appreciate that the CDPHE initiated a robust stakeholder process to seek alternatives to ortho-P addition, and we believe that Denver Water has demonstrated its ability to meet the standard of equivalency by showing that its plan is equivalent or better than the use of ortho-P to protect human health.

SP CURE believes Denver Water's variance request is the best approach to managing corrosion of lead from drinking water service lines because it provides greater protection of public health than ortho-P and it accelerates permanent removal of the source of lead in Denver Water's drinking water system. The variance request also eliminates a source of phosphorus which would adversely impact wastewater treatment plants, downstream drinking water supplies, and the environment.

Denver Water's variance request includes a Lead Reduction Plan which describes how lead will be removed from the drinking water system. SP CURE would like to highlight the following key elements and benefits to public health and the environment:

1. For homes with lead service lines or copper service lines with lead solder, exposure to lead will be immediately reduced by as much as 97% until the service lines can be replaced by the combination of pH adjustment and the use of NSF 53 approved filters. Filters will be provided to affected customers free of charge. Denver Water's testing indicates that orthophosphate addition will provide a 74% reduction in lead levels after two years and that it may take more than 35 years for orthophosphate to provide a similar benefit as filters.
2. Permanent removal of the public health risk associated with lead service lines by accelerating service line removal so that all known lead service lines are replaced in 15 years. If orthophosphate is used for corrosion control, Denver Water estimates that it will take 50 years or more to replace all lead service lines in its service area.
3. Ensuring sensitive populations are protected by implementing a health equity and environmental justice program which prioritizes filter distribution and lead service line replacement in areas at greatest risk for lead exposure (areas with young families, child care providers, and schools).
4. A robust oversight process that will verify that efforts to control lead corrosion from drinking water service lines are effectively reducing exposure rates. The oversight process also includes a description of corrective actions that will be put in place should reductions in exposure rates fail to meet plan goals.

Denver Water's Lead Reduction Plan prevents the addition of a new source of phosphorus from being added to the region's surface waters. Recent regulatory changes, specifically Regulation Nos. 85 and Regulation No. 31 will require substantial capital investments in new infrastructure in order to treat nutrients to much lower concentrations. These reductions are necessary to protect the environment from the harmful effects of nutrients. If ortho-P addition is selected as the OCCT, it will require publicly owned wastewater plants to remove over 220,000 additional pounds annually of added phosphorus prior to discharge in order to maintain the same nutrient concentrations. Additionally, the treatment processes that are used to treat nutrients often require chemical addition, which would likely result in increased effluent ion concentrations, increasing metals and salinity in the South Platte River. Furthermore, the quality of sludge from these facilities would also be negatively impacted due to increased levels of phosphorus, which can limit the rate of agronomic land application, and adsorption of treatment chemicals. Elevated phosphorus levels in surface water have been linked to increases in hazardous algal blooms in receiving waters. Hazardous algal blooms release toxins which can make pets and people sick and can impact drinking water supplies.

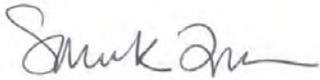
The long-term effects of a large increase in phosphorus loading to the South Platte watershed were studied extensively within the stakeholder group. The projected increase will significantly set back the efforts of dischargers and communities that have been working towards substantially reducing phosphorus concentrations within the watershed.

SP CURE prides itself on the use of sound data and science to make informed decisions. The extensive stakeholder process that has been going on for the past year was highly data-driven, and SP CURE members participated extensively to ensure that estimates of phosphorus loading to the South Platte River watershed were accurately quantified. SP CURE appreciates the opportunity to provide input on this important matter. We believe Denver Water's Lead Reduction Program Plan is the best option for the region to protect public health and the South Platte Watershed.

Sincerely,
South Platte Coalition for Urban River Evaluation



Christine E. Johnston
Board Chair



Sarah Reeves
Coordinator

cc: Alexis Woodrow, Denver Water



William J. "Mickey" Conway, District Manager

October 10, 2019

Mr. Jim Lochhead, Chief Executive Officer/Manager
Mr. Tom Roode, Chief of Operations and Maintenance
Ms. Nicole Poncelet-Johnson, Water Treatment and Quality Manager
Denver Water
1600 West 12th Avenue
Denver, CO 80204

Submitted Via Electronic Mail: jim.lochhead@denverwater.org; tom.roode@denverwater.org;
nicole.poncelet@denverwater.org

Re: Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead, Mr. Roode, and Ms. Poncelet-Johnson:

Thank you for the opportunity to reinforce the Metro Wastewater Reclamation District's (Metro District) commitment to Denver Water's Lead Reduction Program Plan. Denver Water's compiled summary demonstrates continued support and includes comments provided in the initial response submitted on August 7, 2019, in Appendix I.A.

Metro District Board of Directors Action

In July 2019, the Metro District Board of Directors passed the resolution, *Consideration of Partnership with Denver Water Concerning the Lead and Copper Rule Variance*, authorizing the District Manager to enter into an agreement with Denver Water to contribute communication support and funding up to a not-to-exceed amount of \$22.5 million, over a 15-year period, in support of Denver Water's Lead Reduction Program Plan.

Maximizing Public Health through the Lead Reduction Program

The Metro District strongly supports the Lead Reduction Program Plan as Denver Water's corrosion control strategy because it maximizes public health protection for all citizens in the metro region. It also protects the health of the South Platte River and the drinking water it supplies to many downstream communities.

The alternative option, to use large volumes of orthophosphate, would improve public health protection by reducing lead at the tap; however, it would do so at the expense of public health and the environment downstream. In addition to the environmental water quality impacts that would result from the use of orthophosphate, this option would also have socio-economic and public health impacts on communities in the region. The significant new loading of phosphorus

to the watershed would, at best, increase the cost to remove the phosphorus from wastewater and drinking water and may, at worst, preclude the use of the South Platte River as a drinking water source because of harmful algal blooms.

Decisions about water management in the arid west present unique challenges because of water scarcity. Throughout the arid west, our vibrant and healthy communities are dependent upon water reuse. Introducing large volumes of chemicals, such as orthophosphate, to the water cycle will cause adverse rippling effects through the rest of the water cycle. This cannot be the right solution when there is a superior alternative that, on its own merits, will protect the public from exposure to lead in drinking water.

Recognizing this is a complex and interconnected issue, the Metro District and its partners have continued to advocate for the Lead Reduction Program Plan, a one watershed and one ratepayer solution. Because of water scarcity in this region, a customized solution is more important than ever to ensure decisions today will not impair the ability of future generations to use and enjoy this valuable resource.

Sincerely,

A handwritten signature in blue ink that reads "Mickey Conway". The signature is written in a cursive, flowing style.

William J. "Mickey" Conway
District Manager



COLORADO

Parks and Wildlife

Department of Natural Resources

October 10, 2019

Denver Water
Lead Reduction Program
1600 W. 12th Ave.
Denver, CO 80204

Colorado Parks and Wildlife (CPW) appreciates the opportunity to comment on Denver Water's variance request to reduce lead exposure to customers by removing lead service lines in 15-years rather than adding orthophosphate to the drinking water. CPW supports Denver Water's variance request because it provides better protection for public health and avoids the environmental impacts and costs associated with orthophosphate addition.

Removing lead service lines reduces lead contamination from pipes by 100%. This is significantly better than orthophosphate addition, which reduces lead contamination in drinking water from pipes by approximately 70%, based on Denver Water's studies. Additionally, Denver Water would minimize lead exposure to customers in the near-term by optimizing the pH of the water to reduce corrosion of lead pipes, and providing drinking water filters to affected customers until lead services lines are replaced.

Orthophosphate addition has environmental impacts that would affect water quality in Barr Lake State Park, Cherry Creek State Park, and Chatfield State Park. These affects would be particularly harmful in the near future, since most of the wastewater treatment plants that serve Denver Water customers do not currently have advanced treatment to remove phosphorus, and would therefore discharge the added phosphorus to local waterways. Runoff and return flows from lawn irrigation will also contribute additional phosphorus to the environment. Phosphorus is a nutrient that stimulates algal growth in streams and lakes. Barr Lake and Cherry Creek Reservoir already have elevated nutrients and periodically experience harmful algal blooms. The primary control mechanism to reduce algal blooms is to limit nutrient loading. Increased phosphorus loads would exacerbate these existing water-quality issues and nullify the efforts of many organizations making strides in reducing both point and non-point source nutrient loads. CPW estimates that Barr Lake revenues could decrease by \$2.3 million over 10-years if Denver Water added 2 mg/L of orthophosphate and no changes were made to existing wastewater treatment systems. The costs to Cherry Creek and Chatfield have not been quantified, but could be substantial if harmful algal blooms cannot be controlled.

CPW believes that Denver Water's variance provides the best protection for public health, the environment, and State Parks.

For Colorado Parks and Wildlife

Margaret Taylor
Assistant Director for Capital, Parks and Trails
Colorado Parks and Wildlife
6060 Broadway
Denver, Colorado 80216





October 10, 2019

Jim Lochhead, Chief Executive Officer
Denver Water
1600 W. 12th Ave
Denver, CO 80204

RE: LEAD REDUCTION PROGRAM PLAN — September 6, 2019 Final Proposal

Dear Mr. Lochhead:

Clean Water Action appreciates the opportunity to comment on Denver Water’s final Lead Reduction Program Plan, which was submitted to the U.S. Environmental Protection Agency (EPA) on September 6, 2019. For over forty years, Clean Water Action’s national water programs have focused on addressing threats to drinking water and water quality by winning strong water pollution controls, including through Safe Drinking Water Act (SDWA) and Clean Water Act implementation. We also pioneer innovative collaborations to support fundamental changes in how water pollution and drinking water challenges are approached.

Clean Water Action strongly supports Denver Water’s final Lead Reduction Plan. We appreciate that Denver Water took seriously both our comments on the July 2019 draft proposal, as well as comments submitted by other stakeholders. Successful implementation of this plan will depend on robust, meaningful engagement with the community, and it is assuring to see Denver Water integrating many of the recommendations made on the July 2019 draft into its final plan.

Our comments below highlight what we consider the greatest strengths of Denver Water’s final plan (some were highlighted in our August comments on the draft plan, some are new) and we also offer two recommendations for the utility to consider as it carries out this plan (pending EPA and CDPHE approval, of course):

Plan Strengths

Goes after the source of lead instead of just treating the symptoms: Fully replacing all known lead service lines in Denver Water’s service area within 15 years will permanently eliminate the largest source of lead in drinking water from its service area. The most effective and sustainable way to limit exposure to lead in drinking water is to remove lead at the source, which, for lead in drinking water, means fully replacing all lead service lines.

Provides health protection while customers wait to have service lines replaced: To address concerns that some residents may have to wait up to 15 years to have their lead service lines replaced, Denver Water will provide filters that reduce lead by 97 percent for all customers with known, suspected, or possible lead service lines until six months after their lead service line is replaced.

Focuses on health equity and environmental justice: By replacing lead service lines at no-cost to the property owner, all Denver Water customers with lead service lines will have equal access to the health benefits of full lead service line replacement, regardless of their ability—or their landlord’s ability—to pay. Woven into its plan are health equity and environmental justice principles to ensure all impacted residents have equal access to the benefits of reduced lead exposure.

Prioritizes protecting the most vulnerable: Infants and children are among the most vulnerable to lead exposure and Denver Water will work to identify daycare centers, schools, and areas with young families in order to prioritize these vulnerable populations for filter distribution and lead service line replacement.

Ensures impacted community members a seat at the table: Meaningful community engagement is vital to the success of this plan. Upon EPA/CDPHE approval, Denver Water will form an Advisory Committee to guide the effective implementation of the plan. Representatives from impacted communities, with a focus on representation from underserved communities, will be included on this committee.

Protects water quality and the environment: An unintended consequence of orthophosphate treatment is that it can threaten water quality in nearby surface waters by increasing phosphorus levels that can harm fish, wildlife, recreational users, and downstream water systems. The Lead Reduction Program avoids this unintended consequence by preventing the introduction of an additional source of phosphorus into rivers, streams, and reservoirs.

Is more protective of public health than EPA’s proposed revisions to the Lead and Copper Rule (LCR): EPA administrator Andrew Wheeler signed the agency’s proposed revisions to the Lead and Copper Rule on October 10, 2019. As proposed, EPA will not require lead service line replacement, which Clean Water Action sees as a missed opportunity to proactively eliminate the primary source of lead in drinking water. Denver Water’s commitment to both completing a lead service line inventory of its entire service area and replacing all of those service lines within fifteen years is a holistic, sustainable approach more protective of public health. If Denver Water meets the compliance goals listed in its Lead Reduction Program Plan, it will achieve equivalent or better public health protection standards than existing federal regulations or the proposed LCR revisions. EPA and CDPHE should support the utility’s effort to carry out this plan.

Includes compliance goals to ensure public health remains protected: Denver Water has established compliance benchmarks for the five main elements of its plan that it must achieve or take corrective action to fix. Failure to meet benchmarks such as a 65 percent minimum filter adoption rate for three years or failure to replace less than 7 percent of lead service lines for three years would terminate the variance and Denver Water would begin treating its water with orthophosphate. These important

backstops will ensure that public health remain protected should Denver Water for unforeseen circumstances fail to achieve compliance goals.

Recommendations

Investigate why filter adoption rates for cooking were low: Surveys completed by 27 percent of customers who participated in Denver Water’s Pilot Lead Program in summer 2019 revealed that 91 percent of them were using filtered water for drinking, but that only 60 percent of them were using it for cooking. Denver Water states in its final plan that it will “reinforce the importance of using the filter for cooking,” which is good, but the utility should also investigate why customers opted to use filtered water for cooking at significantly lower rates than for drinking. It could have to do with the type of filter in use (pitcher filter versus a filter on the drinking water tap, for instance), or for other reasons. Based on Denver Water’s findings, it may be necessary to make adjustments to its filter program to achieve a minimum of 65 percent filter usage rate for cooking.

Address concerns over potential rate increase and affordability: Though there will be no cost to individual property owners whose lead service lines are replaced, there is the potential for a customer rate increase. As Denver Water continues to refine its cost estimates for carrying out this program, it should consider how any potential rate increase could impact low-income customers and consider options for those who may be unable to absorb even a modest rate increase. Denver Water should communicate to its customers about any potential rate increases early on in the Lead Reduction Program.

Clean Water Action remains committed to working with Denver Water and other stakeholders to ensure the success of a Lead Reduction Program that protects public health and the environment. Denver Water’s plan is an innovative approach to address unintended consequences of orthophosphate treatment, and if carried out successfully, will provide a greater benefit to public health and the environment. While protecting all of our communities from lead must be a top priority, it is also critical to continue making progress toward reducing nutrient pollution in our rivers, streams, and reservoirs.

Sincerely,



Jennifer Peters

National Water Programs Director
Clean Water Action/Clean Water Fund
jpeters@cleanwater.org

CENTENNIAL

WATER AND SANITATION DISTRICT

October 10, 2019

Jim Lochhead
Denver Water CEO
1600 W. 12th Ave.
Denver, CO 80204

RE: Lead Reduction Program Variance Request

Dear Jim:

Centennial Water and Sanitation District (Centennial) provides water and wastewater services to over 100,000 citizens of Highlands Ranch and neighboring portions of northern Douglas County. Centennial strongly supports Denver Water's optimum corrosion control treatment (OCCT) variance request to CDPHE for dissolved lead reduction because it better addresses the public health concern, while avoiding unnecessary environmental impacts created by the addition of orthophosphate into the streams and reservoirs in the Denver metro area.

Centennial participated in numerous stakeholder meetings during 2018 and 2019 and the information presented during those meetings demonstrated that Denver Water is truly committed to protecting human health and the environment. Denver Water's variance approach provides more certainty to its customers because it removes the primary source of the problem, lead service lines, at a lower cost than the current OCCT specified by CDPHE – namely the addition of orthophosphate into Denver Water's potable water distribution system to retard lead dissolution in lead-bearing pipes and plumbing fixtures.

Not only is the variance package the best for public health, it is also the best option for the environment. The addition of orthophosphate would return to the watershed through multiple mechanisms, including direct discharge of treated wastewater, surface runoff from irrigated property, and municipal subsurface irrigation return flows. The stakeholder group determined that the potential deleterious environmental impacts of using orthophosphate (particularly algal blooms) are substantial and must be avoided.

Thank you for your time and consideration in this matter.

Best regards,



John M. Kaufman
General Manager



62 West Plaza Drive
Highlands Ranch, Colorado 80129
www.centennialwater.org

303-791-0430 Telephone
303-791-0437 Engineering Fax
303-791-3290 Financial Services Fax



BANCROFT CLOVER WATER & SANITATION DISTRICT

October 9, 2019

Jim Lochhead, CEO/Manager
Denver Water
1600 W. 12th Ave.
Denver, CO 80204

RE: Lead Reduction Program

Dear Mr. Lochhead,

I am writing you on behalf of the Board of Directors of the Bancroft-Clover Water and Sanitation District (the Board) to express the District's support for Denver Water's Lead Reduction Program Plan.

The District believes that the Lead Reduction Plan (the Plan) submitted to the United States Environmental Protection Agency in September of 2019 will provide a superior level of protection for public health with fewer negative environmental effects.

The Plan calls for the replacement of all lead service lines within the Denver Water service area over a 15-year period. The removal of the lead service lines is a permanent solution to the largest source of lead entering customers drinking water.

Regarding the addition of orthophosphate, approximately one-half of our customer's water use is for outdoor irrigation. Adding orthophosphate to water used for outdoor irrigation introduces a substantial, untreated phosphate load to local, state and federal waterways. In addition, the additional phosphate imposes new wastewater treatment costs locally and higher water treatment costs on downstream users.

In summary, the Board supports Denver Water's Lead Reduction Plan and believes that it offers a permanent solution to reducing lead in drinking water and minimizing the negative environmental impacts of orthophosphate.

Respectfully yours,

A handwritten signature in blue ink, appearing to read 'Tim Lowe', is written over a horizontal line.

Tim Lowe
District Manager

CC: William J. Conway - Metropolitan Wastewater Reclamation District

900 SOUTH WADSWORTH BOULEVARD
PHONE: 303•922•1113

LAKEWOOD, COLORADO 80226-4306
FAX: 303•922•6479



October 7th, 2019

Jim Lochhead
CEO / Manager
Denver Water
1600 W. 12th Ave.
Denver, CO 80204

Via email

Re: Denver Water Optimal Corrosion Control Treatment Variance Request

Dear Mr. Lochhead,

The City and County of Denver (the “City”) strongly supports Denver Water’s variance request seeking authorization from EPA to adopt an alternative approach to reducing lead in drinking water within Denver Water’s service area (the “Variance Request”). The City, through its Department of Public Health and Environment, is the local entity responsible for protecting the public health and environment of Denver residents. In this role, the City manages several programs focused on minimizing lead exposure, including its Childhood Lead Reduction Poisoning Prevention Program, which provides outreach and education to prevent childhood lead exposure and performs investigations to determine the source of lead for children who have reported elevated blood lead levels in Denver. The City actively participated in the recent lead corrosion control stakeholder process and believes that the program proposed in the Variance Request provides a comprehensive and protective approach to reducing lead in drinking water. Specifically, the City believes that, if approved, the program will be more protective of public health than orthophosphate addition by immediately reducing lead levels in drinking water through pH adjustment and the use of filters, accelerating lead service line replacement to permanently remove the source of lead in the City’s drinking water, and avoiding adverse impacts to the environment.

On March 20, 2018, pursuant to the Safe Drinking Water Act’s Lead and Copper Rule, the Colorado Department of Public Health and Environment (“CDPHE”) issued an order designating orthophosphate addition as the optimal corrosion control treatment for Denver Water and requiring Denver Water to begin adding orthophosphate to its water treatment system by March 2020 (the “Order”). Several stakeholders, including the City, raised concerns regarding certain potential adverse impacts associated with orthophosphate. Subsequently, Denver Water, CDPHE, and other interested entities convened a stakeholder process in 2018 to further evaluate the benefits and risks of orthophosphate alongside other options to reduce lead exposure from drinking water.

As a result of information obtained during the stakeholder process, on September 6th, 2019, Denver Water submitted its Variance Request, which proposes a lead reduction program that would consist of taking the following actions in lieu of orthophosphate addition:

1. Increase drinking water pH levels to prevent corrosion and release of lead from lead drinking water service lines and copper service lines with lead solder.
2. Develop a lead drinking water service line inventory.
3. Accelerate lead service line removal so that all identified lead service lines in Denver Water's service area are removed in fifteen years.
4. Provide at-home NSF 53 approved filters to all customers with a lead service line and at-risk customers with a copper service line with lead solder.
5. Communicate, educate, and perform public outreach to inform the public about lead in drinking water and service line replacement efforts.

The City believes these actions will result in a corrosion control treatment program that is more protective of public health than orthophosphate addition.

Public Health Benefits of the Variance Request

As set forth in greater detail below, the City supports the Variance Request because it will provide greater protection of public health than using orthophosphate and permanently remove the source of lead in Denver's drinking water at an accelerated rate while also avoiding adverse impacts to the environment.

First, Denver Water's alternative approach will result in greater reductions of lead in drinking water than will the addition of orthophosphate. During the stakeholder process, Denver Water provided convincing evidence that the combination of pH adjustment and the use of NSF 53 approved filters will reduce public health risks associated with lead exposure more rapidly than the use of orthophosphate. The combination of pH adjustment and use of NSF 53 approved filters will provide better water quality to customers with lead service lines by immediately reducing lead in drinking water by as much as 97%. Alternatively, Denver Water's testing indicates that orthophosphate addition will provide a 74% reduction in lead levels after two years and that it may take more than 35 years for orthophosphate to provide a similar benefit to filters.

Second, the accelerated rate of lead service line replacement proposed in the Variance Request will result in more expedient removal of lead sources in Denver's drinking water system. If approved, Denver Water's lead reduction plan will permanently remove the public health risk associated with lead service lines by removing all known lead service lines in 15 years. On the other hand, if orthophosphate is used for corrosion control, Denver Water will be required to continue dosing its water system until all known lead service lines are replaced and Denver Water can prove that corrosion control is no longer needed. Under this scenario, Denver Water estimates that it will take 50 years or more to replace all lead service lines and discontinue the use of orthophosphate for corrosion control.

Additionally, Denver Water's Variance Request will protect sensitive populations by prioritizing filter distribution and lead service line replacement in areas at greatest risk for lead exposure (areas with young families, child care providers, and schools) and will focus on health equity and environmental justice by providing equal access for everyone to benefit from reductions in overall lead exposure. The City is confident that the strategies set forth in the Variance Request, such as coordinating with state and local government agencies that oversee health equity and environmental justice, tailoring outreach to consider linguistic and cultural needs of individual neighborhoods, using a predictive model to prioritize vulnerable populations, and collaborating with community organizations to identify implementation strategies that are least disruptive to neighborhoods, will ensure efforts are protective of all sensitive populations.

Denver Water's proposed program also includes a robust oversight process to verify that efforts to control lead corrosion from drinking water service lines are effectively reducing exposure rates. The oversight process includes sampling homes with lead service lines and homes with copper service lines with lead solder and real time monitoring to ensure pH and alkalinity levels in the water supply are within targeted ranges when leaving the treatment plant and within the distribution system. The City is confident that these oversight measures will ensure that Denver Water is able to identify performance issues early and immediately take proactive steps to remain below the Lead and Copper Rule action level.

Finally, the program proposed in the Variance Request will ensure that Denver's watershed is not subjected to unnecessary adverse impacts associated with additional phosphorous loading. The addition of orthophosphate to drinking water can result in elevated phosphorus levels in receiving waters. Elevated phosphorus levels in surface water have been linked to increases in hazardous algal blooms, which release toxins that can make pets and people sick and can impact drinking water supplies. The lead reduction program set forth in Denver Water's Variance Request would ensure that this significant and harmful source of phosphorous is not added to the region's surface waters.

Recommendations

The City actively participated in the stakeholder process by evaluating the public health and environmental implications of various corrosion control options, assessing potential impacts to city operations, estimating the costs of different options, and providing comments on initial drafts of Denver Water's lead reduction plan. Through the process, all interested parties worked collaboratively to share information and comprehensively evaluate the use of orthophosphate and alternative lead reduction strategies. As a result, Denver Water developed an alternative that the City believes is the best possible approach to lead reduction and removal in Denver.

The City appreciates Denver Water's efforts to address concerns raised by the City during the development of Denver Water's proposed lead reduction program. These include considering how to best address rental properties where the owner or owner's agent is absent and not interested in participating in the proposed lead reduction program, clarifying how soon customers will be offered filters, and explaining how Denver Water will prioritize service line

October 7th, 2019

replacement. However, the City has two remaining concerns it would like Denver Water to address. In its proposed program, Denver Water plans to reach out to renters who may not be billed directly by Denver Water to inform such persons about potential risks of lead exposure in drinking water. However, the City remains concerned about continuity of protection after rental unit turnover. New renters may not be aware of the potential for lead exposure and may not have filters or understand the importance of using them. Therefore, the City encourages Denver Water to address this issue and identify how it will ensure that new renters are provided with the knowledge and equipment needed to minimize exposure to lead in drinking water. The City also recommends that Denver Water include in its program a plan for how to reimburse residents who choose to voluntarily replace their lead service lines before Denver Water would be able to do so.

The City anticipates that the public will have various questions and concerns related to protecting public health and the environment should the Variance Request be approved. The City intends to work closely with Denver Water and other governmental entities to ensure consistent and accurate information is shared with the public regarding the issue of lead in drinking water.

The City appreciates Denver Water's efforts to develop a better corrosion control solution for Denver and fully supports Denver Water's Variance Request. If you wish to discuss our comments, please contact Jon Novick, Environmental Administrator for the Department of Public Health and Environment, at (720) 865-5468.

Sincerely,



Robert McDonald
Executive Director, Department of Public Health & Environment

cc: Alexis Woodrow, Denver Water
Brendan Doyle, DDPHE Public Health Investigations
Jon Novick, DDPHE Environmental Quality
Lindsay Carder, Denver City Attorney's Office



CITY COUNCIL
FACSIMILE: 720-898-7515 ▲ TDD: 720-898-7869
PHONE: 720-898-7500

October 7, 2019

Denver Water
Lead Reduction Program (comment letter)
1600 W. 12th Ave.
Denver, CO 80204

Submitted Via Electronic Mail:

jim.lochhead@denverwater.org; tom.roode@denverwater.org;
nicole.poncelet@denverwater.org

Re: Support for Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead, Mr. Roode and Ms. Poncelet-Johnson:

The City of Arvada supports Denver Water's Lead Reduction Program Plan. As a member of the Metro Wastewater Reclamation District (Metro District), we have been following Denver Water's corrosion control issue closely because Denver Water and the Metro District are in the same water cycle. Some corrosion control strategies have impacts outside of the drinking water system, which would negatively impact our watershed and ratepayers. We are pleased to support the Lead Reduction Program Plan as Denver Water's corrosion control strategy because it maximizes protection of the public health of all citizens of the metro region, as well as protects the health of the South Platte River and the drinking water it supplies to many downstream communities.

The alternative option, to use large volumes of orthophosphate, would improve the protection of public health by reducing lead at the tap; however, would do so at the expense of public health and the environment downstream. In addition to the environmental water quality impacts that would result from the use of orthophosphate, this will also have socio-economic and public health impacts on our community. The significant new loading of phosphorus to the watershed would, at best, increase the cost to remove phosphorus from wastewater and drinking water and may, at worst, preclude the use of the South Platte River as a drinking water source because of harmful algal blooms.

For these reasons, we support Denver Water's Lead Reduction Program Plan because it addresses the concerns of all regional stakeholders by promoting a path forward that comprehensively mitigates the impacts from the alternative option, orthophosphate, and maximizes overall protection of public health. It will accelerate the removal of the majority of the lead service lines in the region which will effectively eliminate this public health concern from the region. And while corrosion control mechanisms play a vital role in protecting the public from lead and copper exposure in their tap water, these

corrosion control strategies have impacts outside of the drinking water system. We appreciate that the Lead Reduction Program Plan will entirely mitigate the negative impacts that would have resulted from the use of orthophosphate. Because of these holistic benefits, we are in support of the Lead Reduction Program Plan.

Given the scarcity of water in our region, it is more important than ever that we make decisions today that will not endanger future generations' ability to use and enjoy this scarce resource.

Sincerely,

A handwritten signature in black ink, appearing to read "Marc Williams". The signature is fluid and cursive, with a long horizontal stroke at the end.

Marc Williams
Mayor

cc: City Council
City Manager
City of Arvada Metro Wastewater Board Representatives

6795 S. Elati St.
Littleton, CO 80120
T 303-795-5925
www.barr-milton.org



Dan DeLaughter, Chairperson
Steve Lundt, Vice-Chairperson
James Boswell, Secretary
Chris Douglass, Treasurer
Amy Conklin, Coordinator

October 7, 2019

Jim Lochhead
Denver Water, CEO/Manager
Lead Reduction Program (comment letter)
1600 W. 12th Ave.
Denver, CO 80204

Sent Electronically by E-mail
lead@denverwater.org
jim.lochhead@denverwater.org

Dear Mr. Lochhead:

The Barr Lake and Milton Reservoir Watershed Association (BMW) supports approval of the variance requested by Denver Water, related to the March 20, 2018 Optimal Corrosion Control Treatment (OCCT) determination issued by the Colorado Department of Public Health and Environment (CDPHE), in which CDPHE directed Denver Water to add orthophosphate (ortho-P) to its drinking water. BMW believes Denver Water's variance request and proposed Lead Reduction Program Plan better address the public health concern, while avoiding unnecessary environmental impacts created by the addition of ortho-P.

BMW's mission is to *"encourage cooperation, involvement, and awareness by interested parties in collaborative efforts to improve the water quality of Barr Lake and Milton Reservoir."* BMW members are subject to a total maximum daily load (TMDL) for total phosphorus, which is necessary to attain compliance with pH and dissolved oxygen water quality standards in Barr Lake and Milton Reservoir. BMW has spent the past 15 plus years studying the problem of nutrient enrichment in Barr Lake and Milton Reservoir, and the past seven years implementing the TMDL. Over this time, water quality measures, including total phosphorus and chlorophyll-a have improved markedly, and both lakes are intermittently at or near standards attainment. BMW is tasked with protecting water quality downstream of the urbanized Denver Metro area; therefore, our members are strongly opposed to adding nutrients to the watershed unless necessary.

The Colorado Front Range is a semi-arid environment; there is very simply a limited supply of water for a multitude of competing uses. In a typical year, Barr Lake and Milton Reservoir combined divert between 10 and 30 percent of the entire flow of the South Platte River. Interconnectedness is present to some degree in most watersheds, but when flows are limited as they often are on Colorado's Front Range, the importance of managing for multiple uses becomes absolutely critical.

October 7, 2019

BMW Comments on Denver Water OCCT Variance

Page | 2

BMW's member agencies consist of water providers, wastewater treatment providers, municipal, industrial, and agricultural users. Each member would be impacted by the ortho-P in different ways. Of particular concern for water providers is that phosphorus to the watershed could encourage more algal growth, which may lead to increased likelihood of harmful algal blooms in source water supplies and associated algal toxins as well as taste and odor concerns. Of particular concern for wastewater providers is that the same phosphorus that would be added by Denver Water at the source would need to be completely removed in equal amounts at the treatment plant. Additionally, phosphorus treatment at wastewater plants typically requires other chemicals to be used, such as ferric chloride, ferric sulfate, or poly aluminum chloride. All of these chemicals are metal salts, which add to sludge toxicity, impact dewatering operations, and can increase the salinity of water returned to the river, an important consideration as large scale reuse projects become more imminent along the front range.

Public Health Protection

BMW participated extensively alongside Denver Water in technical analyses and negotiations with numerous other stakeholders throughout dozens of stakeholder meetings during 2018 and 2019, and the information presented during those meetings conveys that Denver Water is truly committed to protecting human health and benefitting the environment by finding an alternative to further chemical addition beyond its existing corrosion control measures.

Denver Water's variance approach is multi-faceted and provides more certainty to Denver Metro area customers because it removes the largest part of the problem directly at its source, which is the lead service lines, all at a cost that is expected to be 12-40% lower than the currently specified OCCT.

Denver Water's proposed Lead Reduction program has three basic components, which include:

- Increasing the pH level, which reduces the corrosivity of the water.
- Providing at-home water filters for all customers in Denver Water's service area with a suspected lead service line, free of charge.
- Replacing the estimated 50,000 to 90,000 lead service lines with copper lines in Denver Water's service area at no charge to the customer over the next 15 years.

This solution does not require maintaining a complicated system-wide chemistry, and it provides a backstop in the form of additional pH control, and point of use filters to those homes that are at the latter end of the removal schedule. By leaving the lead lines in place, the current OCCT simply delays the inevitable, and does not address the underlying problem. In short, removing lead lines is the smart and simple solution, with the lowest overall long-term risk to human health.

Additionally, other tangible public health risks could be spurred by ortho-P addition, including increased risks of public exposure to algal toxins.



Environmental Consequences

BMW believes it is important for Denver Water and regulatory decision-makers at CDPHE and EPA to understand the gravity of the OCCT variance decision with respect to environmental impacts if ortho-P addition remains the designated OCCT for Denver Water's system. BMW encourages every person involved in the decision-making process to carefully review the findings of the watershed/wastewater stakeholder group, summarized in the CDPHE's "[Watershed & Wastewater Stakeholders Summary Report](#)" in order to better understand these impacts. In particular,

- Ortho-P would return to the watershed through multiple mechanisms, including 1) direct discharge of wastewater, 2) returns from surface flows on irrigated lawns, and 3) returns from deep percolation groundwater flows on irrigated lawns.
- If Denver Water is required to move forward with ortho-P addition at 2 mg/L, it will result in the addition of up to 337,000 lbs per year in 2020, and 425,000 lbs per year by 2050. Of these loads, approximately half the indoor load would eventually be treated at wastewater treatment facilities, but the outdoor loading component would result in up between 10,000 - 37,000 lbs returning to watersheds in 2020, and between 13,000 - 61,000 lbs returning to watersheds by 2050.
- If Denver Water is required to move forward with ortho-P addition at 2 mg/L, it will result in a new phosphorus load to Barr Lake and Milton Reservoirs of up to 63,000 lbs/year through 2020, gradually diminishing to about 1,000 to 20,000 lbs/year indefinitely.
- For reference, the final TMDL target loads from all sources combined is 24,000 lbs. The existing TMDL framework was not established with such a substantial new source of phosphorus loading in mind.
- The portion of phosphorus that is not delivered to the watershed would not disappear, it would accumulate in the soil column, which may lead to future breakthrough groundwater loadings, and soil erosion loadings for decades, even if ortho-P is eventually discontinued. It would also accumulate in biosolids which could impact the efficiency of land application of these materials for beneficial use.

In summary, BMW believes the variance option detailed by Denver Water is the option that is most protective of human health because it reduces existing lead concentrations more quickly than adding phosphate. It also avoids unnecessary environmental impacts, which the stakeholder group determined could be substantial. If this process concludes with an EPA and/or CDPHE determination that ortho-P addition is the only technology that adequate to provide human health protection, such a decision would set the region back substantially in reducing nutrient pollution. In an era where reuse is becoming the norm, and people are increasingly prioritizing clean water and a clean environment, Denver Water's approach is a more holistic alternative that does not require widespread and substantial addition of nutrients to the environment.



Sincerely,



Dan DeLaughter, P.E.
Barr Lake & Milton Reservoir Watershed Association Chairperson

And

BMW's Board of Directors, Consisting of

Steve Lundt, Vice Chairperson Metro Wastewater Reclamation District	James Boswell, Secretary City of Thornton
Chris Douglass, Treasurer East Cherry Creek Water & Sanitation District	J-M Grebenc South Adams Water and Sanitation District
Sarah Reeves South Platte Coalition for Urban River Evaluation	Michelle Seubert Barr Lake State Park
Julie Tinetti Centennial Water & Sanitation District	Curtis Bauers Water Quality Consultant
Dan DeLaughter South Platte Water Renewal Partners	

CC: Greg Sopkin, U.S. EPA Region 8, Regional Administrator
Patrick Pfaltzgraff, CDPHE Water Quality Control Division, Director
Alexis Woodrow, Denver Water, Community Relations Specialist
Steve Lundt, BMW, Vice Chairperson
James Boswell, BMW, Secretary
Chris Douglass, BMW, Treasurer
Amy Conklin, BMW, Coordinator

The Farmers Reservoir and Irrigation Company
80 South 27th Avenue
Brighton, Colorado 80601
303-659-7373
FAX: 303-659-6077

October 7, 2019

Jim Lochhead
Denver Water, CEO/Manager
1600 W. 12th Ave.
Denver, CO 80204

Sent Electronically by E-mail
lead@denverwater.org

RE: Lead Reduction Program (comment letter)

Dear Mr. Lochhead:

The Farmers Reservoir and Irrigation Company (FRICO) supports approval of the variance recently requested from the U.S. Environmental Protection Agency (EPA) by Denver Water, related to the March 20, 2018 Optimal Corrosion Control Treatment (OCCT) determination issued by the Colorado Department of Public Health and Environment (CDPHE). In that determination, CDPHE directed Denver Water to add orthophosphate (ortho-P) to its drinking water to prevent corrosion of lead service lines and copper service lines with lead solder. As we understand it, Denver Water's variance request proposes to increase the pH of the drinking water to reduce its corrosivity, while also providing lead filters to customers with lead service lines, or service lines with lead solder, rather than adding ortho-P. The variance request would also ensure that all known lead service lines in Denver Water's service area are removed within fifteen years.

FRICO believes Denver Water's variance request and their proposed Lead Reduction Program Plan completely addresses the public health concern, and is actually substantially more protective of human health in the long-run, due to the physical removal of the source of lead contamination, while also avoiding unnecessary environmental impacts created by the addition of ortho-P to the drinking water.

FRICO is a mutual ditch company that was incorporated in 1902. It has 8,000 shares in 500 separate shareholder accounts. The FRICO system consists of four major reservoirs (including Barr Lake and Milton Reservoir), several smaller reservoirs, and approximately 400 miles of canals extending from the Front Range foothills to east of Greeley, Colorado. FRICO also manages three associated ditch and reservoir company systems and is developing an alluvial water storage system which includes three additional reservoirs. A significant portion of the FRICO system is within the same watershed as the Denver Water system serves. FRICO provides the major storage for the municipal needs of 300,000 citizens of four municipalities in the northwest Denver area.

FRICO participated alongside Denver Water in technical analyses and negotiations with numerous other stakeholders throughout dozens of stakeholder meetings during 2018 and 2019, and the information presented during those meetings conveys that Denver Water is truly

committed to protecting human health and benefitting the environment by finding an alternative to further chemical addition beyond its existing corrosion control measures. FRICO believes that the addition of ortho-P to 100% of the water produced by Denver Water, when less than 7% of that water is consumed in households which have a potential lead source, in the form of leaded solder or lead service lines, is unnecessary, and potentially hazardous in its own right. FRICO believes that Denver Water's proposed approach is more thorough and provides more protective certainty to Denver Metro residents, because it removes the largest part of the problem directly at its source, which is the lead service lines, all at a cost that is expected to be lower than the currently specified OCCT.

Barr Lake and Milton Reservoir are subject to a total maximum daily load (TMDL) for total phosphorus, which is necessary to attain compliance with pH and dissolved oxygen water quality standards; as such, we are strongly opposed to adding additional nutrients to the watershed unless absolutely necessary. Barr Lake and Milton Reservoir combined can divert up to 30 percent of the entire flow of the South Platte River in many years. Additional phosphorus in the watershed could encourage more algal growth, which may lead to increased likelihood of harmful algal blooms in source water supplies and associated algal toxins, as well as taste and odor concerns. This would significantly degrade the water quality, and overall value, of our main asset.

In summary, FRICO believes the variance option detailed by Denver Water is the option that is most protective of human health because it reduces existing lead concentrations more quickly than adding phosphate. It also avoids unnecessary environmental impacts, which the stakeholder group determined could be substantial.

We very much appreciate the opportunity to review and provide comments on Denver Water's variance request, and associated Lead Reduction Program Plan, as submitted to the EPA. Once again, FRICO encourages support of Denver Water's variance request as it better meets the full breadth of public health issues surrounding this issue.

Sincerely,

Curtis W. Bauers, P.E.

Bauers Engineering Services, Ltd.

on behalf of :

Scott Edgar, General Manager

The Farmer's Reservoir and Irrigation Company

Michael B. Hancock
Mayor



City and County of Denver

OFFICE OF THE MAYOR
CITY AND COUNTY BUILDING
DENVER, CO 80202-5390
TELEPHONE: (720) 865-9090 • FAX: (720) 865-8787
TTY/ TTD: (720) 865-9010

October 3, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, CO 80204

Re: Denver Water's Optimal Corrosion Control Treatment Variance Request

Dear Jim,

I am pleased to inform you that I support Denver Water's proposed lead reduction program as an alternative to orthophosphate addition for reducing and ultimately removing lead exposure risk from drinking water in the City and County of Denver. The city was actively involved in the recent lead corrosion control stakeholder process, and served a crucial role in evaluating the benefits and risks associated with using orthophosphate addition and alternative options to reduce lead in drinking water. Denver Water's proposed lead reduction program provides a holistic approach to corrosion control treatment that prioritizes public health while also considering the need to remove the source of lead, focus on sensitive populations, ensure equitable access to resources and avoid adverse environmental impacts. Because this plan provides a comprehensive solution that is more protective of Denver's residents and visitors than using orthophosphate, I fully support Denver Water's variance request.

While all components of Denver Water's proposed program combined are necessary to successfully reduce lead in drinking water, I consider the following elements essential to ensuring this is the right approach for Denver:

- First, Denver Water's accelerated service line removal plan – which will completely remove all lead service lines in Denver Water's service area in 15 years – provides a permanent solution to the source of lead exposure in drinking water. Because lead service line removal would take at least 50 years to complete with orthophosphate addition, Denver Water's proposed lead reduction program provides a greater long-term benefit to Denver residents.
- Second, Denver Water's plan to prioritize lead service line removal and filter distribution in areas where sensitive populations, such as infants and children, are located will ensure that those individuals who are most at risk to the adverse effects of lead exposure are protected. It is of utmost importance to ensure that the health of children, whether at home, day care or school, is a top priority in the plan's structure.
- Denver Water also plans to focus on health equity and environmental justice in implementing its program by providing all residents, including tenants as well as property owners, and non-English speaking communities, with equal access to information and resources. Including

strategies to ensure that the needs of traditionally underserved communities and communities that have been historically disproportionately affected by adverse environmental impacts are met is a necessary component for the success of the program.

- Finally, the proposed lead reduction program eliminates the adverse environmental impacts that would result from additional phosphorous loading. The addition of orthophosphate to drinking water can result in increased phosphorous levels in downstream reservoirs, rivers and streams, which has been linked to increases in hazardous algal blooms which release toxins that can make pets and people sick. By preventing the introduction of a new source of phosphorous into the region's surface waters, Denver Water's plan protects the environment of Denver and downstream communities.

I commend Denver Water's efforts to consider all stakeholder feedback throughout the course of the stakeholder process and address comments submitted by the city. I believe this process has resulted in a better and more permanent solution to reducing lead in drinking water than orthophosphate addition by providing greater public health and environmental benefits to Denver's residents. I fully support the variance request and urge EPA to approve the program.

Respectfully,

A handwritten signature in black ink, appearing to read "M. Hancock", with a horizontal line extending to the right from the end of the signature.

Michael B. Hancock
Mayor



Denver Trout Unlimited

1536 Wynkoop St, Suite 320
CTU Attn:DTU
Denver, CO 80202

Date 10/2/2019

Subject: Denver Water's proposed Lead Reduction Program as an alternative to orthophosphate.

TO: A. Woodrow, Lead Reduction Program, Denver Water

Denver Trout Unlimited is a conservation organization focused on the health of the Denver South Platte River. We are actively engaged in restoration, preservation, and protection of the river and the aquatic species it supports.

We are very much opposed to the addition of phosphates to the Denver Water Supply system when the alternatives committed to by Denver Water such as water filters and replacement of lead service lines will, with scientific certainty, provide the necessary protection from lead contamination. The orthophosphate treatment risks of unintended increased lead releases from destabilized pipes and phosphorus nutrient loading leading to toxic algae blooms is an unnecessary burden to put on our community and on our home river.

We fully support the Denver Water Lead Reduction Program of filters and accelerated lead service line replacement and urge a variance be granted by CDPHE to the Orthophosphate Requirement in order to implement their scientifically appropriate program while protecting our river environment from increased phosphates.

Sincerely

John Davenport
President, Denver Trout Unlimited
president@denvertu.org

David Nickum

Executive Director
Colorado Trout Unlimited

October 2, 2019

Denver Water
Attn: A. Woodrow, Lead Reduction Program
1600 W 12th Avenue
Denver, CO 80204



Dear Colleagues:

Colorado Trout Unlimited (CTU) is pleased to see Denver Water moving forward with its proposal for a lead reduction program as an alternative to systemwide use of orthophosphate. CTU is a Colorado non-profit organization with 12,000 members statewide including three chapters that include membership within Denver Water's service area. CTU is dedicated to the mission of conserving, protecting, and restoring Colorado's coldwater fisheries and watersheds, and works through advocacy, collaborative restoration projects, and education efforts.

Lead in drinking water is a vital public health concern, and while Denver Water's own system is lead-free, lead can get into the water of homes that have lead-containing plumbing and service lines. We believe Denver Water's proposed lead reduction program responsibly addresses this important issue through its accelerated plan to remove all lead service lines (at no charge to the customer) for homes within Denver Water's service area, to provide at-home water filters (at no charge to the customer) for all homes with suspected lead service lines, and increase pH levels in drinking water to reduce the likelihood of lead getting into water through those service lines.

Compared to the addition of orthophosphate to Denver Water's drinking water supplies, this lead reduction plan has two major advantages. First – it tackles the root cause of the problem – the continued existence of lead in service lines for older homes – rather than solely trying to address the symptom. Secondly, it addresses the problem of lead without creating a new pollution problem, as would happen with the use of orthophosphate which would elevate levels of phosphorous in area reservoirs, rivers and streams – some of which are already facing challenges from nutrient pollution. Our members and in particular our Denver Chapter have invested significant resources in restoration of metro-area waterways, creating important new environmental benefits to the community; increased phosphorous pollution puts those efforts at risk.

We appreciate Denver Water's thoughtful proposal for a variance that would allow it to tackle the public health issue of lead reduction head-on and without creating or worsening environmental health problems associated with a major new source of phosphorous in area watersheds. We support Denver Water's request and urge the lead reduction program be implemented as expeditiously as possible. Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink that reads "David Nickum".

David Nickum

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization

Colorado Office: 1536 Wynkoop St, Suite 320, Denver, CO 80202

PHONE: (303) 440-2937 EMAIL: dnickum@tu.org



Board of Water Works
of Pueblo, Colorado

319 W. 4th Street • P.O. Box 400 • Pueblo, Colorado 81002-0400 • 719/584-0250

October 1, 2019

Denver Water
Lead Reduction Program (Comment Letter)
1600 W. 12th Ave.
Denver, CO 80204

RE: Comment to Proposed Lead Reduction Plan for Denver Water

The Board of Water Works of Pueblo (Pueblo Water) is strongly in support of the Denver Water Optimal Corrosion Control Treatment (OCCT) variance request to the U.S. Environmental Protection Agency. Denver Water's proposed Lead Reduction Program Plan and the orthophosphate feed mandate from state health officials both have the same goal of reducing the risk of lead exposure in tap water for consumers that have lead plumbing and service lines. However, we believe Denver Water's approach outlined in the proposal will be *more* protective and in the long term in the *best* interest of public health and the environment.

Studies conducted by Denver Water over the past several years have demonstrated that their proposed plan (i.e. providing pH and alkalinity control, implementing an accelerated LSL removal rate, providing filters to homeowners with lead service lines and providing enhanced educational materials to customers) will reduce consumer lead exposure quickly, more efficiently and more holistically than the addition of orthophosphate alone over time.

In our opinion, adding orthophosphate to drinking water even in reduced amounts, has the strong potential to eventually degrade downstream watersheds and negatively affect water quality especially in Colorado lakes and streams which may not otherwise receive much phosphorous loading. We also believe that any increase in phosphorous concentrations in municipal wastewater influent has the potential to negatively impact municipal treatment works throughout the state which are facing increasingly stringent nutrient removal requirements.

It has been shown that phosphorous is the limiting and most important nutrient for algal growth in water supply reservoirs. Warming climates in Colorado coupled with higher nutrient loading of water supplies has the potential to *accelerate* harmful algal blooms. Beside the risk of

cyanotoxin production, higher algal presence and the additional organic matter caused by nutrient loading in source waters is directly related to an increase in disinfection by-products in the treated water. Water systems in Colorado have been encouraged to protect their source waters and adding phosphorous to raw water supplies runs counter to these protection efforts.

EPA corrosion control studies have proven that orthophosphate promotes scaling in the distribution system that isolates lead containing plumbing materials from corrosion. These studies also indicate however, that once these scales are formed, they are still subject to water quality fluctuations and can be easily disrupted. Water quality fluctuations or chemical feed changes (which may occur in the future due to source water quality changes or a new regulatory issue) could disturb the delicate nature of these scales and could impart higher particulate or dissolved lead into the consumers plumbing over time. It appears that once orthophosphate induced scales are established in a drinking water distribution system, the sequestered lead is still present in the scales and can still pose a future risk to consumers. In this regard, Denver Water's comprehensive plan appears to offer a safer alternative to reduce *long-term risk* of lead exposure for consumers.

The State's suggestion of adding orthophosphates to control corrosion is based on the Lead and Copper Rule (LCR) definition of OCCT that requires water systems to "minimize lead levels at the tap while insuring that the treatment does not cause the water system to violate any national primary drinking water regulation." The current prescriptive nature of the LCR does not consider cost, watershed impacts, nutrient loading or any other secondary impacts of OCCT, no matter how injurious the OCCT may be to the environment.

Denver Water's alternative proposal is the result of years of work and study in collaboration with state and federal health officials and regional stakeholders. We believe that Denver Water has successfully demonstrated that their plan will address corrosion concerns more efficiently than the state's recommended orthophosphate treatment mandate. Denver Water's plan has the added benefit of improving their distribution system by LSL removal, reducing short-term and long-term risk of lead exposure for consumers and addressing environmental degradation concerns by limiting nutrient loading. We urge you to approve their variance request.

Sincerely,



Don A. Colalancia
WQT&P Division Manager
Pueblo Water



September 30, 2019

FOUNDER
Joe Shoemaker

CHAIRMAN
Kip Stastny

VICE CHAIRMAN
Bar Chadwick

SECRETARY
Brent Applebaum

Jon Bridges
Sarah Dominick
Larry Elrod
Fabby Hillyard
John Moran
Katie Navin
Lesley Roper
Paula Sandoval
Pete West

EXECUTIVE DIRECTOR
Jeff Shoemaker

To Whom it May Concern:

The Greenway Foundation (TGF) is in full support of Denver Water's continued dedication to providing safe drinking water to the residents and businesses of Denver through their Lead Reduction Program. Denver Water's Lead Reduction Program is focused on an increased and accelerated effort to remove lead service lines and provide free on-site filtration devices to residences that have a known or suspected lead service line.

The Greenway Foundation is a Denver-based 501(c)(3) nonprofit organization that has led efforts, since 1974, to reclaim the South Platte River and its tributaries from a virtual cesspool to a place of environmental and recreational pride. TGF's newest initiative, The Water Connection (TWC), continues this mission by more closely focusing on water resources and water quality.

TWC is in full agreement with Denver Water that the Lead Reduction Program approach is far preferable than adding orthophosphates to drinking water systems which puts rivers and reservoirs at an increased risk of developing Harmful Algal Blooms (HABs). Colorado is already challenged by HABs as a water quality and public health problem, and we applaud Denver's Water's proposed solution to reduce lead without exacerbating the potential for HABs. The Lead Reduction Program will protect public health without negatively impacting the progress that has been made to improve the recreational and environmental health of the South Platte River, its tributaries, and our drinking water reservoirs.

The Lead Reduction Program includes multiple elements, the most essential of which involve:

- Developing a lead service line inventory so Denver Water's customers can investigate the likelihood of having a lead service line.
- Implementing a Filter Program, a program that would distribute filters to all homes with a known, suspected or possible lead service line, reducing lead by 97% or more.
- Implementing an accelerated lead service line replacement program that would replace the major source of lead decades ahead of the current rate of replacement: more than 60,000 lead service lines would be replaced within 15 years versus 50 years or more under current practices.
- Adjusting pH to reduce corrosion of lead service lines, household plumbing and fixtures.
- Enhancing the communications, outreach and education program to help customers understand the Lead Reduction Program and ways that they can reduce their exposure to lead.

In conclusion, TGF/TWC fully endorses Denver Water's request to the Environmental Protection Agency to grant a variance from the existing State mandate to add orthophosphates to drinking water by allowing the Lead Reduction Program to be enacted,



thereby providing a holistic and permanent approach that is as effective at protecting public health, more efficient in reducing lead exposure, less harmful to the environment, more equitable in its public health benefits and more cost-effective with fewer regional risks.

Sincerely,

Jeff Shoemaker
Executive Director
The Greenway Foundation

Devon Buckels, AICP
Director, The Water Connection
The Greenway Foundation

FOUNDER
Joe Shoemaker

CHAIRMAN
Kip Stastny

VICE CHAIRMAN
Bar Chadwick

SECRETARY
Brent Applebaum

Jon Bridges
Sarah Dominick
Larry Elrod
Fabby Hillyard
John Moran
Katie Navin
Lesley Roper
Paula Sandoval
Pete West

EXECUTIVE DIRECTOR
Jeff Shoemaker

Wheat Ridge Sanitation District

7100 West 44th Avenue, Suite 104 P.O. Box 288
Wheat Ridge, Colorado 80034-0288
Phone: 303-424-7252 Fax: 303-424-2280
info@wheatridgesanitation.com

September 30, 2019

Denver Water
Lead Reduction Program
1600 W. 12th Ave.
Denver, CO 80204

Submitted Via Electronic Mail:

jim.lochhead@denverwater.org; tom.roode@denverwater.org;
nicole.poncelet@denverwater.org

Re: Support for Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead, Mr. Roode and Ms. Poncelet-Johnson:

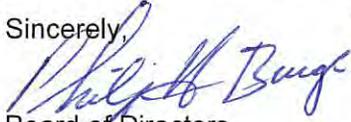
Wheat Ridge Sanitation District supports Denver Water's Lead Reduction Program Plan. As a member of the Metro Wastewater Reclamation District ("Metro District"), we have been following Denver Water's corrosion control issue closely because Denver Water and the Metro District are in the same water cycle. Some corrosion control strategies have impacts outside of the drinking water system, which would negatively impact our watershed and ratepayers. We are pleased to support the Lead Reduction Program Plan as Denver Water's corrosion control strategy because it maximizes protection of the public health of all citizens of the metro region, as well as protects the health of the South Platte River and the drinking water it supplies to many downstream communities.

The alternative option, to use large volumes of orthophosphate, would improve the protection of public health by reducing lead at the tap; however, would do so at the expense of public health and the environment downstream. In addition to the environmental water quality impacts that would result from the use of orthophosphate, this will also have socio-economic and public health impacts on our community. The significant new loading of phosphorus to the watershed would, at best, increase the cost to remove the phosphorus from wastewater and drinking water and may, at worst, preclude the use of the South Platte River as a drinking water source because of harmful algal blooms.

For these reasons, we support Denver Water's Lead Reduction Program Plan because it addresses the concerns of all regional stakeholders by promoting a path forward that comprehensively mitigates the impacts from the alternative option, orthophosphate, and maximizes overall protection of public health. It will accelerate removal of the majority of the lead service lines in the region which will effectively eliminate this public health concern from the region. And while corrosion control mechanisms play a vital role in protecting the public from lead and copper exposure in their tap water, these corrosion control strategies have impacts outside of the drinking water system. We appreciate that the Lead Reduction Program Plan will entirely mitigate the negative impacts that would have resulted from the use of orthophosphate. Because of these holistic benefits, we are in support of the Lead Reduction Program Plan.

Given the scarcity of water in our region, it is more important than ever that we make decisions today that will not endanger future generations' ability to use and enjoy this scarce resource.

Sincerely,

A handwritten signature in blue ink, appearing to read "Phillip H. Bunge". The signature is written in a cursive style with a large initial "P".

Board of Directors
Wheat Ridge Sanitation District



Sept. 27, 2019

To: Lead Reduction Program, lead@denverwater.org

RE: Comments on Denver Water's Lead Reduction Program Plan

To whom it may concern:

On behalf of the Denver Water Citizen's Advisory Committee (CAC), I am providing the following comments on Denver Water's final proposed Lead Reduction Program Plan submitted to the Environmental Protection Agency on Sept. 6. 2019.

The CAC is a 10-member volunteer committee that advises Denver Water staff and the Board of Water Commissioners on a variety of issues while encouraging and coordinating public participation in the water department's policy-making process. The committee has representation from Denver residents, suburban residents, the environmental community, the homebuilding association and West Slope residents.

The CAC recognizes that drinking water and public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We are aware that Denver Water has substantial evidence and rationale to support a Variance Request from the USEPA to employ the proposed Lead Reduction Program (LRP), as it provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. The CAC supports Denver Water's Variance Request.

Successful execution of the Lead Reduction Program Plan depends on support from many stakeholders located in the Denver metro area. Together we can achieve the goal of public health protection through reduced exposure to lead in drinking water.

Respectfully submitted on behalf of CAC,

Loretta Pineda
Chair, Denver Water CAC

Cc: Denver Board of Water Commissioners (dbwc@denverwater.org)



September 27, 2019

Jim Lochhead, Chief Executive Officer
Denver Water
1600 W. 12th Ave.
Denver, CO 80204

Re: Lead Reduction Program

Dear Mr. Lochhead:

Environmental Defense Fund (EDF) supports Denver Water's proposed "[Lead Reduction Program Plan](#)" as an innovative solution to a challenging problem. If approved as proposed, Denver Water's plan would fund full replacement of the estimated 64,000 lead service lines (LSLs) in their system within 15 years – thus removing the primary source of lead within Denver Water's system, while avoiding the use of orthophosphate that can further exacerbate nutrient pollution problems in the South Platte River and other downstream reservoirs, rivers, and streams. And Denver Water will go the extra step by providing filters certified to remove lead to residents with LSLs until the lines are replaced.

EDF's mission is to preserve the natural systems on which all life depends. We have more than two million members and a staff of 700 scientists, economists, policy experts, and other professionals around the world. Guided by science and economics, we find practical and lasting solutions to the most serious environmental problems. This has drawn us to areas that span the biosphere: climate, oceans, ecosystems and health. Our Health Program seeks to safeguard human health by reducing exposure to toxic chemicals and pollution, including accelerating lead service line replacement to reduce [lead in drinking water](#). Our Ecosystems Program works to increase the resilience of natural systems, including [reducing harmful nutrient pollution](#).

In our [previous comments](#), submitted to you on August 7, 2019, EDF recommended that Denver Water broaden the proposed Leadership Committee to include representatives of the communities with LSLs. We appreciate that the Denver Water's final proposed plan includes an Advisory Committee with expanded membership, including "[r]epresentatives from communities across Denver Water's integrated service area with specific focus on representation from underserved communities." Their engagement and guidance is crucial to the success of the effort. We also support the inclusion of environmental organizations and organizations that advocate for health equity and environmental justice.

Part of the program's success hinges on effectively protecting people with LSLs until the lines are replaced and lead levels reduced. While still ongoing, we are encouraged to see that preliminary results from the filter pilot demonstrated a 91% filter adoption rate for drinking water and a 60% filter adoption rate for cooking.



EDF supports Denver Water's proposed plan to fully replace LSLs within 15 years and avoid the use of orthophosphate treatment. Ultimately, EDF hopes that this type of resilient solution can be adopted and replicated elsewhere both to protect public health and prevent degradation of our natural systems.

Sincerely,

A handwritten signature in black ink that reads 'Tom Neltner'. The signature is written in a cursive style with a large, prominent 'T' and 'N'.

Tom Neltner, JD
Chemicals Policy Director

A handwritten signature in black ink that reads 'Brian Jackson'. The signature is written in a cursive style with a large, prominent 'B' and 'J'.

Brian Jackson, MA
Senior Manager, Western Water

ED PERLMUTTER
7TH DISTRICT, COLORADO



COMMITTEES:

RULES

RULES AND ORGANIZATION
OF THE HOUSE

FINANCIAL SERVICES

NATIONAL SECURITY,
INTERNATIONAL DEVELOPMENT
AND MONETARY POLICY
OVERSIGHT AND INVESTIGATIONS

SCIENCE, SPACE, AND
TECHNOLOGY

SPACE AND AERONAUTICS

WASHINGTON OFFICE:
1226 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
PHONE: (202) 225-2645
FAX: (202) 225-5278

DISTRICT OFFICE:
12600 WEST COLFAX AVENUE
SUITE B-400
LAKEWOOD, CO 80215
PHONE: (303) 274-7944
FAX: (303) 274-6455

www.perlmutter.house.gov

Congress of the United States House of Representatives

September 27, 2019

Administrator Andrew Wheeler
U.S. EPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460

RE: Denver Water Lead Reduction Program

Administrator Wheeler,

I am pleased to support Denver Water's Lead Reduction Program Plan submitted to the Environmental Protection Agency on September 6, 2019. Denver Water takes its responsibility to deliver safe drinking water to its residents seriously, and this plan will help deliver clean water to my constituents.

The water Denver Water delivers to homes and business is lead-free, but lead can still get into the water as it moves through contaminated plumbing and privately-owned service lines. Following years of study by Denver Water, state health officials recommended adding orthophosphate, a food additive, to the drinking water. After months of discussion with stakeholders and health officials at the state and federal level, Denver Water proposed an alternative to adding orthophosphate to water – the Lead Reduction Program Plan.

Denver Water's Lead Reduction Program Plan is supported by the Colorado Department of Health and Environment. It includes accelerating existing efforts to remove lead service lines in the Denver Water service area at no direct cost to residents, providing at-home water filters to residents with suspected lead service lines and raising the pH level of the drinking water to reduce the potential for lead to leach into the water.

Clean drinking water is important for the safety and health of our communities. I hope you give full and fair consideration to Denver Water's Lead Reduction Program Plan.

Sincerely,

Ed Perlmutter
Member of Congress

CC: Alexis Woodrow, Community Relations Specialist, Denver Water
Jill Hunsaker Ryan, Executive Director, Colorado Department of Public Health and Environment
Gregory Sopkin, Regional Administrator, U.S. EPA Region 8



Thornton City Hall
9500 Civic Center Drive
Thornton, CO 80229-4326

Office of the Mayor and City Council
303-538-7200
FAX 303-538-7562
ThorntonCO.gov

September 18, 2019

Greg Sopkin
U.S. EPA Region 8 (8RA)
1595 Wynkoop Street
Denver, CO 80202

RE: Denver Water's Lead Reduction Program Plan

Dear Administrator Sopkin:

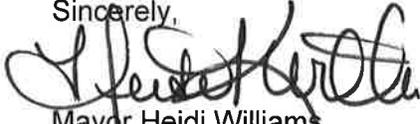
The city of Thornton strongly encourages the Environmental Protection Agency (EPA) approve the Denver Water's Lead Removal Program variance request to the Optimal Corrosion Control Treatment (OCCT) directed by the Colorado Department of Public Health and Environment (CDPHE) in 2018. This alternate proposal will protect Denver Water customers from lead exposure by removing the source of the lead – lead service lines. It will also help protect the South Platte River watershed from the detrimental effects of increased phosphorus loading that the OCCT would cause to a watershed already overloaded with phosphorus.

Denver Water's alternative lead removal proposal is a holistic and regional approach that would help to protect downstream water sources from increased harmful algal blooms (HABs) and eutrophication. In addition, this alternative program would help save the region's crucial public monies from being used to mitigate the addition of orthophosphate to Denver Water's drinking water. It is imperative that additional phosphorus loading to the South Platte River be avoided by approving Denver Water's proposed Lead Reduction Program variance request. Regulators and stakeholders in Colorado have worked extremely hard over the last 10 years to deal with nutrient overloading in the state. Denver Water adding orthophosphate to its drinking water could set the Denver region and downstream communities back in those efforts by potentially negating the upcoming reductions expected from CDPHE's Nutrient Regulation 85, which was adopted in 2012 by the Colorado Water Quality Control Commission.

The EPA has an opportunity to show strong leadership on this matter by approving Denver Water's variance request for its Lead Reduction Program alternative. This local matter highlights the crossing of two of the EPA's most recent priorities in the reduction of lead exposure in drinking water and the prevention of HABs. It is an unfair burden for Thornton residents to have to deal with an increased phosphorus load from orthophosphate added upstream of its drinking water sources while potentially having to share the cost of removal of parts of that load in its wastewater rates. This is exactly what will happen if the EPA declines Denver Water's OCCT variance request.

If you have any questions or concerns, please contact James Boswell, Water Quality Policy Manager at 303-255-7771.

Sincerely,

A handwritten signature in black ink, appearing to read "Heidi Williams". The signature is stylized and cursive.

Mayor Heidi Williams
City of Thornton

cc: Martin Kimmes, Water Treatment & Quality Manager
James Boswell, Water Quality Policy Manager



Cherry Creek Basin Water Quality Authority
8390 East Crescent Parkway, Suite 300
Greenwood Village, Colorado 80111
303.779.5710
cherrycreekbasin.org

Nancy Sharpe
Arapahoe County

September 18, 2019

Abe Laydon Douglas
County

Greg Sopkin
United States Environmental Protection Agency Region 8
(8RA) 1595 Wynkoop Street
Denver, CO 80202

Francoise Bergan
City of Aurora

Caryn Johnson
Town of Castle Rock

Stephanie Piko
City of Centennial

Judy Hilton
Greenwood Village

Joshua Rivero
Town of Parker

Luis Tovar
Special Districts

Bill Ruzzo
Governor's Appointee

Myrna Poticha
Governor's Appointee

Roger Kilgore
Governor's Appointee

John A. McCarty
Governor's Appointee

Alan Milan Vajda
Governor's Appointee

Christopher Lewis
Governor's Appointee

John Woodling
Governor's Appointee

Dear Mr. Sopkin:

The Cherry Creek Basin Water Quality Authority (CCBWQA) encourages the United States Environmental Protection Agency (EPA) to approve the variance requested by Denver Water, related to the Requirements Change Notice issued by the Colorado Department of Public Health and Environment (CDPHE) on March 20, 2018, in which CDPHE directed Denver Water to add orthophosphate to its drinking water as the optimal corrosion control treatment. **CCBWQA believes Denver Water's variance request and proposed treatment program is fully consistent with Colorado Primary Drinking Water Regulations and Federal Lead and Copper Rules and Regulations, and better addresses the full breadth of public health and environmental impacts created by the addition of orthophosphate.**

While there are technical reasons that cause CCBWQA to support the variance, some of which are on the next page, CCBWQA sees four overarching themes:

1. The variance meets public health goals for lead and hastens Denver Water's ability to more quickly address the source issue: removing lead service lines.
2. The financial implications of (1) adding orthophosphate at the water plants, (2) removing it during wastewater treatment and (3) attempting to control its impact on the environment while not addressing the lead source is poor public policy
3. CCBWQA works diligently to remove and control phosphorus as part of our mission: the 3/20/18 directive works in direct opposition to this effort;
4. As Colorado's front-range continues to grow and reliance on water reuse and reclamation becomes more important, managing the additional phosphorus in our water resources will be a challenge.

CCBWQA has appreciated that CDPHE's Water Quality Control Division created an OCCT (lead) Stakeholder Process. The stakeholder process, which has been actively introducing and studying the full breadth of public health and environmental impacts of the directive for the past year, has shown that Denver Water can meet the public health needs with their proposed corrosion control treatment and reduce environmental and financial impacts created by the original directive.

Denver Water's proposed program has three components, which include:

- Increasing the pH level, which reduces the corrosiveness of the water.
- Providing at-home water filters for all customers in Denver Water's service area with a suspected lead service line, free of charge.

- Replacing the estimated 50,000 to 90,000 lead service lines with copper lines in Denver Water's service area at no charge to the customer over the next 15 years.

The last component is critical. As evident in communities that are challenged by lead in their drinking water, the best solution is addressing the problem as quickly as possible and not relying on operational fixes. As the initial lead violation occurred in 2012, 7 years ago. Denver Water's commitment to remove all lines within 15 years is laudable and deserves support.

In Colorado's arid environment the introduction of orthophosphate creates a multitude of financial and environmental issues that were not considered when the original directive was issued, including:

- Wastewater Treatment Facilities (WWTF) will likely need to upgrade treatment capabilities to remove the additional orthophosphate to meet State discharge standards. Many WWTFs are currently required to remove phosphorus from their effluent to levels as low as 0.05 mg/L under Colorado Control Regulations, a pollutant control program developed by Colorado, yet not mandated by the EPA.
- Certain landscaping is dependent on irrigation in Denver Water's service area and with irrigation comes over-watering and lawn irrigation return flows. As orthophosphate is readily available for algal growth, CCBWQA expects to see more algal growth directly related to the initial directive to add orthophosphate.
- During this time period of increased phosphorous releases, there could be:
 - Increased potential for Harmful Algal Blooms.
 - Downstream taste and odor issues that will need to be addressed by other water providers.
- The possible impairment or loss of beneficial uses in Cherry Creek Reservoir due to accelerated eutrophication challenges CCBWQA's mission to meet State and National requirements under the Clean Water Act.

CCBWQA was created by the Colorado Legislature in 1988 to benefit the public by improving, protecting, and preserving water quality in Cherry Creek and Cherry Creek Reservoir for recreation, fisheries, water supplies, and other beneficial uses. The Authority also provides for effective efforts by counties, municipalities, special districts, and landowners within the basin in the protection of water quality; ensures that new developments and construction activities pay their equitable share of costs for water quality preservation and facilities; and promotes public health, safety, and welfare.

Once again, the CCBWQA encourages your support of Denver Water's variance request as it better meets the full breadth of public health issues surrounding this issue.

Sincerely,



Joshua Raymond Rivero
Chairman



1130 Connecticut Ave NW
Suite 1050
Washington DC 20036

T (202) 833-2672
F (888) 267-9505
www.nacwa.org

EXECUTIVE
COMMITTEE

PRESIDENT

John P. Sullivan
Chief Engineer
Boston Water &
Sewer Commission
Boston, MA

VICE PRESIDENT

Terry Leeds
Director
KC Water
Kansas City, MO

TREASURER

Kishia L. Powell
Commissioner
City of Atlanta
Department of
Watershed Management
Atlanta, GA

SECRETARY

Thomas W. Sigmund
Executive Director
NEW Water
Green Bay, WI

PAST PRESIDENT

Mark S. Sanchez
Executive Director
Albuquerque-Bernalillo
County Water
Utility Authority
Albuquerque, NM

CHIEF EXECUTIVE
OFFICER

Adam Krantz

September 18, 2019

David Ross
Assistant Administrator
Office of Water

U.S. Environmental Protection Agency 1200 Pennsylvania Ave., N.W.
Mail Code: 4101M
Washington, D.C. 20460

Submitted Via Electronic Mail: ross.davidp@epa.gov

Re: Support for Denver Water's variance related to optimal corrosion control treatment

Dear Assistant Administrator Ross:

The National Association of Clean Water Agencies (NACWA) writes this letter in support of Denver Water's recommendation to (1) undertake pH buffering coupled with accelerated lead service line replacement and point-of-use filtration and (2) fulfill its requirement to implement optimal corrosion control through a variance.

NACWA is the leading nonprofit advocacy association representing the interests of publicly owned wastewater and stormwater utilities across the United States, with over 300 members nationwide. The intersection between the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA) is a dominant factor in many of NACWA's current advocacy priorities, demonstrating the importance of managing water holistically. Perhaps the most pressing example of this intersection/conflict is the use of orthophosphate as optimized corrosion control to reduce lead exposure, and the ways in which requirements imposed on public water systems (PWSs) can negatively impact publicly owned treatment works (POTWs) and downstream communities.

NACWA supports and strongly advocates for the protection of public health from potential lead exposure in drinking water. Corrosion control plays a vital role in this protection. However, because corrosion control methods have impacts outside the drinking water system, this issue must be addressed through the lens of a holistic, one water approach that cuts across both the SDWA and the CWA.

Requiring PWSs to begin the use of or increase the dosage of phosphorus-based corrosion inhibitors when other options exist, while at the same time requiring wastewater plants to meet stringent effluent limits for phosphorus, is emblematic of the kind of siloed thinking that has no place in solving today's complex one water challenges.

Around the country, nutrient pollution is degrading surface water quality. Driven by excess nutrients from point and nonpoint source contributors, communities are witnessing an increase in eutrophication, algal blooms, and subsequent hypoxic zones, all of which can have detrimental environmental and economic impacts. In some areas and situations, algal blooms can lead to the production of cyanotoxins that have the potential to negatively impact public health. POTWs across the nation are working to address excess nutrient loading by implementing more advanced wastewater treatment processes to reduce the amount of phosphorus and nitrogen that enters surface waters from their systems. But regulators must acknowledge their role in facilitating rather than hindering these efforts. In arid regions it is especially critical that state and federal regulators adequately consider the source water, water quality, and water uses before determining the appropriate approach.

The variance approach recommended by Denver Water and supported by Denver Metro Wastewater Reclamation District will provide the greatest overall protection of public health. Conversely, the alternative option – adding large volumes of orthophosphate -will have negative impacts on the Denver Metro region. The significant new loading of phosphorus to the watershed would, at best, increase the cost to remove the phosphorus from wastewater and drinking water and may, at worst, preclude the use of the South Platte River as a drinking water source because of harmful algal blooms. Additionally, Denver metro ratepayers would bear the cost of removing the phosphorus from regional wastewater.

It is vital that regulatory bodies at the state and national levels take seriously the recommendations of municipal water and wastewater system leaders who are closest to the issue and committed to providing exceptional service to their communities; especially when the water and wastewater leaders arrive at a collaborative decision, as in this case, to maximize public health and environmental benefits. Denver Water's recommendation is the best solution to protect the health of all citizens of the Metro region, as well as protect and improve the health of the South Platte River and the drinking water it supplies to many downstream communities.

For these reasons, we support Denver Water's variance request because it addresses the concerns of all regional stakeholders by promoting a path forward that comprehensively mitigates the impacts of the alternative option and maximizes overall protection of public health and the environment. We further support the variance because it will accelerate removal of the majority of lead service lines in the region, which will effectively eliminate this public health concern from the region.

We hope you see the unique opportunity this challenge presents for CDPHE, EPA Region 8, and EPA's Offices of Ground Water and Drinking Water, Science and Technology, and Wastewater Management to work collaboratively and in a coordinated manner to address the problem holistically.

Sincerely,



Adam Krantz
Chief Executive Officer

cc:

Mickey Conway, District Manager, Metro Wastewater Reclamation District
Jim Lochhead, CEO/Manager, Denver Water
Greg Sopkin, Regional Administrator, EPA Region 8
Andrew Sawyers, Director, Office of Wastewater Management, EPA
Jennifer McLain, Acting Director, Office of Ground Water and Drinking Water, EPA
Deborah Nagle, Director, Office of Science and Technology, EPA
Patrick Pfaltzgraff, Division Director, Water Quality Control Division, CDPHE
Nicole Rowan, Clean Water Program Manager, Water Quality Control Division, CDPHE
Ron Falco, Safe Drinking Water Manager, Water Quality Control Division, CDPHE

WILLOWBROOK

Water and Sanitation District

RECEIVED

SEP - 9 2019

Manager's Office
Board of Water Commissioners

September 4, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, CO 80204

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

The Board of Directors of the Willowbrook Water and Sanitation District has reviewed the letter written to you in July about the lead Reduction Program Plan by the Platte Canyon Water and Sanitation District. They have asked that I confirm to you their agreement with the terms of that letter.

Willowbrook Water & Sanitation District


Eric Byrd, Manager

Meadowbrook Water District

9850B W. Girton Dr., Lakewood, CO 80227

303-972-2054

September 4, 2019

RECEIVED

SEP - 9 2019

**Manager's Office
Board of Water Commissioners**

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, CO 80204

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

The Board of Directors of the Meadowbrook Water District has reviewed the letter written to you in July about the lead Reduction Program Plan by the Platte Canyon Water and Sanitation District. They have asked that I confirm to you their agreement with the terms of that letter.

Meadowbrook Water District


Eric Byrd, Manager



August 15, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

RE: Support Letter for Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

On behalf of the Board of Directors of the South Adams County Water and Sanitation District (District), I am writing this letter of support to Denver Water's requested variance to the USEPA and CDPHE for its proposed Lead Reduction Program Plan.

As a Distributor of Denver Water, the District appreciates the opportunity to provide this letter of support. In addition to being a Distributor, the District and Denver Water have an agreement for 4K water that allows the District to take treated Denver water supplies at three locations (56th and Quebec, 72nd and Tower Road and 114th and Newbern St). As a Distributor and a recipient of OCSA water resources, the District believes that the best solution for its customers is Denver Water's proposed variance to perform pH adjustment in conjunction with the replacement of lead service lines within Denver Water's service area. We believe that avoiding the addition of orthophosphate to its water will have a more positive long-term impact to our customers and the South Platte River watershed as a whole.

Although we have concerns on how the cost will be distributed to us as Distributor and OCSA customers, we believe that Denver Water will be fair and equitable in its expectation for cost recovery of this unique, "out-of-the-box" solution. We would encourage Denver Water to consider a "Corrosion Control Fee" versus the incorporation of the corrosion control costs into the rate structure. This would allow Denver Water to do away with the fee at the end of the 15 year period and rates would then return to more standard inflationary levels.

We look forward to working with Denver Water on the best possible option that may impact the District. Please do not hesitate to contact me by phone at 720-206-0511 or by e-mail at jjones@sacwsd.org.

Sincerely,

A handwritten signature in blue ink that reads "Jim Jones".

Jim Jones
District Manager

cc: SACWSD Board of Directors
Denver Water Lead Reduction Program (lead@denverwater.org)
Julie Seagren, Denver Water Distributor Relations Manager



Southwest Suburban Denver Water & Sanitation District

August 6, 2019

RECEIVED

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

AUG 14 2019

Manager's Office
Board of Water Commissioners

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

The Board of Directors of the Southwest Suburban Denver Water and Sanitation District (the "District"), submit the following comments on Denver Water's draft Lead Reduction Program Plan (dated July 11, 2019).

The District recognizes that drinking water and public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We understand that Denver Water will prove to the USEPA that the proposed Lead Reduction Program provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. If this is confirmed by the USEPA and CDPHE, the District will support Denver Water's Variance Request if the following changes are made to the final LRP Plan that is expected to be submitted to the USEPA in August of this year:

Commit to an equitable distribution of the costs associated with the LRP Plan – The District understands there will be an extensive public input process over the next year to determine the appropriate allocation of costs associated with execution of the LRP Plan. However, the District requests an immediate commitment by Denver Water to an equitable distribution of those costs. We define equitable distribution to be an allocation of costs based upon the confirmed percentage of LSLs in the entire distributor network without the traditional multiplier applied to those costs. The distributor customers should not be required to subsidize the cost of replacing LSLs located within the City and County of Denver, which is where the vast majority of the LSLs are located (according to the current LSL inventory). We believe our customers would raise objections to Denver Water if the cost of LSL replacement was distributed in any other way but as stated above. As Denver Water does not share in the cost of maintaining our customer's private systems, neither should the distributor customers be required to do that for inside City customers.

Commit to the addition of a distributor representative on the LRP Leadership Committee – In the LRP Plan, Section III.F (Learning by Doing) outlines the approach to the formation and

operation of an LRP Leadership Committee. The District supports the formation of this committee as an oversight entity that will guide the LRP through execution. However, we are concerned that the distributors are not represented on that committee, especially given that 50% of the 1.4 million people who rely on Denver Water do so through a distributor. Although current indications are that only 5% of those people have a lead service line, many more may be impacted by the LSL inventory process, the Filter Program, or even ongoing communications about the LRP. Therefore, the District requests that, as the LRP Leadership Committee “invites other stakeholders to be members, such as representatives from watershed groups, wastewater dischargers, and public health agencies” (as stated on page 72), the Distributor Forum is allocated one representative to that Committee. In addition to participating on the Committee and working collaboratively towards the LRP Plan goals, this representative would also liaise between Denver Water and the distributors, ensuring continued support from that group and working to resolve any issues that may arise during the execution of the LRP.

In conclusion, the District reiterates the need for Denver Water to revise the LRP Plan to incorporate the requests outlined in this letter. The District will support the variance request and work collaboratively with Denver Water if these requests are incorporated into the final version of the LRP Plan. Successful execution of the LRP Plan depends on support from the distributor community as well as many other stakeholders located in the Denver metro area. Together we can achieve the goal of removing LSLs in our communities and significantly impacting public health protection through reduced exposure to lead in drinking water.

Should you have any questions or concerns about this letter, please contact the District’s Manager, Judy Simonson at (303) 674-3379, ext. 201 or jcs@jsimonson.com

Sincerely,

Southwest Suburban Denver Water and Sanitation District
Board of Directors



Chris Veesaert, Chairman

cc: Judy Simonson, District Manager
Denver Water Lead Reduction Program (lead@denverwater.org)
Julie Seagren, Denver Water Distributor Relations Manager
(julie.seagren@denverwater.org)



RECEIVED

August 6, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

AUG 14 2019

Manager's Office
Board of Water Commissioners

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

The Board of Directors of the Grant Water and Sanitation District (the "District") submit the following comments on Denver Water's draft Lead Reduction Program Plan (dated July 11, 2019).

The District recognizes that drinking water and public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We understand that Denver Water will prove to the USEPA that the proposed Lead Reduction Program provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. If this is confirmed by the USEPA and CDPHE, the District will support Denver Water's Variance Request if the following changes are made to the final LRP Plan that is expected to be submitted to the USEPA in August of this year:

Commit to an equitable distribution of the costs associated with the LRP Plan – The District understands there will be an extensive public input process over the next year to determine the appropriate allocation of costs associated with execution of the LRP Plan. However, the District requests an immediate commitment by Denver Water to an equitable distribution of those costs. We define equitable distribution to be an allocation of costs based upon the confirmed percentage of LSLs in the entire distributor network without the traditional multiplier applied to those costs. The distributor customers should not be required to subsidize the cost of replacing LSLs located within the City and County of Denver, which is where the vast majority of the LSLs are located (according to the current LSL inventory). We believe our customers would raise objections to Denver Water if the cost of LSL replacement was distributed in any other way but as stated above. As Denver Water does not share in the cost of maintaining our customer's private systems, neither should the distributor customers be required to do that for inside City customers.

Commit to the addition of a distributor representative on the LRP Leadership Committee – In the LRP Plan, Section III.F (Learning by Doing) outlines the approach to the formation and operation of an LRP Leadership Committee. The district supports the formation of this committee

Jim Lochhead

Page 2

as an oversight entity that will guide the LRP through execution. However, we are concerned that the distributors are not represented on that committee, especially given that 50% of the 1.4 million people who rely on Denver Water do so through a distributor. Although current indications are that only 5% of those people have a lead service line, many more may be impacted by the LSL inventory process, the Filter Program, or even ongoing communications about the LRP. Therefore, the District requests that, as the LRP Leadership Committee “invites other stakeholders to be members, such as representatives from watershed groups, wastewater dischargers, and public health agencies” (as stated on page 72), the Distributor Forum is allocated one representative to that Committee. In addition to participating in the Committee and working collaboratively towards the LRP Plan goals, this representative would also liaise between Denver Water and the distributors, ensuring continued support from that group and working to resolve any issues that may arise during the execution of the LRP.

In conclusion, the District reiterates the need for Denver Water to revise the LRP Plan to incorporate the requests outlined in this letter. The District will support the variance request and work collaboratively with Denver Water if these requests are incorporated into the final version of the LRP Plan. Successful execution of the LRP Plan depends on support from the distributor community as well as many other stakeholders located in the Denver metro area. Together we can achieve the goal of removing LSLs in our communities and significantly impacting public health protection through reduced exposure to lead in drinking water.

Should you have any questions or concerns about this letter, you can reach the District’s Manager, Judy Simonson, at (303) 674-3379, ext. 201 or jcs@jsimonson.com

Sincerely,

Grant Water and Sanitation District Board of Directors



Michael Cowan, Chairman

cc: Judy Simonson, District Manager
Denver Water Lead Reduction Program (lead@denverwater.org)
Julie Seagren, Denver Water Distributor Relations Manager
(julie.seagren@denverwater.org)



August 1, 2019

RECEIVED

AUG 08 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

Manager's Office
Board of Water Commissioners

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

On behalf of the Board of Directors of the Lakehurst Water and Sanitation District, I submit the following comments on Denver Water's draft Lead Reduction Program (LRP) (dated July 11, 2019).

Lakehurst recognizes that drinking water and public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We are hopeful that Denver Water will prove to the USEPA that the proposed Lead Reduction Program (LRP) provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. If this is confirmed by the USEPA and CDPHE, Lakehurst will support Denver Water's Variance Request, with the understanding that the total cost for the replacement of known private lead service lines will be shared equitably and not in a way that causes those water suppliers who have no lead service lines to subsidize those that do. Specifically, Denver Water should be responsible for a significant portion of the cost of the replacement of all private LSL inside the city and not expect suburban customers to pay a disproportionate share of these costs.

Lakehurst understands there will be an extensive public input process over the next year to determine the appropriate allocation of costs associated with execution of the LRP. However, the District requests an immediate commitment by Denver Water to distribute those costs among the systems that have the Lead Service Lines (LSLs) and not to those that have certified they have no LSLs in their system. Lakehurst customers should not be required to subsidize the cost of replacing LSLs located within the City and County of Denver or other Distributor areas thru rate increases.

We have been told that the vast majority of the private LSLs are located in the City and County of Denver. **Lakehurst has verified there are NO lead service lines in our service area.** We know our

customers will raise significant concerns to Denver Water if the cost of LSL replacement is distributed in any other way but as stated above. As Denver Water does not share in the cost of maintaining our customer's private systems, neither should the distributor customers be required to do that for inside City customers.

In addition to the foregoing cost allocation issues, Lakehurst believes that the success of the LRP outside the City will be greatly enhanced if there is increased collaboration with distributors regarding the development and execution of the communication and outreach plans aimed at outside city customers. For that reason, Lakehurst supports the comments made by the Platte Canyon Water and Sanitation District regarding increased collaboration.

In conclusion, Lakehurst intends to support the variance request and work collaboratively with Denver Water, and for that reason, we would request that the foregoing comments are addressed in connection with the final version of the LRP Plan submitted to the USEPA and CDPHE. Successful execution of the LRP Plan depends on support from the distributor community as well as many other stakeholders located in the Denver metro area.

Should you have any questions about this letter, I can be reached at the number listed at the bottom of the first page, or at www.manager@lakehurstwater.org.

Sincerely,



Steve Daldegan
District Manager
Lakehurst Water & Sanitation District

cc: Mr. Dave Bane, Chair of the District Board of Directors
Denver Water Lead Reduction Program (lead@denverwater.org)
Julie Seagren, Denver Water Distributor Relations Manager (julie.seagren@denverwater.org)



August 7, 2019

Jim Lochhead, Chief Executive Officer
Denver Water
1600 W. 12th Ave
Denver, CO 80204

RE: LEAD REDUCTION PROGRAM PLAN — July 11, 2019 Draft for Public Comment

Dear Mr. Lochhead:

Clean Water Action appreciates the opportunity to comment on Denver Water’s Lead Reduction Program Plan. For over forty years, Clean Water Action’s national water programs have focused on addressing threats to drinking water and water quality by winning strong water pollution controls, including through Safe Drinking Water Act (SDWA) and Clean Water Act implementation. We also pioneer innovative collaborations to support fundamental changes in how water pollution and drinking water challenges are approached.

Clean Water Action strongly supports Denver Water’s commitment to seek an alternative to orthophosphate that will achieve the same or greater reduction in lead exposure risk for its customers. Denver Water’s proposal is an innovative approach to address unintended consequences of orthophosphate treatment, and if approved as proposed and carried out successfully, will provide a greater benefit to public health and the environment.

Our comments below highlight what we consider the greatest strengths of Denver Water’s plan and we also offer some recommendations for the utility to consider as it continues to revise and refine its plan.

Plan Strengths

Goes after the source of lead instead of just treating the symptoms: Fully replacing all known lead service lines in Denver Water’s service area within 15 years will permanently eliminate the largest source of lead in drinking water from its service area. The most effective and sustainable way to limit exposure to lead in drinking water is to remove lead at the source, which, for lead in drinking water, means fully replacing all lead service lines.

Provides health protection while customers wait to have service lines replaced: To address concerns that some residents may have to wait up to 15 years to have their lead service lines replaced, Denver Water will provide filters that reduce lead by 97 percent for all customers with lead service lines until six months after their lead service line is replaced.

Focuses on health equity and environmental justice: By replacing lead service lines at no-cost to the property owner, all Denver Water customers with lead service lines will have equal access to the health benefits of full lead service line replacement, regardless of their ability—or their landlord’s ability—to pay.

Prioritizes protecting the most vulnerable: Infants and children are among the most vulnerable to lead exposure and Denver Water will work to identify daycare centers, schools, and areas with young families in order to prioritize these vulnerable populations for filter distribution and lead service line replacement.

Protects water quality and the environment: An unintended consequence of orthophosphate treatment is that its use can threaten water quality in nearby surface waters by increasing phosphorus levels that can harm fish, wildlife, recreational users, and downstream water systems. The Lead Reduction Program avoids this unintended consequence by preventing the introduction of an additional source of phosphorus into rivers, streams, and reservoirs.

Recommendations

Ensure an effective filter program for all participants: Denver Water’s Filter Lead out of Water (FLOW) pilot outreach project was limited to owner-occupied single family homes. As Denver Water refines its FLOW program based on the results of that pilot, it will be important to consider how renters, especially renters in large, multi-family dwelling units, could have lower filter adoption rates due to occupancy turnover and other factors. Denver Water should also consider how to ensure daycare centers, schools, and other places serving populations most vulnerable to lead exposure are using filters properly.

Enhance school outreach programs: A robust education and outreach program to reach all customers impacted by lead in drinking water is critical to the success of the proposed Lead Reduction Program. Denver Water should expand on its existing lead reduction education outreach program in schools, including both public and private schools.

Address concerns over potential rate increase: Though as currently proposed there will be no cost to individual property owners whose lead service lines are replaced, there is the potential for a customer rate increase. As Denver Water completes its cost analysis for this program, it should consider how any potential rate increase could impact low-income customers and consider options for those who may be unable to absorb even a modest rate increase. Denver Water should communicate to its customers about any potential rate increases early on in the Lead Reduction Program.

Include messaging on regional water quality benefits in enhanced communications, outreach, and education plan: High rates of customer participation, especially in the FLOW program, are critical to the success of the Lead Reduction Program. Educating customers on the environmental benefits of keeping new sources of phosphorus out of regional streams, rivers, and reservoirs could increase willingness of some customers to participate in the program.

Include impacted community member(s) on Leadership Committee: It is critical that those most impacted by lead service lines have a voice at the table along with Denver Water, CDPHE, EPA, and other stakeholders. Community buy-in is vital to the success of this program, and we are concerned the

program may not be successful without meaningful inclusion of community members in decision making.

Clean Water Action is committed to working with Denver Water and other stakeholders to ensure the success of a Lead Reduction Program that protects public health and the environment. Protecting all of our communities from lead must be a top priority, and it is also critical to continue making progress toward reducing nutrient pollution in our rivers, streams, and reservoirs.

Sincerely,



Jennifer Peters
National Water Programs Director
Clean Water Action/Clean Water Fund
jpeters@cleanwater.org



August 7, 2019

To: Lead Reduction Program, lead@denverwater.org

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Lead Reduction Program Staff,

On behalf of the Denver Water Citizen's Advisory Committee (CAC), I submit the following comments on Denver Water's draft Lead Reduction Program Plan (dated July 11, 2019).

The CAC recognizes that drinking water and public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We are aware that Denver Water has substantial evidence and rationale to support a Variance Request from the USEPA to employ the proposed Lead Reduction Program (LRP), as it provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. The CAC supports Denver Water's Variance Request.

On this matter, the CAC further advises that Denver Water:

- Commit to an equitable distribution of LRP costs and an early adoption of guiding principles to be applied in determining how costs will be distributed. Such guiding principles could include having property owners primarily responsible, not applying the cost adder for LRP costs for outside of City rate setting, seeking other sources of funding/financing, etc.
- Expand the LRP Leadership Committee to include representation from Water Distributors and outside of City Total Service Customers.
- Continue to coordinate an extensive communication plan with all customer classes.

Successful execution of the LRP Plan depends on support from many stakeholders located in the Denver metro area. Together we can achieve the goal of public health protection through reduced exposure to lead in drinking water.

Respectfully submitted on behalf of CAC,

Loretta Pineda
Chair, Denver Water CAC



August 7, 2019

Sent by email only

Jim Lochhead, Chief Executive Officer
Denver Water
1600 W. 12th Ave.
Denver, CO 80204

Re: Lead Reduction Program

Dear Mr. Lochhead:

Environmental Defense Fund (EDF) supports Denver Water's proposed "[Lead Reduction Program Plan](#)" as an innovative solution to a challenging problem. If approved as proposed, Denver Water's plan would fund full replacement of the estimated 75,000 lead service lines (LSLs) in their system within 15 years – thus removing the primary source of lead within Denver Water's system, while avoiding the use of orthophosphate that can further exacerbate nutrient pollution problems in the South Platte River and other downstream reservoirs, rivers, and streams. And Denver Water will go the extra step by providing filters certified to remove lead to residents with LSLs until the lines are replaced.

EDF's mission is to preserve the natural systems on which all life depends. We have more than two million members and a staff of 700 scientists, economists, policy experts, and other professionals around the world. Guided by science and economics, we find practical and lasting solutions to the most serious environmental problems. This has drawn us to areas that span the biosphere: climate, oceans, ecosystems and health. Our Health Program seeks to safeguard human health by reducing exposure to toxic chemicals and pollution, including accelerating lead service line replacement to reduce [lead in drinking water](#). Our Ecosystems Program works to increase the resilience of natural systems, including [reducing harmful nutrient pollution](#).

Moving forward, EDF recommends that Denver Water broaden the proposed Leadership Committee to include representatives of the communities with LSLs. Their engagement and guidance is crucial to the success of the Program. Their absence may undermine the Committee's credibility and effectiveness.

Ultimately, EDF hopes that this type of resilient solution can be adopted and replicated elsewhere both to protect public health and prevent degradation of our natural systems.

Sincerely,

A handwritten signature in black ink that reads "Tom Neltner". The signature is written in a cursive, slightly slanted style.

Tom Neltner, JD
Chemicals Policy Director

A handwritten signature in black ink that reads "Brian Jackson". The signature is written in a cursive, slightly slanted style.

Brian Jackson, MA
Senior Manager, Western Water



William J. "Mickey" Conway, District Manager

August 7, 2019

Mr. Jim Lochhead, Chief Executive Officer/Manager
Mr. Tom Roode, Chief of Operations and Maintenance
Ms. Nicole Poncelet-Johnson, Water Treatment and Quality Manager
Denver Water
1600 West 12th Avenue
Denver, CO 80204

Submitted Via Electronic Mail:

jim.lochhead@denverwater.org; tom.roode@denverwater.org; nicole.poncelet@denverwater.org

Re: Denver Water's Lead Reduction Program

Dear Mr. Lochhead, Mr. Roode, and Ms. Poncelet-Johnson:

Thank you for the opportunity to comment on Denver Water's Lead Reduction Program. The Metro Wastewater Reclamation District (Metro District or District) strongly supports this Lead Reduction Program. As you know, the Metro District provides wastewater treatment and resource recovery services to more than two million people in the Denver metropolitan area. As a national model tailored to the unique needs of the arid west, this Program will permanently, holistically, and sustainably address lead in Denver Water's service area without adversely affecting downstream communities and the South Platte River watershed. This collaborative and innovative program provides protection to the District's 62 public and corporate connectors, and it has the full support of our Board of Directors representing 22 of the largest municipal entities in the metro area.

Central to this solution is the alignment of two important public health concerns—lead in drinking water and nutrients in watersheds. Since 2017, the Metro District, Denver Water, and several regional partners have worked collaboratively to develop and advocate for a solution that will protect Denver Water's customers at the tap from lead, while also protecting the public health of downstream communities and maintaining the health of the South Platte River watershed from the adverse effect of nutrients.

The Metro District supports the Lead Reduction Program presented by Denver Water because the Program:

- **Is expected to reduce lead at the tap within its service area to below 5 parts per billion (ppb) for all customers and for many customers to non-detect levels¹; and**
- **Will eliminate the use of orthophosphate as a corrosion control inhibitor, which will avoid adverse effects to downstream communities and the watershed.**

¹ Figure 18 on page 39 of the Lead Reduction Program Plan demonstrates the Lead Reduction Program will reduce concentrations at the tap more effectively than the addition of orthophosphate.

The alternative to the Lead Reduction Program includes the use of a phosphorus-based chemical called orthophosphate as a corrosion control inhibitor. The alternative would adversely affect the public health of downstream communities and the health of the watershed by significantly increasing point and non-point phosphorus pollution in the South Platte River watershed. The following table shows the additional phosphorus loads that would result from the use of orthophosphate.

Orthophosphate Loadings

Total Loading		Year 2020	Year 2030	Year 2040	Year 2050
Average Daily Water Provided by Denver Water	MGD ¹	170	199	214	214
Percent Outdoor Use	Percent	40	40	40	40
Percent Indoor Use	Percent	60	60	60	60
Outdoor Average Daily Water Use	MGD	69	80	86	86
Indoor Average Daily Water Use	MGD	101	119	128	128
Total Annual Added Phosphorus Load from All Water Provided by Denver Water ²	Pounds as Phosphorus	505,603	591,555	637,060	637,060

¹ Million gallons per day

² Based on Denver Water's Optimal Corrosion Control Technique (OCCT) result showing an orthophosphate dose of 3 milligrams per liter (mg/L)

This would be a significant new source of phosphorus pollution in the South Platte River watershed. Over the last 18 months, the region has been working with Denver Water to find an alternative solution that will avoid or minimize this new source of phosphorus pollution because the region recognizes that reducing nutrient pollution is also important for public health and the environment in the region. For decades, the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) have recognized that too much nitrogen or phosphorus in the environment produce more algae than the ecosystem can handle, resulting in environmental and human health issues.

National and State Frameworks to Reduce Nutrients

The EPA has conducted extensive research on nutrients, which is available on its website. The EPA website² explains the science concerning nutrient pollution and includes the following statements:

- **Nutrient pollution** is one of America's most widespread, costly and challenging environmental problems, and is caused by excess nitrogen and phosphorus in the air and water.
- **Too much nitrogen and phosphorus** in the water can have diverse and far-reaching impacts on public health, the environment, and the economy.
- **Excess nutrients can cause harmful algal blooms (HABs)** in freshwater systems, which not only disrupt wildlife but can also produce toxins harmful to humans.
- **Harmful algal blooms sometimes create toxins** that are detrimental to fish and other animals....Even if algal blooms are not toxic, they can negatively impact aquatic life by blocking out sunlight and clogging fish gills.

² <https://www.epa.gov/nutrientpollution>

- **Nutrient pollution has diverse and far-reaching effects** on the U.S. economy, impacting tourism, property values, commercial fishing, recreational businesses and many other sectors that depend on clean water.
- **Nitrates and algal blooms** in drinking water sources can drastically increase treatment costs.

To address these concerns, a 2011 EPA memorandum from Nancy K. Stoner to the Regional Administrators (*Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions*) (page 2) explains that when creating a program to manage nitrogen and phosphorus pollution, it is “of most importance” to:

- Prioritize watersheds,
- Set load reduction goals for watersheds, and
- Reduce loadings.

The State of Colorado followed the programmatic approach recommended by the EPA, which included the adoption of new regulations that prioritized watersheds, set load reductions goals, and required point sources to reduce nutrient loads.

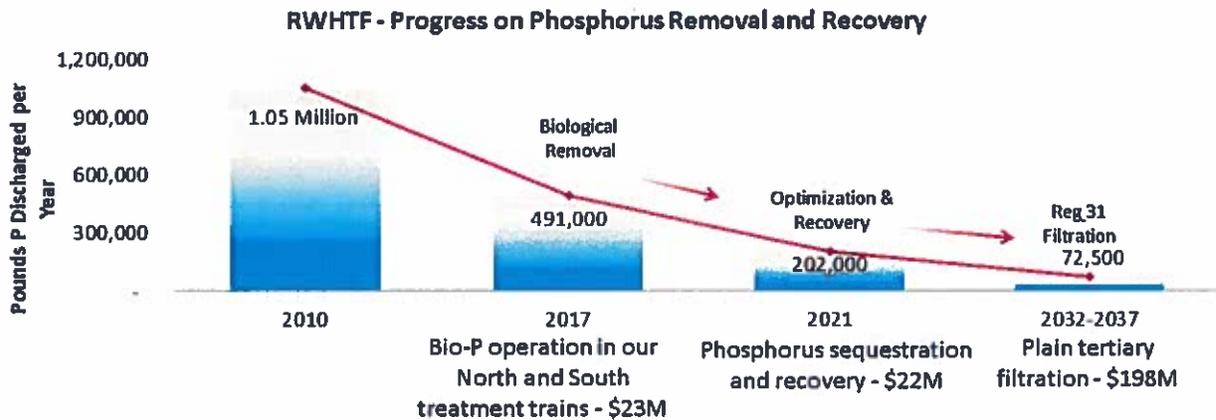
In 2012, the Colorado Water Quality Control Commission adopted parameter limitations for phosphorus and nitrogen in Regulation 85 (*Nutrients Management Control Regulation*) and numeric interim values for phosphorus, nitrogen, and chlorophyll *a* to protect domestic water supply use, recreation, and aquatic life uses in Regulation 31 (*The Basic Standards and Methodologies for Surface Water*). The CDPHE has been implementing the Regulation 85 parameter limitations in water quality discharge permits for the past several years.

In addition, in 2013 both the CDPHE and the EPA adopted Total Maximum Daily Loads (TMDL) for Barr Lake and Milton Reservoir that collectively required over 90 percent reduction in phosphorus loadings to each reservoir.

The Metro District's mission is to protect the region's health and environment by cleaning water and recovering resources. Consistent with its mission, over the last two decades, the District has partnered with the EPA and CDPHE to establish the Colorado nutrient framework and has invested in treatment technologies to reduce its phosphorus loadings.

Technological Investments and Improvements in the South Platte Watershed Water Quality

In furtherance of the national and state policy to reduce nutrients, without a current regulatory requirement to do so, the Metro District has already invested \$50 million in treatment technologies to reduce phosphorus. These treatment technologies have significantly reduced the District's Robert W. Hite Treatment Facility's (RWHTF) phosphorus loads to the South Platte River watershed as demonstrated in the following graph. (Please note that the reductions presented in the graph do not include the additional load that would result from the use of orthophosphate).



The Metro District's reductions in phosphorus loads coupled with reductions achieved through the Colorado nutrient framework have resulted in measurable improvements to the water quality of the South Platte River watershed. In-stream total phosphorus (TP) concentrations downstream of the RWHTF have decreased significantly.

The nutrient reductions have also resulted in lower concentrations in the South Platte River and off-channel reservoirs, including Barr Lake and Milton Reservoir. For example:

- **Segment 15, South Platte River.** The average annual TP concentration was 0.78 mg/L in 2018, a 52 percent reduction from the 2013 average annual TP concentration of 1.5 mg/L.
- **Milton Reservoir.** The average spring TP concentration from 2014 to 2018 was 0.28 mg/L, a 60 percent reduction from the 2008–2012 average spring TP concentration of 0.72 mg/L.
- **Barr Lake:** The average spring TP concentration from 2014 to 2018 was 0.29 mg/L, a 48 percent reduction from the 2008–2012 average spring TP concentration of 0.55 mg/L and a 62 percent reduction from the 2003–2007 average spring TP concentration of 0.75 mg/L.

By avoiding the addition of a substantial amount of phosphorus into the South Platte River watershed, the Lead Reduction Program will allow the region to sustain and continue the progress already made to improve the water quality in the South Platte River watershed because of nutrient reductions.

Adding a large volume of orthophosphate to the South Platte River watershed would be a serious—and likely irreversible—setback to the progress accomplished in recent years to reduce phosphorous in the South Platte River watershed. In addition to the public health and environmental impacts, the use of orthophosphate would also result in significant financial impacts on the Metro District. To treat this significant new load of phosphorus the Metro District would install advance treatment at the RWHTF, which would increase the capital cost for advance treatment by \$120 million (2017 dollars). The annual operational costs would also increase by \$4.6 million due to the need for chemical addition to the treatment process. Not only would this approach conflict with the national and state frameworks to reduce nutrients, it would also put a significant financial burden on the two million ratepayers located within the service area of the District.

Maximizing Public Health through the Lead Reduction Program

The Metro District supports the Lead Reduction Program because it aligns two important public health frameworks. It achieves the greatest expected reductions of lead at the tap (short and long term) in a manner that avoids the negative impacts to the South Platte River watershed from the alternative approach, orthophosphate.

Decisions about water management in the arid west present unique challenges because of water scarcity. Throughout the arid west we are dependent upon water reuse for vibrant and healthy communities. The introduction of a large volume of chemicals, such as orthophosphate, within the water cycle will cause rippling adverse effects through the rest of the water cycle. This cannot be the right solution when there is an alternative that, on its own merits, is superior at protecting public health from exposure to lead in drinking water.

Recognizing this is a complex and interconnected issue, the Metro District and its partners have continued to advocate for the Lead Reduction Program, a one watershed and one ratepayer solution. Because of water scarcity in this region, a customized solution is more important than ever to ensure decisions today will not impair the ability of future generations to use and enjoy this valuable resource.

Sincerely,



William J. "Mickey" Conway
District Manager

August 6, 2019

Denver Water
Attn: Lead Reduction Program
1600 W. 12th Ave.
Denver, CO 80204

Dear Denver Water,

We are writing to commend Denver Water's Lead Reduction Program Plan. The plan's foundational statement, "When it comes to lead in drinking water, no levels are safe," its accelerated city-funded lead service line replacement plan, and its focus on protecting pregnant women, formula-fed infants and young children are exemplary science-driven actions.

The submitters of this comment are participants in Project TENDR (Targeting Environmental Neuro Developmental Risks). TENDR is a diverse group of experts in epidemiology, toxicology, exposure science, pediatrics, obstetrics and gynecology, nursing, public health, learning, intellectual and developmental disabilities, federal and state chemical policy and environmental justice, along with child and environmental advocacy organizations.

In July 2017, three Project TENDR leaders, David C. Bellinger, PhD, MSc, Aimin Chen, MD, PhD, and Bruce P. Lanphear, MD, MPH, published a Viewpoint article in *JAMA Pediatrics* titled "Establishing and Achieving National Goals for Preventing Lead Toxicity and Exposure in Children." In that article, Bellinger, Chen and Lanphear reviewed the science on the impacts of lead exposure including intellectual deficits, diminished academic abilities, attention deficits, and problem behaviors in children and affirmed the finding that there is no safe level of lead exposure.

The focus of the Denver Water Plan is on prevention, the best way to protect children and other vulnerable groups. The Plan seeks to reduce the sources of childhood lead exposures rather than solely identifying children who have already been unduly exposed or attempting to ameliorate the toxic effects after lead exposure has occurred. Thus, the Denver Water Plan is right on target to enhance public health.

We also applaud the plan's inclusion of "Focused and prioritized education and engagement to high risk community members (e.g., families with young children, including formula-fed infants, and pregnant women) with efforts to:

- Leverage existing stakeholder relationships/communication channels established by Denver Department of Public Health and Environment and Denver Water.
- Target messaging for various community organizations, doctor offices, etc.

- Partner with community health clinics, daycares/child care providers, social service programs for women and families.

Prioritizing the protection of the most vulnerable community members is sound public health policy. While the city is replacing lead service lines, the provision of effective water filters to women during their pregnancies as well as to families with formula fed infants and young children will lower the risk of neurodevelopmental harm for thousands of Denver's youngest residents. We hope the City will continue to monitor the water supply for lead levels after the new service lines are installed.

Thank you for developing a water plan grounded in science that puts children's health first; the Denver Water Plan provides a great model for others.

Sincerely,

David C. Bellinger, PhD, MSc
Research Director, Boston Children's Hospital
Professor, Harvard Medical School, Harvard T.H. Chan School of Public Health

Asa Bradman, PhD, MS
Associate Adjunct Professor, Department of Environmental Health Sciences
University of California, Berkeley

Charlotte Brody, RN
National Director
Healthy Babies Bright Futures

Carla Campbell, MD, MS
Pediatrician & Public Health Physician
Las Cruces, New Mexico

Aimin Chen, MD, PhD
Associate Professor, Department of Environmental Health
University of Cincinnati College of Medicine
Jeanne A. Conry, MD, PhD
President, The Environmental Health Leadership Foundation
Past President, The American College of Obstetricians and Gynecologists
President-elect, The International Federation of Gynecology and Obstetrics

Brenda Eskenazi, PhD, MA
Brian and Jennifer Maxwell Endowed Chair in Public Health
University of California, Berkeley

Robert M. Gould, MD
Associate Adjunct Professor
Program on Reproductive Health and the Environment, UCSF School of Medicine

Past President, Physicians for Social Responsibility

Irva Hertz-Picciotto, PhD

Director, UC Davis Environmental Health Sciences Center

Professor, Department of Public Health Sciences & Medical Investigations of Neurodevelopmental Disorders (MIND) Institute, University of California, Davis

Katie Huffling, RN, MS, CNM

Executive Director

Alliance of Nurses for Healthy Environments

Carol F. Kwiatkowski, PhD

Executive Director, The Endocrine Disruption Exchange (TEDX)

Assistant Professor Adjunct, North Carolina State University

Bruce P. Lanphear, MD, MPH

Professor, Faculty of Health Sciences

Simon Fraser University

Arthur Lavin, MD, FAAP

Advanced Pediatrics Associate Clinical Professor of Pediatrics

Case Western Reserve University School of Medicine

Pamela Miller, MS

Executive Director

Alaska Community Action on Toxics

Beate Ritz MD, PhD

Professor of Epidemiology, Center for Occupational and Environmental Health

Fielding School of Public Health

University of California Los Angeles

Leslie Rubin, MD

Assoc. Prof., Dept. Pediatrics, Morehouse School of Medicine

Co-director, Southeast Pediatric Environmental Health Specialty Unit, Emory University

Medical Director, Developmental Pediatric Specialists

Ted Schettler, MD, MPH

Science Director

Science and Environmental Health Network

Robin M. Whyatt, DrPH

Professor Emerita, Department of Environmental Health Sciences

Mailman School of Public Health, Columbia University

Tanya Khemet Taiwo, CPM, MPH, PhD

Assistant Professor, Bastyr University Department of Midwifery

Co-President, National Association of Certified Professional Midwives

Veena Singla, Ph.D.
Associate Director, Science & Policy
Program on Reproductive Health and the Environment (PRHE)
University of California, San Francisco

Maureen Swanson, MPA
Director of Environmental Risk Reduction, Project TENDR
The Arc

Evelyn O. Talbott, DrPH, MPH, FAHA
Professor, Department of Epidemiology
University of Pittsburgh Graduate School of Public Health

R. Thomas Zoeller, Ph.D.
Professor, Biology Department
University of Massachusetts Amherst



Bear Creek Water and Sanitation District
2517 South Flower Street, Lakewood, CO 80227-2912

August 1, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

RECEIVED

AUG 05 2019

Manager's Office
Board of Water Commissioners

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

On behalf of the Board of Directors of the Bear Creek Water and Sanitation District, I submit the following comments on Denver Water's draft Lead Reduction Program Plan (dated July 11, 2019).

The District recognizes that public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We understand that Denver Water will prove to the USEPA that the proposed Lead Reduction Program provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. If this is confirmed by the USEPA and CDPHE, the District will support Denver Water's Variance Request if the following changes are made to the final LRP Plan that is expected to be submitted to the USEPA in August of this year:

Increased collaboration with distributors regarding the development and execution of the communications and outreach plans associated with the Lead Reduction Program Plan (LRP) – The distributors were excluded from most of the pre-variance phase communication efforts mentioned on page 42 of the document. Details released to the public were typically provided to us on the same day press releases were issued with little advance warning. Moving forward, this needs to change and can be accomplished by specifically incorporating distributors into the communications for each of the action sections of the plan.

Collaboration with distributors is specifically mentioned several places with respect to the Lead Service Line (LSL) inventory actions, which is necessary given the distributors typically have most knowledge, whether field or historical records, regarding the existence of LSLs in their distribution networks. Upon a detailed review of the LRP Plan and associated appendices, the District noted that there is no mention of distributor collaboration in Section III.C (Filter Program) or III.D (Accelerated Lead Service Line Replacement Plan). This is a significant oversight on behalf of Denver Water given that customer communication is a shared responsibility for Read & Bill distributors and the sole responsibility of Master Meter distributors.

Bear Creek Water and Sanitation District does not have any homes with lead service lines within the District boundaries. However, Bear Creek Water and Sanitation District must be prepared to answer questions from our customers regarding Denver Water's Lead Reduction Program Plan including any impact to the District and our shared customers.

The District has worked hard to build a trusted relationship with our customers, similar to what Denver Water has done so well with its own inside City customers. To ensure that trusted relationship continues through the LRP, the District should be involved in any communications directed to them as part of the execution of the LRP Plan and Communications, Outreach & Education Plan (COE Plan).

We do acknowledge Denver Water is ultimately responsible for execution of the LRP Plan as they are the regulated entity. However, for this effort to be successful, Denver Water needs to revise the LRP Plan and the COE Plan to specifically commit to involving the distributors in communications efforts on the Filter Program and the Accelerated LSL Replacement Plan. The District requests Denver Water revise the LRP Plan and the COE Plan to include specific actions:

- Each distributor will be given the option to determine how they want to participate in the customer communications process. Some may prefer to be involved as a co-lead, others may only want advance notice, and a few may defer fully to Denver Water. All should be acceptable options offered by Denver Water and each district's preference should be respected.
- With respect to the Filter Program, include the following actions:
 - Develop communication materials that can be co-branded by distributors,
 - Include distributors in any planning efforts for door-to-door campaigns and neighborhood meetings (noted on page 54),
 - Provide training and/or talking points for distributor staff to use when engaging with customers on this topic. While the District understands that Denver Water prefers to be the primary POC for detailed information on the LRP, sufficient information needs to be provided to District staff to allow for informal conversations when we encounter questions from our customers, either in the field or during our own community events.
- With respect to the Accelerated LSL Replacement Plan, Denver Water should update the summary section located on page 57 to include a reference to coordinate construction activities with distributors. There is a specific reference to "coordinating with the City and County of Denver Public Works and other area municipal, utility, and public sector agencies"; however, coordination with distributors should be called out explicitly, especially for Read & Bill and Master Meter distributors.

In addition to the requested actions above regarding communication, we request two actions detailed below regarding the process of how the distributors should be included in COE Plan, which we understand will be more fully developed if the variance request is approved. Before submitting the LRP Plan and COE Plan to the USEPA, we would request the documents be revised to both increase the number of and provide more details for meaningful opportunities for engagement on customer communication for Read & Bill and Master Meter distributors.

Commit to the addition of a distributor representative on the LRP Leadership Committee – In the LRP Plan, Section III.F (Learning by Doing) outlines the approach to the formation and operation of an LRP Leadership Committee. The district supports the formation of this committee as an oversight entity that will guide the LRP through execution. However, we are significantly concerned that the distributors are not represented on that committee, especially given that 50% of the 1.4 million people who rely on Denver Water do so through a distributor. Although current indications are that only 5% of those people have a lead service line, many more may be impacted by the LSL inventory process, the Filter Program, or even ongoing communications about the LRP. Therefore, the District requests that, as the LRP Leadership Committee “invites other stakeholders to be members, such as representatives from watershed groups, wastewater dischargers, and public health agencies” (as stated on page 72), the Distributor Forum is allocated one representative to that Committee. In addition to participating in the Committee and working collaboratively towards the LRP Plan goals, this representative would also liaise between Denver Water and the distributors, ensuring continued support from that group and working to resolve any issues that may arise during the execution of the LRP. It may be that the Forum representative serves for the first few years of the LRP Plan execution process, working through the initial communication efforts, inventory tasks, filter distribution, and coordination efforts. Participation of the Forum representative can be evaluated every few years to ensure meaningful engagement opportunities still exist. If there are none, that representative could be sunset from the Committee.

Commit to an equitable distribution of the costs associated with the LRP Plan – The District understands there will be an extensive public input process over the next year to determine the appropriate allocation of costs associated with execution of the LRP Plan. However, the District requests an immediate commitment by Denver Water to an equitable distribution of those costs. We define equitable distribution to be an allocation of costs based upon the confirmed percentage of LSLs in the entire distributor network without the traditional multiplier applied to those costs. The distributor customers should not be required to subsidize the cost of replacing LSLs located within the City and County of Denver, which is where the vast majority of the LSLs are located (according to the current LSL inventory). We believe our customers would raise significant concerns to Denver Water if the cost of LSL replacement was distributed in any other way but as stated above. As Denver Water does not share in the cost of maintaining our customer’s private systems, neither should the distributor customers be required to do that for inside City customers.

In conclusion, the District reiterates the need for Denver Water to revise the LRP Plan, including the appendix containing the COE Plan, to incorporate the requests outlined in this letter. The District will support the variance request and work collaboratively with Denver Water if those requests are incorporated into the final version of the LRP Plan. Successful execution of the LRP Plan depends on support from the distributor community as well as many other stakeholders located in the Denver metro area. Together we can achieve the goal of removing LSLs in our communities and significantly impacting public health protection through reduced exposure to lead in drinking water.

Should you have any questions or concerns about this letter, I can be reached by telephone at 303-986-3442 or e-mail at janwalker@bearcreekwater.org

Sincerely,

A handwritten signature in blue ink that reads "Jan C. Walker". The signature is written in a cursive style with a large initial "J" and "W".

Jan C. Walker
District Manager
Bear Creek Water and Sanitation District

cc: Dale L. Miller, Chairman, Bear Creek Water and Sanitation District
Denver Water Lead Reduction Program (lead@denverwater.org)
Julie Seagren, Denver Water Distributor Relations Manager
(julie.seagren@denverwater.org)



RECEIVED

July 25, 2019

AUG 01 2019

Manager's Office
Board of Water Commissioners

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

On behalf of the Board of Directors of the Southgate Water District, I submit the following comments on Denver Water's draft Lead Reduction Program Plan (dated July 11, 2019).

The District recognizes that drinking water and public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We understand that Denver Water will prove to the USEPA that the proposed Lead Reduction Program provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. If this is confirmed by the USEPA and CDPHE, the District will support Denver Water's Variance Request if the following changes are made to the final LRP Plan that is expected to be submitted to the USEPA in August of this year:

Increased collaboration with distributors regarding the development and execution of the communications and outreach plans associated with the LRP

- The distributors were excluded from most of the pre-variance phase communication efforts mentioned on page 42 of the document. Details released to the public were typically provided to us on the same day press releases were issued with little advance warning. Moving forward, this needs to change and can be accomplished by specifically incorporating distributors into the communications for each of the action sections of the plan.

Collaboration with distributors is specifically mentioned several places with respect to the LSL inventory actions, which is necessary given the distributors typically have most knowledge, whether field or historical records, regarding the existence of LSLs in their distribution network. Upon a detailed review of the LRP Plan and associated appendices, the District noted that there is no mention of distributor collaboration in Section III.C (Filter Program) or III.D (Accelerated Lead Service Line Replacement

Plan). This is a significant oversight on behalf of Denver Water given that customer communication is a shared responsibility for Read & Bill distributors and the sole responsibility of Master Meter distributors.

The District has worked hard to build a trusted relationship with our customers, similar to what Denver Water has done so well with its own inside City customers. To ensure that trusted relationship continues through the LRP, the District should be involved in any communications directed to them as part of the execution of the LRP Plan and Communications, Outreach & Education Plan (COE Plan).

We do acknowledge Denver Water is ultimately responsible for execution of the LRP Plan as they are the regulated entity. However, for this effort to be successful, Denver Water needs to revise the LRP Plan and the COE Plan to specifically commit to involving the distributors in communications efforts on the Filter Program and the Accelerated LSL Replacement Plan. The District requests Denver Water revise the LRP Plan and the COE Plan to include specific actions:

- Each distributor will be given the option to determine how they want to participate in the customer communications process. Some may prefer to be involved as a co-lead, others may only want advance notice, and a few may defer fully to Denver Water. All should be acceptable options offered by Denver Water and each district's preference should be respected.
- With respect to the Filter Program, include the following actions:
 - Develop communication materials that can be co-branded by distributors,
 - Include distributors in any planning efforts for door-to-door campaigns and neighborhood meetings (noted on page 54),
 - Provide training and/or talking points for distributor staff to use when engaging with customers on this topic. While the District understands Denver Water prefers to be the primary POC for detailed information on the LRP, sufficient information needs to be provided to District staff to allow for informal conversations when we encounter questions from our customers, either in the field or during our own community events.
- With respect to the Accelerated LSL Replacement Plan, Denver Water should update the summary section located on page 57 to include a reference to coordinate construction activities with distributors. There is a specific reference to "coordinating with the City and County of Denver Public Works and other area municipal, utility, and public sector agencies"; however, coordination with distributors should be called out explicitly, especially for Read & Bill and Master Meter distributors. Where there are identified LSLs to be replaced, the District would prefer a coordinated approach to identify any capital project construction synergies that could be realized during this process. Additionally, as the District already attempts to coordinate our capital projects with county paving plans, Denver Water would benefit from our existing planning efforts and relationships with those entities.

These are some specific examples of how the distributors should be included in COE Plan, which we understand will be more fully developed if the variance request is approved. Before submitting the LRP Plan and COE Plan to the USEPA, we would request the documents be revised to both increase the number of and provide more details for meaningful opportunities for engagement on customer communication for Read & Bill and Master Meter distributors.

Commit to the addition of a distributor representative on the LRP Leadership Committee – In the LRP Plan, Section III.F (Learning by Doing) outlines the approach to the formation and operation of an LRP Leadership Committee. The district supports the formation of this committee as an oversight entity that will guide the LRP through execution. However, we are significantly concerned that the distributors are not represented on that committee, especially given that 50% of the 1.4 million people who rely on Denver Water do so through a distributor. Although current indications are that only 5% of those people have a lead service line, many more may be impacted by the LSL inventory process, the Filter Program, or even ongoing communications about the LRP. Therefore, the District requests that, as the LRP Leadership Committee “invites other stakeholders to be members, such as representatives from watershed groups, wastewater dischargers, and public health agencies” (as stated on page 72), the Distributor Forum is allocated one representative to that Committee. In addition to participating in the Committee and working collaboratively towards the LRP Plan goals, this representative would also liaise between Denver Water and the distributors, ensuring continued support from that group and working to resolve any issues that may arise during the execution of the LRP. It may be that the Forum representative serves for the first few years of the LRP Plan execution process, working through the initial communication efforts, inventory tasks, filter distribution, and coordination efforts. Participation of the Forum representative can be evaluated every few years to ensure meaningful engagement opportunities still exist. If there are none, that representative could be sunset from the Committee.

Commit to an equitable distribution of the costs associated with the LRP Plan – The District understands there will be an extensive public input process over the next year to determine the appropriate allocation of costs associated with execution of the LRP Plan. However, the District requests an immediate commitment by Denver Water to an equitable distribution of those costs. We define equitable distribution to be an allocation of costs based upon the confirmed percentage of LSLs in the entire distributor network without the traditional multiplier applied to those costs. The distributor customers should not be required to subsidize the cost of replacing LSLs located within the City and County of Denver, which is where the vast majority of the LSLs are located (according to the current LSL inventory). We believe our customers would raise significant concerns to Denver Water if the cost of LSL replacement was distributed in any other way but as stated above. As Denver



Water does not share in the cost of maintaining our customer's private systems, neither should the distributor customers be required to do that for inside City customers.

In conclusion, the District reiterates the need for Denver Water to revise the LRP Plan, including the appendix containing the COE Plan, to incorporate the requests outlined in this letter. The District will support the variance request and work collaboratively with Denver Water if those requests are incorporated into the final version of the LRP Plan. Successful execution of the LRP Plan depends on support from the distributor community as well as many other stakeholders located in the Denver metro area. Together we can achieve the goal of removing LSLs in our communities and significantly impacting public health protection through reduced exposure to lead in drinking water.

Should you have any questions or concerns about this letter, I can be reached at 303 713-7742 or dirish@southgatedistricts.org.

Sincerely,

A handwritten signature in black ink, appearing to read "David Irish", is written over a light blue circular stamp.

David Irish
General Manager
Southgate Water District



July 29, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

On behalf of the Boards of Directors of the Platte Canyon Water & Sanitation District and the Southwest Metropolitan Water & Sanitation Districts (Districts), I submit the following comments on Denver Water's draft Lead Reduction Program Plan (dated July 11, 2019).

The Districts recognize that drinking water and public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We understand that Denver Water will prove to the USEPA that the proposed Lead Reduction Program provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. If this is confirmed by the USEPA and CDPHE, the Districts will support Denver Water's Variance Request if the following changes are made to the final LRP Plan that is expected to be submitted to the USEPA in August of this year:

Increased collaboration with distributors regarding the development and execution of the communications and outreach plans associated with the LRP – The distributors were excluded from most of the pre-variance phase communication efforts mentioned on page 42 of the document. Details released to the public were typically provided to us on the same day press releases were issued with little advance warning. Moving forward, this needs to change and can be accomplished by specifically incorporating distributors into the communications for each of the action sections of the plan.

Collaboration with distributors is specifically mentioned several places with respect to the LSL inventory actions, which is necessary given the distributors typically have most knowledge, whether field or historical records, regarding the existence of LSLs in their distribution network. Upon a detailed review of the LRP Plan and associated appendices, the District noted that there is no mention of distributor collaboration in Section III.C (Filter Program) or III.D (Accelerated Lead Service Line Replacement Plan).

This is a significant oversight on behalf of Denver Water given that customer communication is a shared responsibility for Read & Bill distributors and the sole responsibility of Master Meter distributors. The Districts have worked hard to build a trusted relationship with our customers, similar to what Denver Water has done so well with its own inside City customers. To ensure that trusted relationship continues through the LRP, the Districts should be involved in any communications directed to them as part of the execution of the LRP Plan and Communications, Outreach & Education Plan (COE Plan). We do acknowledge Denver Water is ultimately responsible for execution of the LRP Plan as they are the regulated entity. However, for this effort to be successful, Denver Water needs to revise the LRP Plan and the COE Plan to specifically commit to involving the distributors in communications efforts on the Filter Program and the Accelerated LSL Replacement Plan. The Districts requests Denver Water revise the LRP Plan and the COE Plan to include specific actions:

- Each distributor will be given the option to determine how they want to participate in the customer communications process. Some may prefer to be involved as a co-lead, others may only want advance notice, and a few may defer fully to Denver Water. All should be acceptable options offered by Denver Water and each district's preference should be respected.
- With respect to the Filter Program, include the following actions:
 - Develop communication materials that can be co-branded by distributors,
 - Include distributors in any planning efforts for door-to-door campaigns and neighborhood meetings (noted on page 54),
 - Provide training and/or talking points for distributor staff to use when engaging with customers on this topic. While the District understands Denver Water prefers to be the primary POC for detailed information on the LRP, sufficient information needs to be provided to District staff to allow for informal conversations when we encounter questions from our customers, either in the field or during our own community events.
- With respect to the Accelerated LSL Replacement Plan, Denver Water should update the summary section located on page 57 to include a reference to coordinate construction activities with distributors. There is a specific reference to "coordinating with the City and County of Denver Public Works and other area municipal, utility, and public sector agencies"; however, coordination with distributors should be called out explicitly, especially for Read & Bill and Master Meter distributors. Where there are identified LSLs to be replaced, the District would prefer a coordinated approach to identify any capital project construction synergies that could be realized during this process. Additionally, as the District already attempts to coordinate our capital projects with county paving plans, Denver Water would benefit from our existing planning efforts and relationships with those entities.

These are some specific examples of how the distributors should be included in COE Plan, which we understand will be more fully developed if the variance request is approved. Before submitting the LRP Plan and COE Plan to the USEPA, we would request the documents be revised to both increase the number of and provide more details for meaningful opportunities for engagement on customer communication for Read & Bill and Master Meter distributors.

Commit to the addition of a distributor representative on the LRP Leadership Committee – In the LRP Plan, Section III.F (Learning by Doing) outlines the approach to the formation and operation of an LRP Leadership Committee. The Districts support the formation of this committee as an oversight entity that will guide the LRP through execution. However, we are significantly concerned that the distributors are not represented on that committee, especially given that 50% of the 1.4 million people who rely on Denver Water do so through a distributor. Although current indications are that only 5% of those people have a lead service line, many more may be impacted by the LSL inventory process, the Filter Program, or even ongoing communications about the LRP. Therefore, the Districts requests that, as the LRP Leadership Committee “invites other stakeholders to be members, such as representatives from watershed groups, wastewater dischargers, and public health agencies” (as stated on page 72), the Distributor Forum is allocated one representative to that Committee. In addition to participating in the Committee and working collaboratively towards the LRP Plan goals, this representative would also liaise between Denver Water and the distributors, ensuring continued support from that group and working to resolve any issues that may arise during the execution of the LRP. It may be that the Forum representative serves for the first few years of the LRP Plan execution process, working through the initial communication efforts, inventory tasks, filter distribution, and coordination efforts. Participation of the Forum representative can be evaluated every few years to ensure meaningful engagement opportunities still exist. If there are none, that representative could be sunset from the Committee.

Commit to an equitable distribution of the costs associated with the LRP Plan – The Districts understands there will be an extensive public input process over the next year to determine the appropriate allocation of costs associated with execution of the LRP Plan. However, the Districts request an immediate commitment by Denver Water to an equitable distribution of those costs. We define equitable distribution to be an allocation of costs based upon the confirmed percentage of LSLs in the entire distributor network without the traditional multiplier applied to those costs. The distributor customers should not be required to subsidize the cost of replacing LSLs located within the City and County of Denver, which is where the vast majority of the LSLs are located (according to the current LSL inventory). We believe our customers would raise significant concerns to Denver Water if the cost of LSL replacement was distributed in any other way but as stated above. As Denver Water does not share in the cost of maintaining our customer’s private systems, neither should the distributor customers be required to do that for inside City customers.

In conclusion, the Districts reiterate the need for Denver Water to revise the LRP Plan, including the appendix containing the COE Plan, to incorporate the requests outlined in this letter. The Districts will support the variance request and work collaboratively with Denver Water if those requests are incorporated into the final version of the LRP Plan. Successful execution of the LRP Plan depends on support from the distributor community as well as many other stakeholders located in the Denver metro area. Together we can achieve the goal of removing LSLs in our communities and significantly impacting public health protection through reduced exposure to lead in drinking water.

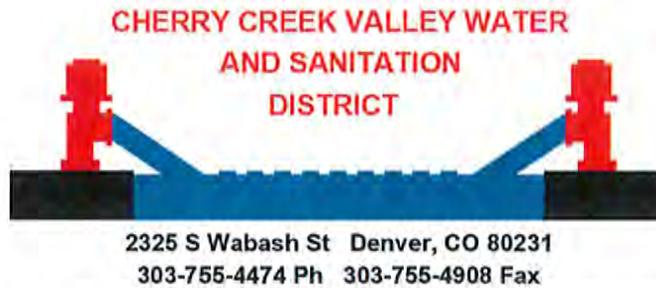
Should you have any questions or concerns about this letter, I can be reached at (303) 979-2333 or pjfitzgerald@plattecanyon.org.

Sincerely,

A handwritten signature in black ink that reads "Pat Fitzgerald". The signature is written in a cursive style with a large initial "P".

Pat Fitzgerald
District Manager
Platte Canyon Water & Sanitation District
Southwest Metropolitan Water & Sanitation District

cc: Richard Rock, Board of Directors, Platte Canyon Water & Sanitation District
Anthony Dursey, Board of Directors, Southwest Metropolitan Water & Sanitation District
Denver Water Lead Reduction Program (lead@denverwater.org)
Julie Seagren, Denver Water Distributor Relations Manager (julie.seagren@denverwater.org)



PAUL J. HANLEY, Chairman
MARK L. LAMPERT, Vice Chairman
WILLIAM M. MACPHEE, Secretary/Treasurer
FREDERICK L. NORMAN, Director
BRADLEY W. RASTALL, Director

July 26, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

The District supports the comment letter submitted by Platte Canyon Water and Sanitation District on Denver Water's Lead Reduction Program Plan.

The District would like to emphasize that it will only support Denver Water's Variance Request if costs for the lead reduction program are allocated among jurisdictions based on the percentage of lead service located inside each jurisdiction or if costs are somehow weighted on an equitable basis based on such percentages. Denver Water should bear the bulk of the expense since 95% of the lead service lines are located in the City and County of Denver.

Sincerely,

John R. Warford
Manager



Glendale, Colorado

"The Urban Village"

Michael Dunafon
Mayor

Doris Rigoni
Mayor Pro-Tem

Jerry Peters
City Manager

Council Members:

Storm Gloor
Dario Katardzic
Lindsey Miniz

July 25, 2019

Jim Lochhead
CEO/Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204
jim.lochhead@denverwater.org

RE: Comments on Denver Water's Lead Reduction Program Plan

Dear Mr. Lochhead,

On behalf of the City of Glendale, I submit the following comments on Denver Water's draft Lead Reduction Program Plan (dated July 11, 2019).

The City of Glendale recognizes that drinking water and public health experts encourage the removal of lead service lines to provide public health protection from lead exposure in drinking water. We understand that Denver Water maintains that the proposed Lead Reduction Program provides a higher level of public health protection than the currently planned approach involving the addition of orthophosphate. If this is confirmed by the USEPA and CDPHE, the City of Glendale will support Denver Water's Variance Request if the following changes are made to the final LRP Plan that is expected to be submitted to the USEPA in August of this year:

First and Foremost, commit to an equitable distribution of the costs associated with the LRP Plan

– The City of Glendale understands there will be an extensive public input process over the next year to determine the appropriate allocation of costs associated with execution of the LRP Plan. However, the City of Glendale requests an immediate commitment by Denver Water to an equitable distribution of those costs. We define equitable distribution to be an allocation of costs based upon the confirmed percentage of LSLs in the entire distributor network without the traditional multiplier applied to those costs. The City of Glendale customers should not be required to subsidize the cost of replacing LSLs located within the City and County of Denver, which is where the vast majority of the LSLs are located (according to the current LSL inventory). We believe our customers would raise significant concerns to Denver Water if the cost of LSL replacement was distributed in any other way but as stated above. As Denver Water does not share in the cost of maintaining our customer's private systems, neither should the distributor customers be required to do that for City and County of Denver customers.

Next, increased collaboration with distributors regarding the development and execution of the communications and outreach plans associated with the LRP

– The distributors were excluded from most of the pre-variance phase communication efforts mentioned on page 42 of the document. Details released to the public were typically provided to us on the same day press releases were issued with little advance warning. Moving forward, this needs to change and may be accomplished by specifically incorporating distributors into the communications for each of the action sections of the plan.



Glendale, Colorado

"The Urban Village"

Michael Dunafon
Mayor

Doris Rigoni
Mayor Pro-Tem

Jerry Peters
City Manager

Council Members:

Storm Gloor
Dario Katardzic
Lindsey Mintz

Collaboration with distributors is specifically mentioned several places with respect to the LSL inventory actions, which is necessary given the distributors typically have most knowledge, whether field or historical records, regarding the existence of LSLs in their distribution network. Upon a detailed review of the LRP Plan and associated appendices, the City of Glendale noted that there is no mention of distributor collaboration in Section III.C (Filter Program) or III.D (Accelerated Lead Service Line Replacement Plan). This is a significant oversight on behalf of Denver Water given that customer communication is a shared responsibility for Read & Bill distributors and the sole responsibility of Master Meter distributors.

The City of Glendale has worked hard to build a trusted relationship with our customers, similar to what Denver Water has done so well with its own inside City customers. To ensure that trusted relationship continues through the LRP, the City of Glendale should be involved in any communications directed to them as part of the execution of the LRP Plan and Communications, Outreach & Education Plan (COE Plan). We do acknowledge Denver Water is ultimately responsible for execution of the LRP Plan as they are the regulated entity. However, for this effort to be successful, Denver Water needs to revise the LRP Plan and the COE Plan to specifically commit to involving the distributors in communications efforts on the Filter Program and the Accelerated LSL Replacement Plan.

The City of Glendale requests Denver Water revise the LRP Plan and the COE Plan to include specific action: Each distributor will be given the option to determine how they want to participate in the customer communications process. Some may prefer to be involved as a co-lead, others may only want advance notice, and a few may defer fully to Denver Water. All should be acceptable options offered by Denver Water and each City of Glendale's preference should be respected. This one specific example of how the distributors should be included in COE Plan, which we understand will be more fully developed if the variance request is approved. Before submitting the LRP Plan and COE Plan to the USEPA, we would request the documents be revised to both increase the number of and provide more details for meaningful opportunities for engagement on customer communication for Read & Bill and Master Meter distributors.

Also, commit to the addition of a distributor representative on the LRP Leadership Committee – In the LRP Plan, Section III.F (Learning by Doing) outlines the approach to the formation and operation of an LRP Leadership Committee. The City of Glendale supports the formation of this committee as an oversight entity that will guide the LRP through execution. However, we are significantly concerned that the distributors are not represented on that committee, especially given that 50% of the 1.4 million people who rely on Denver Water do so through a distributor. Although current indications are that only 5% of those people have a lead service line, many more may be impacted by the LSL inventory process, the Filter Program, or even ongoing communications about the LRP. Therefore, the City of Glendale requests that, as the LRP Leadership Committee "invites other stakeholders to be members, such as representatives from watershed groups, wastewater dischargers, and public health agencies" (as stated on page 72), the Distributor Forum is allocated one representative to that Committee. In addition to participating in the Committee and working collaboratively towards the LRP Plan goals, this representative would also liaise between Denver Water and the distributors, ensuring continued support from that group and working to resolve any issues that may arise during the execution of the LRP.



Glendale, Colorado

"The Urban Village"

Michael Dunafon
Mayor

Doris Rigoni
Mayor Pro-Tem

Jerry Peters
City Manager

Council Members:

Storm Gloor
Dario Katardzic
Lindsey Mintz

It may be that the Distributor Forum representative serves for the first few years of the LRP Plan execution process, working through the initial communication efforts, inventory tasks, filter distribution, and coordination efforts. Participation of the Forum representative may be evaluated every few years to ensure meaningful engagement opportunities still exist. If there are none, that representative may sunset from the Committee.

In conclusion, the City of Glendale reiterates the need for Denver Water to revise the LRP Plan, including the appendix containing the COE Plan, to incorporate the requests outlined in this letter. The City of Glendale will support the variance request and work collaboratively with Denver Water if those requests are incorporated into the final version of the LRP Plan. Successful execution of the LRP Plan depends on support from the distributor community as well as many other stakeholders located in the Denver metro area. Together we can achieve the goal of removing LSLs in our communities and significantly impacting public health protection through reduced exposure to lead in drinking water.

Should you have any questions or concerns about this letter, I can be reached at 303-639-4501 or jbertrand@glendale.co.us.

Sincerely,

A handwritten signature in blue ink that reads "Joshua Bertrand".

Joshua Bertrand
Director of Public Works
City of Glendale

cc: Jerry Peters, City Manager
Chuck Line, Deputy City Manager
Linda Cassaday, Deputy City Manager
Denver Water Lead Reduction Program (lead@denverwater.org)
Julie Seagren, Denver Water Distributor Relations Manager (julie.seagren@denverwater.org)

November 15, 2018



The Honorable Jared S. Polis
Governor-Elect of Colorado
136 State Capitol Building
Denver, CO 80203

Dear Governor-Elect Polis,

I am writing you today as a student from Denver North High School Engagement Center, and as a citizen who resides in Denver. I am concerned about the amount of orthophosphates being added to our water supply by the Colorado Department of Health. We, the citizens of Colorado, should really take this problem into consideration seeing as this is the water we drink, bathe, and play in. As you are now to be the governor of Colorado, you are now the voice of the people. Now is the time to talk about this because the Colorado Department of Health is deciding to add more orthophosphates to our water supply to prevent lead corrosion. What they don't know is it will cost the state of Colorado our excellent water quality.

In my Earth Science class, we have been researching how orthophosphates can damage our bodies of water, and can create toxic algae which can lead to many health problems for humans and animals. During our field work, we found that the phosphates in the South Platte River were completely maxed out at 4 ppm (parts per million). Orthophosphates, in excess, cause nutrient pollution. Orthophosphates are a type of nutrient phosphorus, which acts as a fertilizer for algae. This is very important because if we add orthophosphates to our drinking water supply, eventually our rivers would fill up with algae, creating toxins dangerous for both animals and humans alike.

There are intended and unintended consequences to adding orthophosphates in our water supply. The intended consequence is that orthophosphates create a barrier in our lead pipes and keeps the amount of lead in our water to below 15 ppb. This is important because we don't want another incident like what happened in Flint, where the lead was nearly 300 ppb.

But the unintended consequences of adding orthophosphates are far more disastrous to our ecosystem. As stated previously, orthophosphate acts as a fertilizer, which creates more algae (since algae uses phosphorus as a nutrient). Algae is dangerous for many reasons: it steals oxygen from the water, de-oxygenating it, and eventually suffocating the fish and other aquatic animals; also, some algae contains toxins that, if they come into contact with humans or animals, cause illnesses like rashes, vomiting, and liver damage.

Mr. Polis, there is a better alternative than using orthophosphates in our water supply: change the lead pipes to CPVC pipes. These pipes do not degrade with hot water exposure (as compared to lead pipes, which corrode when exposed to hot water), and they do not contain any dangerous chemicals (like lead). Compared to draining out the de-oxygenated water from our lakes and rivers (which costs \$500-\$1500 every time the body of water is drained) or charcoal filters (which cost \$500-\$1500 per house and must be replaced every 4-6

years), simply just replacing the pipes once (for a cost of **\$6,000**-\$22,000 per pipe depending on location) will last a lifetime. While the upfront cost of CPVC pipes seems high, we need to think about the long-term solution for our lead problem in Colorado. Replacing the pipe lines to our homes is the best option for a long-term solution.

If we do not act now, our water pipelines will continue to corrode. So we need to take action now or we may become the next Flint Michigan. Because I know you are a former teacher, I'm hoping a students' opinions will matter to you. Also, as a citizen of Colorado, that you, the Governor Elect, will make a difference and make Colorado's drinking water safer in an eco-friendly way. Remember, the CDH is, as of right now, is making the decision to add more orthophosphates to our water. We have a time limit, not only because of our pipes, but also because of our bodies of water.

Please contact me so we may discuss this in person.

Thank you for your time,

Itati Carson



**Support Statement for Denver Water Optimal Corrosion Control Treatment (OCCT) Variance Request
by the Colorado Wastewater Utility Council**

The Colorado Wastewater Utility Council is in support of the Denver Water OCCT variance request to the U.S. Environmental Protection Agency. Provided the variance request is deemed to be as protective to public health as the approved OCCT option, we believe it is a better overall solution. The variance request avoids addition of chemicals to the water supply that is a less sustainable alternative. The variance request proposal addresses the root cause of the problem in the form of accelerated lead service line removal rather than providing a secondary fix, which could have unintended environmental consequences.

As wastewater treatment plants, our members' first concern is the health and safety of the public and the environment. The variance would eliminate many concerns of wastewater plants impacted by the OCCT determination. These issues include addition of phosphorus to watersheds that can degrade water quality in lakes and streams. Wastewater plants are currently working on treating phosphorus and other nutrients to comply with Regulation 85 nutrient limits, and even more stringent Regulation 31 limits in the future. The variance eliminates the need for plants to remove an additional phosphorus load on the road to this end.

The Colorado Wastewater Utility Council (CWWUC) is a nonprofit organization whose members include many of the wastewater treatment plants in Colorado. The Council has always strived to find common-sense approaches to protecting the environment and meeting regulatory requirements. We feel the Denver Water OCCT variance request is in alignment with this approach and we support it.

Please let me know if you have any questions or would like to discuss this further.

Thank you,

A handwritten signature in blue ink that reads "Julie Tinetti".

Julie Tinetti, CWWUC Chair

Conservation Colorado is writing in support of Denver Water's proposal to accelerate the removal of customer-owned lead service lines to address the utilities 2012 exceedance of the EPA's allowable levels of lead in drinking water.

We believe this approach is the best method to permanently reduce lead in drinking water within its service area. The Utility is currently using orthophosphates to comply following the 2012 test results. While the use of orthophosphates is an effective tool for lead reduction, it comes with negative effects to streams, rivers, reservoirs, and wastewater treatment plants by increased rates of algae blooms and phosphorus loading at wastewater treatment facilities.

We are particularly supportive of the Utility's plan because it is comprehensive and designed to meet the needs of the diverse water users who rely on Denver Water. The plan includes the provision of free of charge water filters to all customers until their lines have been replaced. Denver Water also aims to first address pipe replacement in lower socioeconomic communities which aligns with our organizational focus on equity and community health.

Conservation Colorado's support is contingent upon Denver Water's commitment of not solely being dependent upon customer rates to pay for this effort. It is our understanding that a variety of methods will be utilized to pay for this effort. This aspect is crucial to our support as we do not want to see disproportionate effects on lower socio-economic households. Additionally, we also expect the Utility to ensure the free of charge water filters distributed to all customers are functioning as anticipated.

Conservation Colorado is the state's largest environmental advocacy non-profit with 60,000 members throughout the state. For over 50 years, we've worked with communities statewide to ensure that our quality of life and our environment are protected. We recognize that not all Coloradans have access to a clean and safe environment. Communities of color, indigenous communities, and families living on lower incomes are far more likely to live, work, and play near pollution. We are fostering equity, diversity, and inclusiveness to ensure all Coloradans are fully represented and engaged in our work to protect this state we love.

We are very appreciative of Denver Water's leadership to address the issue of lead in drinking water.

Sincerely,
Josh Kuhn
Water Advocate Conservation Colorado

Comments on Denver Lead Reduction Plan

The Lead Reduction Program Plan proposed by Denver Water represents a comprehensive, proactive strategy for the nearly immediate reduction of lead exposure in drinking water at the highest risk homes by distributing filters at all lead service line homes, while beginning the longer term process of permanently removing lead service lines and optimizing corrosion control for addressing remaining sources of lead in Denver's drinking water infrastructure. The comprehensive approach also approaches the program from an equity perspective, ensuring that all high-risk customers have access to filters and lead service line replacements, regardless of ability to pay. This approach, which places public health protection and permanent removal of lead service lines as the highest priority, should be seen as a model for addressing lead in drinking water. The execution of the program as described in the program plan and the verification that all program components are executed as described will ultimately determine how successful the program is at reaching and reducing risk for all lead service line customers. The success of this program is dependent on each of these programs following through consistently. We know that any individual staff member can be the weakest link. Rigorous tracking protocols and regular program audits will be critical for verifying the program is working as intended.

The Proposed Lead Reduction Program Plan includes aggressive commitments to protect all customers in lead service line homes. However, on the whole the program evaluation criteria proposed present a low bar for identifying a system that failed to meet criteria and must proceed with a corrective action. When the program is built around the concept that all lead service lines homes have filters and the information they need to use them on a daily basis, then to meet expectations the annual filter adoption rate should be very close to 100% and the need for corrective action should be triggered when the number falls below 95%. The corrective actions should focus on providing the necessary resources to achieve the programmatic goals rather than changing course entirely as suggested in the corrective actions currently listed.

It should be noted that, contrary to the information on page 12 of the executive summary, actual "lead-free" plumbing components are not available. Plumbing components labeled "lead-free" contain up to 0.25% lead by weight. Materials that Denver Water distributes to its customers should not obscure the fact that installing new plumbing components still continues to add new lead to household plumbing systems.

Page 52 of the lead reduction program plan states that if the LSLR program is complete and a new LSL is identified, Denver Water has 6 months to replace the line. This seems far too long, given that at this point Denver will have finished the rest of the lead service line replacements and know how to replace the lead service line more efficiently than ever. After 15 years of unknown lead exposure, another 6 months is far too long for this home to race.

Page 61 of the lead reduction program plan describes a process for investigating homes with water quality above the action level. This answer implies that the inspection will identify lead in water risks in the home, but the programs described historically have not addressed drinking water sources of lead. This response should be updated to clarify the procedures of community organizations and grant programs for incorporating lead in drinking water into their lead reduction programs.

On Page 62, the service line material should be positively confirmed for any home that chooses to not participate in lead service line replacement so that it can be accurately captured in Denver Water's inventory.

On Page 71, last paragraph, please clarify the frequency with which corrosion control adjustments are made based on monthly data. Are Water Quality Parameters also adjusted from month to month to reflect this program?

Page 72, the concept of learning by doing as presented here appears to implement water treatment changes while distributing water to customers, implying that customers might be treated like guinea pigs and the water system will come back and continue to make adjustments until treatment is optimized. Updating protocols as new information becomes available is always appropriate, but it must be done in a way that does not put customers at greater risk.

Page 84, there are many limitations in using blood lead data to be able to correlate exposure to lead in drinking water to an elevated blood lead level. I recommend that this lead reduction plan does not imply that Denver is seeking evidence of elevated blood lead levels to establish causation from drinking water. The time to address lead in drinking water is when lead is detected in the water, not in children.

<http://graham.umich.edu/project/revised-lead-and-copper-rule/faq?faq=2>

Elin Betanzo

SafeWaterEngineering.com

248-326-4339