

**RECORD OF PROCEEDINGS  
MINUTES  
of the  
Board of Water Commissioners**

Denver Water Administration Building  
1600 West 12<sup>th</sup> Avenue  
Denver, CO  
Board Room, First Floor

**Wednesday, November 6, 2019**

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**Open Session**

A duly called Regular Meeting of the Board of Water Commissioners was held Wednesday, November 6, 2019, beginning at 9:00 a.m. in the Board Room, Room 106, 1600 West 12<sup>th</sup> Avenue, Denver, Colorado. Members of the Board present during the Regular Meeting were:

**Paula Herzmark, President**  
**H. Gregory Austin, Vice President**  
**Craig Jones, Vice President**  
**Gary Reiff, Vice President**

Board employees and others present during portions of the meeting were:

J.S. Lochhead, CEO/Manager	D. Gorgemans, Chief Internal Auditor
J.A. Anderson, Chief of Staff	J. Long, Real Estate Broker/Negotiator
A.C. Bricmont, Chief Financial Officer	D. Lopez, IT Support Specialist
J. Brody, General Counsel	J. Martin, Project Engineer
B.D. Good, Chief Administrative Officer	C. Mbakogu, Division Sr. Analyst
M. King, Chief External Affairs Officer	M. McDonald, Temporary Employee
R. Mahoney, Chief Engineering Officer	I. Oliver, Director SOS
T.J. Roode, Chief Operations and Maintenance Officer	K. Petrik, Director Engineering – Construction
R. Badger, Planning Manager	D. Raitt, Engineering Manager
K. Bates, Attorney	T. Thompson, Public Affairs Manager
D. Brinker, Engineering Manager	M. Thomas, Director IT Operational Tech
C. Burri, Environmental Lead Scientist	A. Turney, Director Engineering
A. Cavallaro, Paralegal	D. Winter, Director Organizational

S. Chesney, Director Public Affairs  
L. Cloyd, SOS Manager  
R. Davis, Finance Analyst  
C. Dick, Engineer Sr.  
W. Eversole, SOS Manager  
P. Freeman, Business Operations  
Manager

Improvement  
A. Witheridge, Environmental Sr.  
Scientist  
C. Lane, Platte Canyon Water and  
Sanitation District

## INTRODUCTORY BUSINESS

Commissioner Herzmark called the meeting to order at 9:08 a.m. Upon motion regularly made, seconded and unanimously carried, Commissioner Lucero was found to be absent for good cause and was excused.

### Public Comment and Communications

Commissioner Herzmark issued an invitation to members of the public to comment to the Board on any matters not included in the Agenda for the meeting. There was no public comment.

Commissioner Herzmark remarked that the new Denver Water Administration Building is an outstanding new facility. She thanked the Denver Water leadership team for their untold hours of work and thanked everyone who has contributed to the building's completion. Commissioner Jones commented on the light and welcoming atmosphere in the new building. Both Commissioners offered their congratulations on such a remarkable and beautiful achievement.

Mr. Lochhead thanked the Board for its vision and support in speaking to the future of Denver Water, for creating a workplace that people will enjoy, and for its commitment to the well-building principles. Throughout the design process, four years of construction, and unexpected challenges, the Board was steadfast in maintaining its vision of this facility. It is a legacy to the Board for the many decades the facility will continue to be here.

## ACTION ITEMS

Upon motion regularly made, seconded and unanimously carried by the Commissioners then present, unless otherwise noted, the Board acted upon the following agenda items:

**1. ITEM II-A-1: MINUTES FROM OCTOBER 9, 2019 – OPEN SESSION**

Approved the Minutes of the Open Session Meeting of October 9, 2019.

**2. ITEM II-A-2: MINUTES FROM OCTOBER 23, 2019 – OPEN SESSION**

Approved the Minutes of the Open Session Meeting of October 23, 2019, subject to the correction of typographical errors.

**3. ITEM II-A-3: RATIFICATION OF THE NINTH AMENDMENT FOR CONDUIT NO. 16 – TUNNEL INSTALLATIONS EMERGENCY WORK – CITY DITCH STRUCTURAL REPAIRS – CONTRACT 500815**

Approved the Ninth Amendment to Contract 500815 with Reynolds Construction, LLC to extend the contract period through November 22, 2019 and to add \$240,710, for a total amended contract amount not to exceed \$23,832,523.27.

**4. ITEM II-A-4: INTER-GOVERNMENTAL AGREEMENT WITH THE CITY OF LITTLETON AND MILE HIGH FLOOD DISTRICT AUTHORIZING STORMWATER INTO THE HIGH LINE CANAL – CONTRACT 504221**

Approved an Inter-Governmental Agreement, Contract 504221, with the City of Littleton and Mile High Flood District (formerly Urban Drainage and Flood Control District) to authorize stormwater outfalls, water quality features, and long-term maintenance access in and to the Board's High Line Canal within the City of Littleton.

**5. ITEM II-B-1: CONVEYANCE OF WELBY RESERVOIR LOT 5 PROPERTY TO HYDRODIG DENVER, LLC – CONTRACT 504188**

Approved Contract 504188 with Hydrodig Denver, LLC in the amount of \$105,000, for the conveyance of Lot 5 of the Welby Reservoir Subdivision, and authorized the CEO/Manager, or his designee(s), to execute all necessary instruments and/or documents, subject to approval of the Board's Office of General Counsel, to convey Lot 5 of the Welby Reservoir Subdivision.

Ms. Turney presented the Board with a report regarding the conveyance of Welby Reservoir Lot 5 Property to Hydrodig Denver, LLC – Contract 504188, a

November 6, 2019

copy of which is attached to and incorporated in these Minutes as Exhibit A.

She reported that Welby Reservoir Lot 5 is surplus property that was part of the original requisition of the Welby Reservoir. Denver Water does not have a proposed future use for the property, which was marketed for sale in 2012, 2013, and 2019. The conveyance of the half acre of vacant land to Hydrodig Denver, LLC is for the amount of \$105,000.

In response to Commissioner Reiff's inquiry regarding independent appraisals, Ms. Turney responded that Denver Water performed an in-house appraisal of Lot 5 in 2012. Ms. Turney explained that Denver Water typically performs appraisals in-house for lower value properties rather than incurring the expense of an independent appraisal.

## POLICY MATTERS

### **6. ITEM III-A: STRONTIA SPRINGS RESERVOIR SEDIMENT MANAGEMENT STRATEGY**

Mr. Dick presented the Board with an overview of the Strontia Springs Reservoir Sediment Management Strategy, a copy of which is attached to and incorporated in these Minutes as Exhibit B.

Mr. Oliver reported that there is currently no sustainable sediment management strategy for Strontia Springs Reservoir (Strontia). On average, 30 acre-feet, or 5,000 dump truck loads, of sediment is deposited in Strontia each year. While the sediment issue is not a new issue, the issue is expected to become worse and more costly over time. Although Strontia is one of the tallest reservoirs, it is also one of the smallest by volume. It functions as a forebay for the water treatment plant, diverting over 80 percent of Denver Water's supply and 90 percent of Aurora Water's supply.

Mr. Dick reported that the team utilized the Choosing by Advantages methodology to evaluate alternative methods of sediment management and begin developing a long-term sediment management strategy, with the objective of safely and reliably providing high quality water to Denver Water and City of Aurora treatment plants. The alternatives include: 1) no action; 2) keeping outlets clear; 3) double service life of reservoir; and 4) sustaining the reservoir at 80 percent capacity.

Ms. Witheridge reported that in order to sustain the reservoir in perpetuity, Denver Water needs to commit to addressing existing issues, such as forest health and wildfire mitigation, and implementing sustainable watershed management in order to create long-term benefits. By 2022, Denver Water should have budgets, projects, and the benefits of those projects, identified. The sediment and debris shelves near the lower outlet are the priority for the next ten years of investigation. Engineering is exploring alternatives and with an estimated implementation time of 2025.

Ms. Witheridge presented the Board with a table of projected expenditures for sediment management alternative 4, which proposes sustaining the reservoir at 80 percent capacity. Staff recommends that Denver Water spend the money where it can be most cost effective and reduce the need for more extreme and costly mitigation in the future. Mr. Dick added that these costs will continue into the future to deal with the reservoir in perpetuity. Mr. Mahoney remarked that the most cost-effective solution is to prevent sediment from getting into the reservoir. He stressed that Denver Water is looking for a long-term resolution for the sediment problem.

## EXECUTIVE UPDATE

### 7. ITEM IV-A: CEO REPORT

Mr. Lochhead reported that he traveled to the Association of Metropolitan Water Agencies (AMWA) Executive Management Conference and the Water Utility Climate Alliance (WUCA) General Manager's Meeting in Newport, Rhode Island. Both conferences host major utilities and water providers across the country.

Mr. Lochhead also attended the World Water Tech North America meeting in Los Angeles. He noted it was an interesting opportunity to network with people about the evolving technologies driving efficiency and resiliency in water and wastewater systems. Additionally, he attended the Water in the West Symposium in Grand County this week. Overall, it was a good presentation and good discussion.

**BRIEFING PAPERS & REPORTS**

**8. ITEM V-A-1: YEAR-TO-DATE SUSTAINABILITY UPDATE**

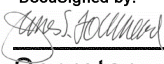
The Board received a Year-To-Date Sustainability Update, a copy of which is incorporated and attached to these Minutes as Exhibit C.

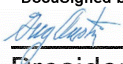
**9. ITEM V-A-2: POLICY FOR REIMBURSEMENTS FOR NON-DENVER WATER LEAD SERVICE LINE REPLACEMENTS**

The Board received a Policy for Reimbursements for Non-Denver Water Lead Service Line Replacements, a copy of which is incorporated and attached to these Minutes as Exhibit D.

**ADJOURNMENT**

No further business appearing, the Board voted unanimously to adjourn into an Executive Session at approximately 9:42 a.m.

DocuSigned by:  
  
Secretary

DocuSigned by:  
  
President

# Conveyance of Welby Reservoir Lot 5 surplus property



*Amy Turney*

*Director of Engineering – Property & Distribution*

Exhibit A



## Welby Reservoir Lot 5 property conveyance

- Property was acquired as a larger acquisition for future reservoir and 69<sup>th</sup> Way ROW dedication
- 0.543 acres of vacant land
- No past or future proposed Denver Water use
- Declared Surplus in 2012
- Marketed in 2012, 2013, 2019

Exhibit A





# Recommendation

- Approve Contract 504188 with Hydrodig Denver, LLC in the amount of \$105,000 for the conveyance of Lot 5 of the Welby Reservoir Subdivision.
- Authorize the CEO/Manager, or his designee(s), to execute all necessary instruments and/or documents, subject to approval of the Board's Office of General Counsel, to convey Lot 5 of the Welby Reservoir Subdivision.

# Questions?

# Strontia Springs Reservoir Sediment Management



*November 6, 2019*

# Purpose of Briefing

- Overview of Strontia Sediment Issues
- Results of Continuous Improvement Event
- Long-term Budget Projections



# Strontia Springs Dam and Reservoir

**DAM HEIGHT: 292 FT**

**RESERVOIR CAPACITY: 7,863 AF**

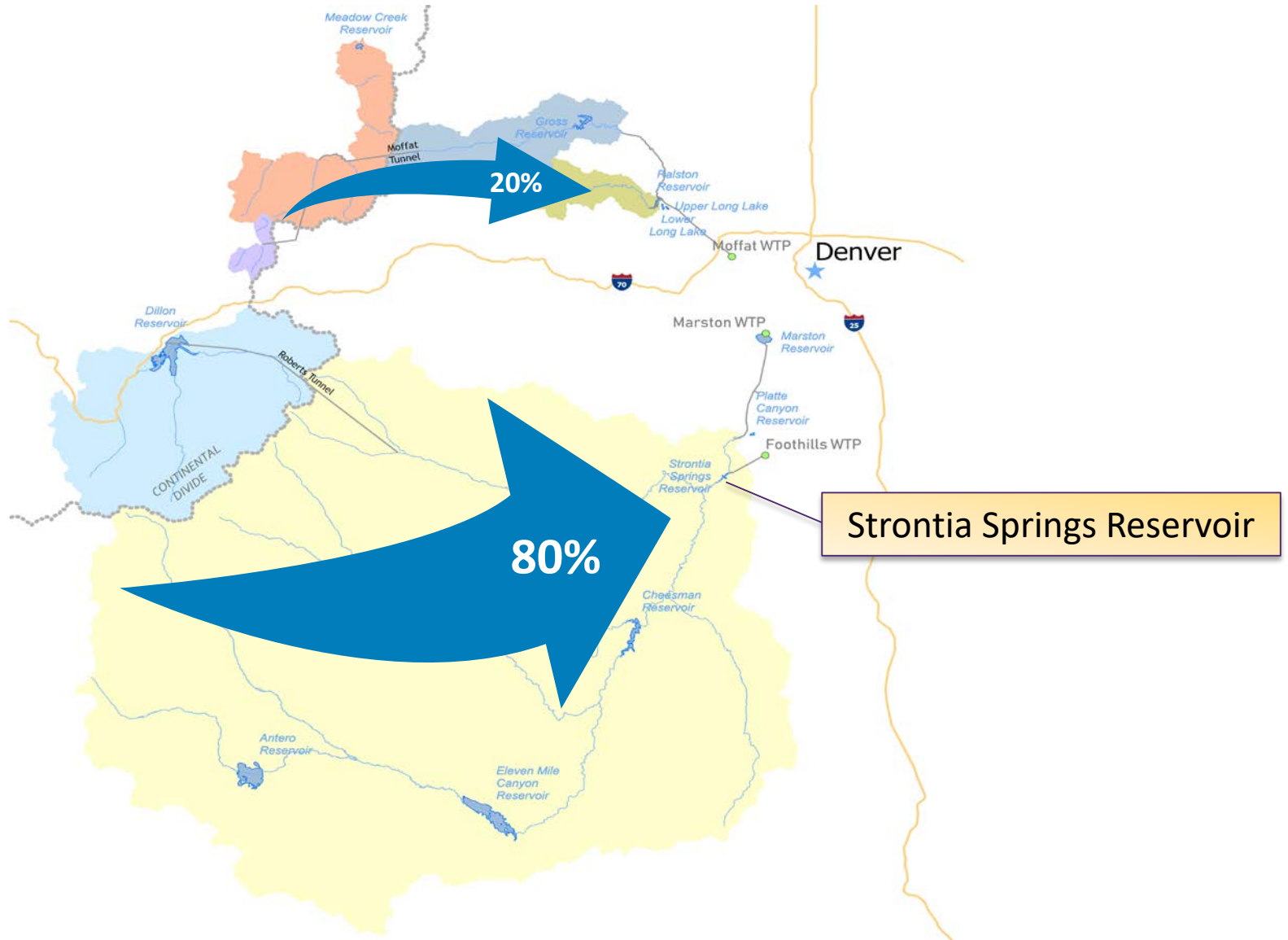
**DRAINAGE AREA: 2,595 MI<sup>2</sup>**

**FIRST FILLED: 1982**

**DIVERTS OVER 80% OF DENVER WATER SUPPLY**

**DIVERTS OVER 90% OF AURORA WATER SUPPLY**

# Denver Water Collection System



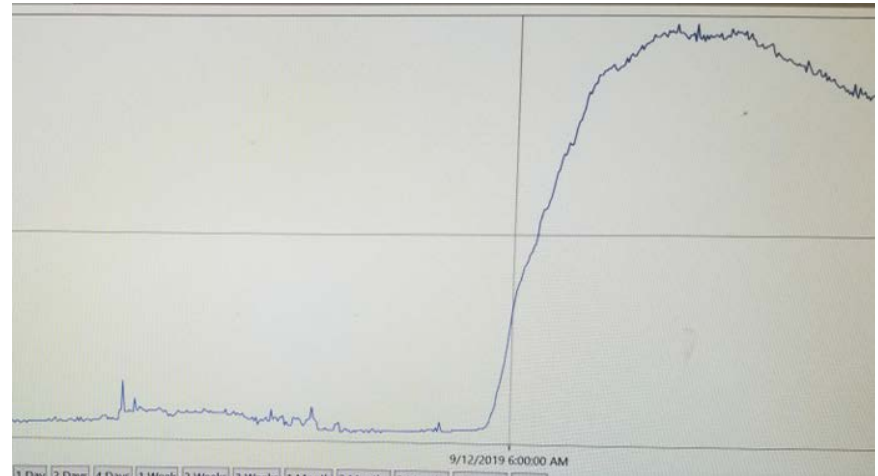
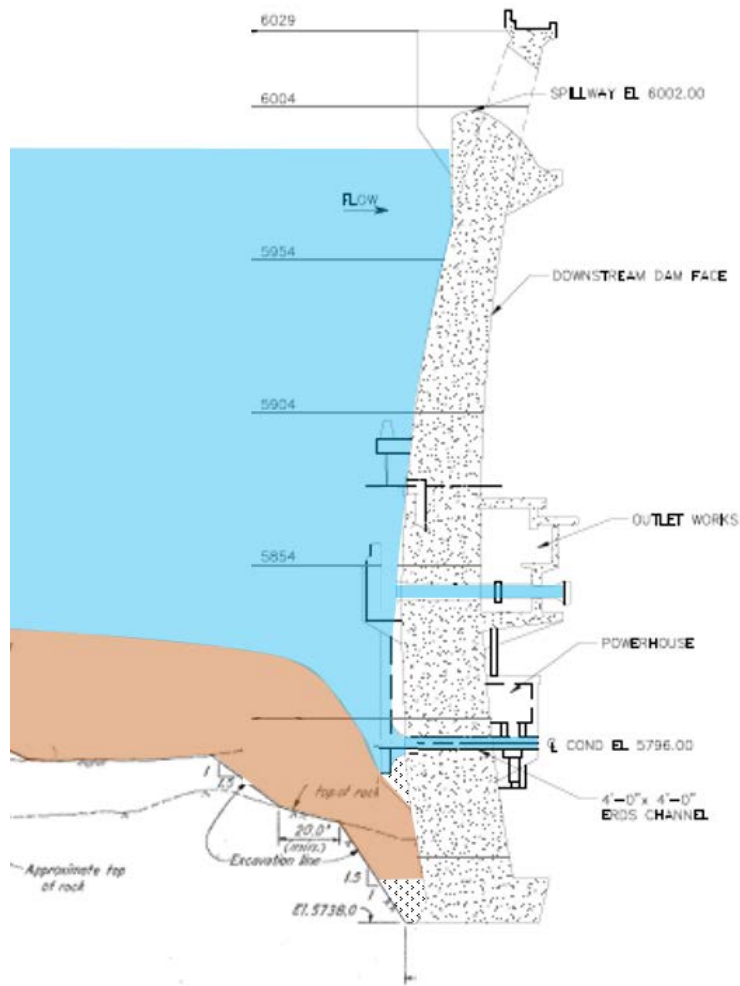
# Sediment Issue Summary

- On average, 30 acre-feet, or 5,000 dump truck loads, of sediment deposited in reservoir each year
- Issues will become worse & more costly to address later
- Currently no sustainable sediment management strategy



*Sediment and Debris in Strontia Springs Reservoir Following Buffalo Creek Fire in 1996*

# September 2019 Sediment Slough





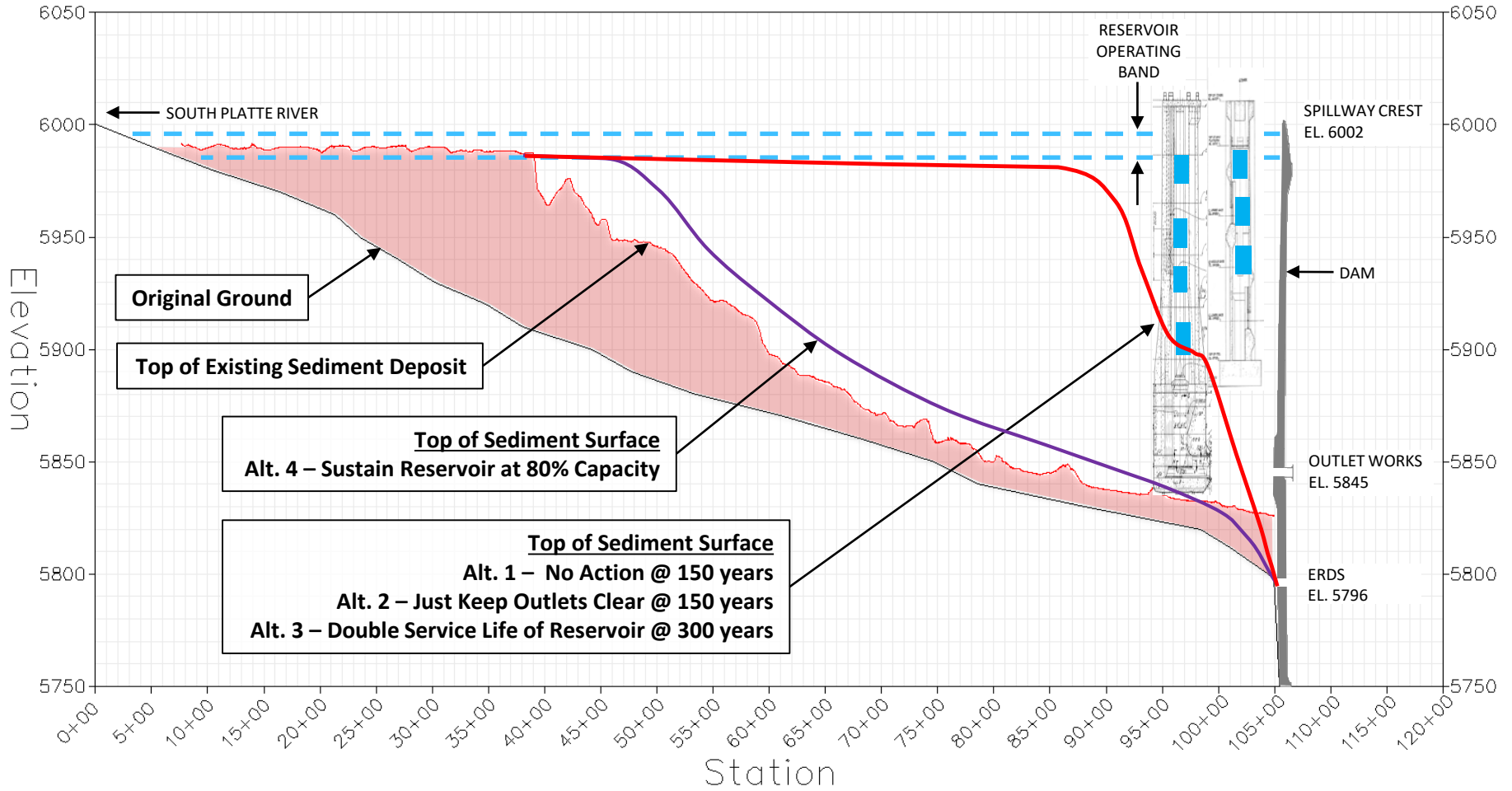
# Choosing by Advantages

Establish a **long-term sediment management strategy** for Strontia Springs Reservoir to provide continuous, high quality, reliable, and safe delivery of water to Denver Water and City of Aurora water treatment plants.

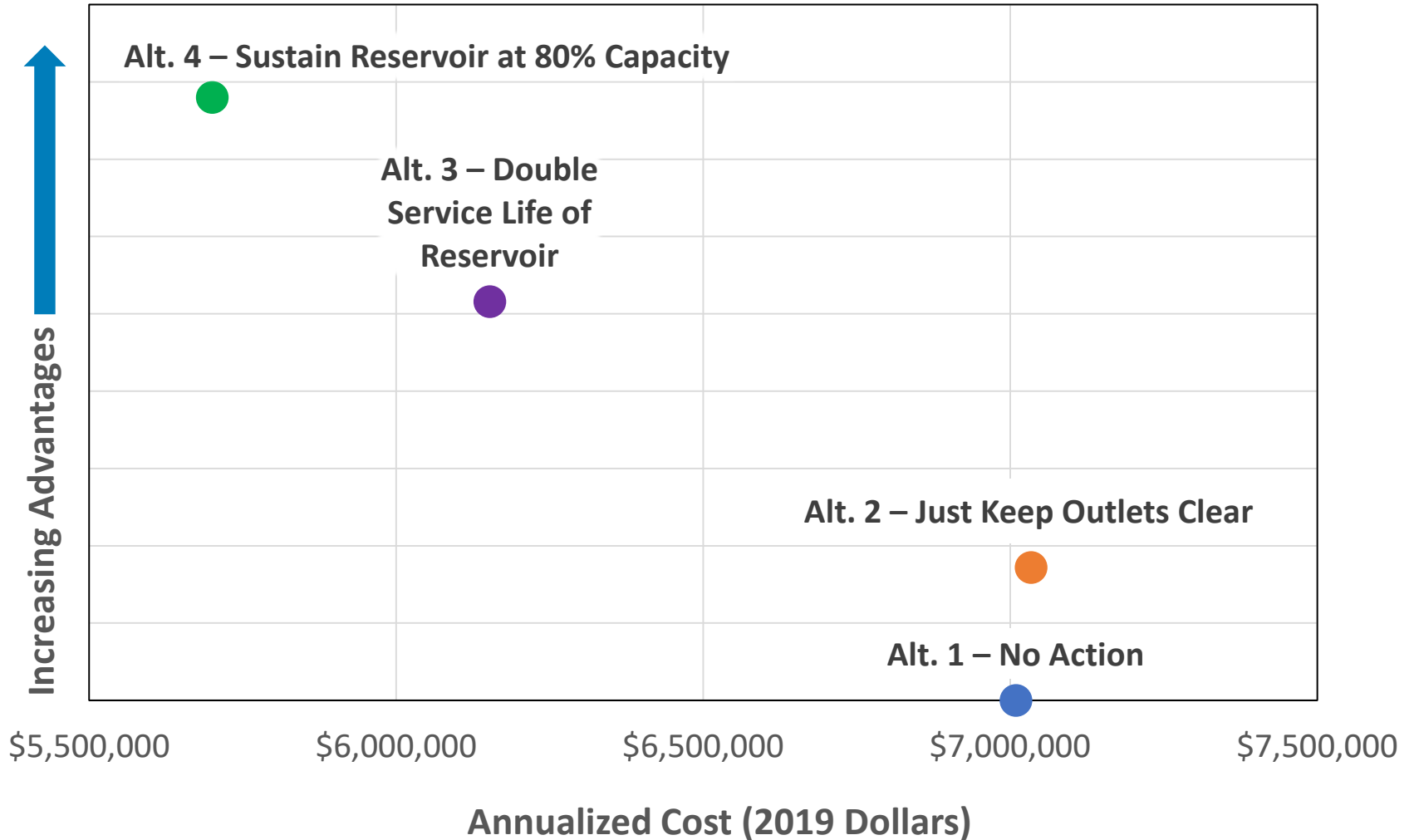
## Alternatives Considered:

1. No Action
2. Just Keep Outlets Clear
3. Double Service Life of Reservoir
4. Sustain Reservoir at 80% Capacity

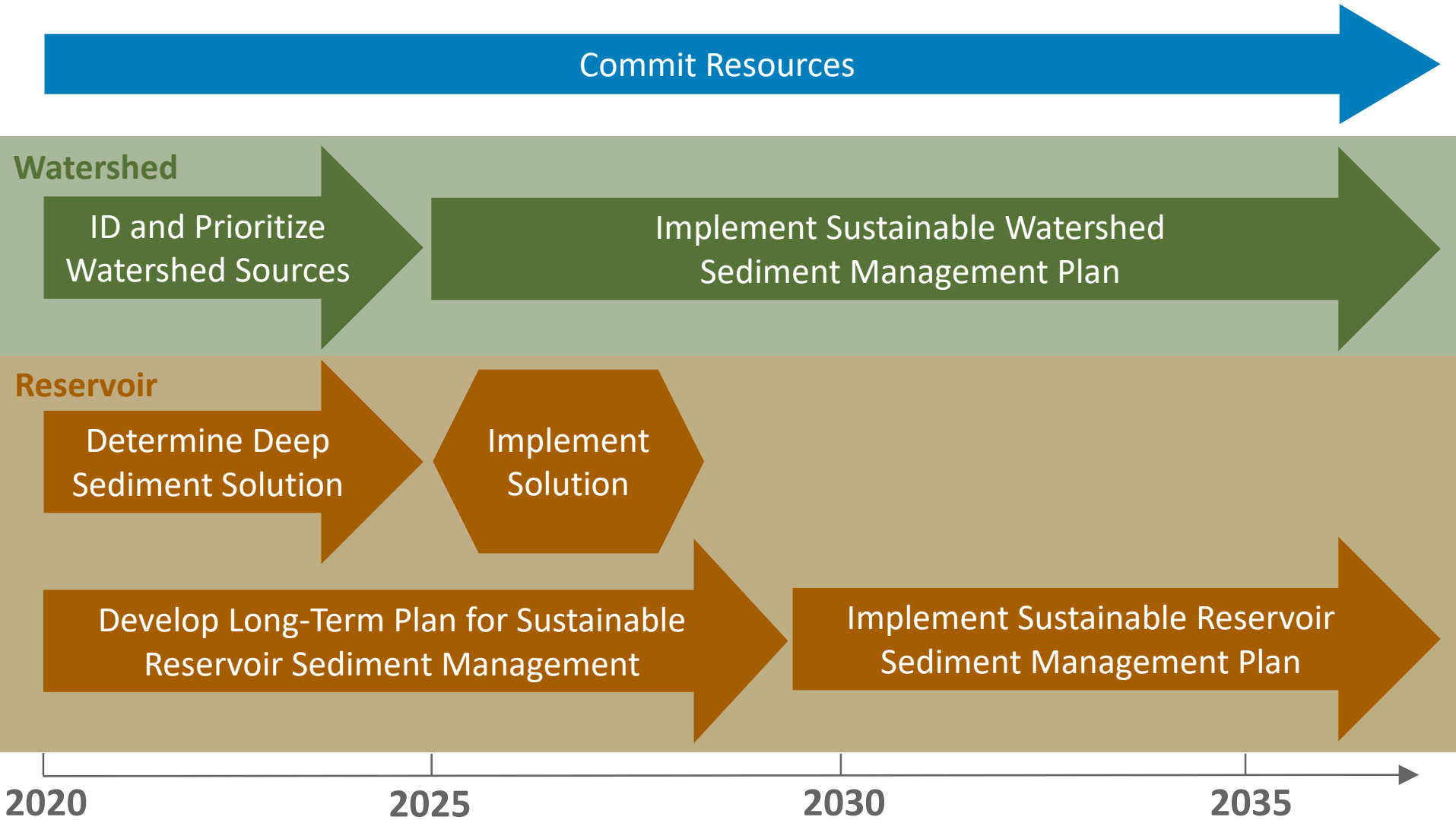
# Comparison of Alternatives at End State



# Choosing by Advantages – Results



# Selected Alternative: Alt. 4 Sustain Reservoir @ 80% Capacity



# Projected Expenditures<sup>1</sup> for Selected Alt.

Year	Watershed Sediment Mgt.	Engineering	Reservoir Sediment Mgt.
2020	\$250,000	\$100,000	
2021	\$500,000	\$250,000	
2022	\$500,000	\$250,000	
2023	\$500,000		
2024	\$500,000		
2025	\$500,000		\$8,000,000
2026	\$500,000		
2027	\$500,000		
2028	\$500,000		
2029	\$500,000	\$100,000	
2030	\$500,000	\$500,000	
2031	\$500,000	\$1,000,000	\$15,000,000
2032	\$500,000		\$15,000,000
2033	\$500,000		\$25,000,000
2034	\$500,000		\$10,000,000

GET SMARTER!

<sup>1</sup>Estimated cost in 2019 dollars

# Questions?



## Network Fleet Idling Report: August 2019

1

**Idle Report Details:**

Idle Time Cut Off (min)	1
Average Idle Percentage	27.48%
Average Idle Time (hr)	13.66
Total Idle Time (hr)	5996.10
Total Operating Time (hh:mm)	22480:07

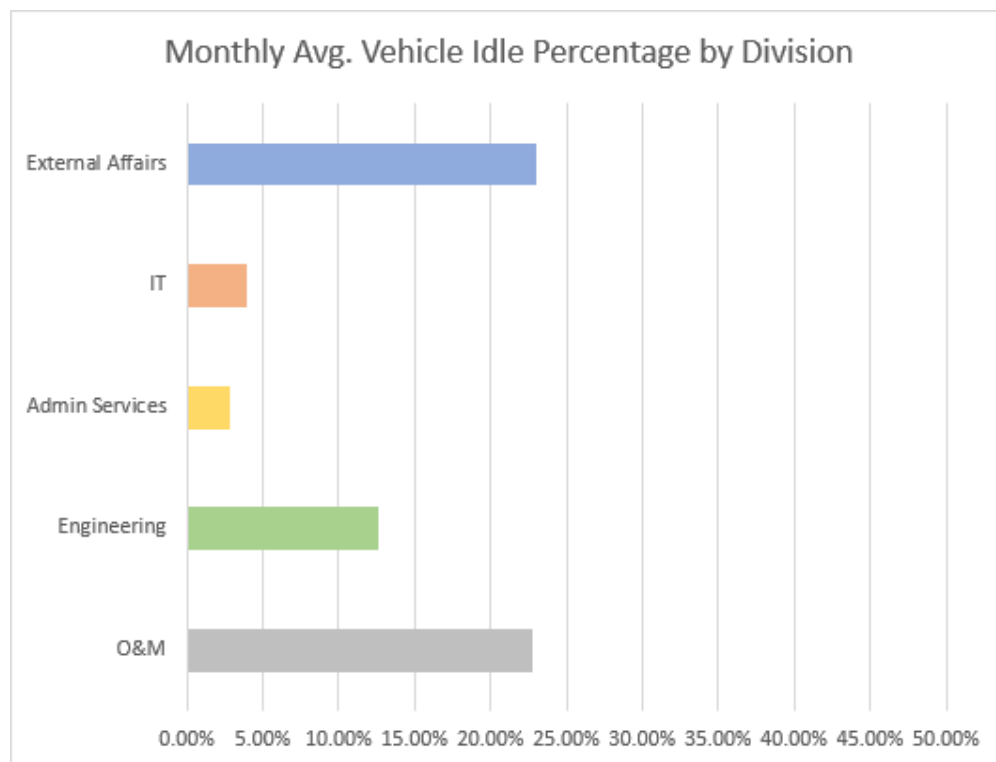
**Organization Wide Monthly Summary:**

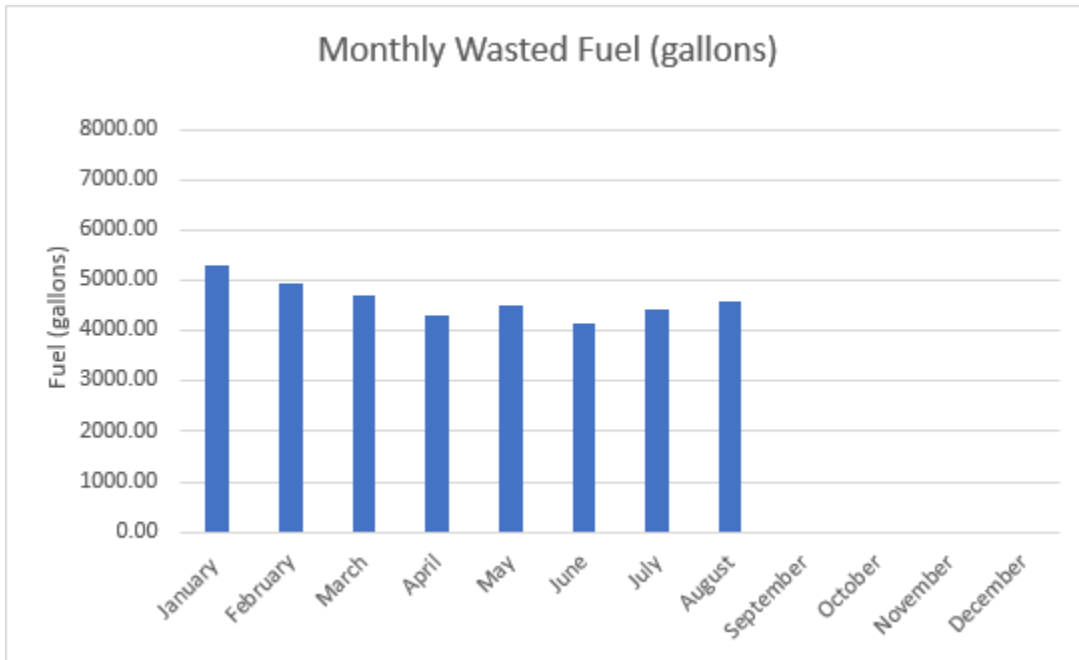
Gallons used Idling:	4576.12	Gallons	▲
Cost:	\$11,934.51	\$	▼
CO2 from Idling:	41889.8	kg	▲
CO2 from Idling:	41.89	metric tons	▲

**Monthly Division Breakdown:**

	Cost	GHG (Metric Tons)	Average idle per vehicle (hr/month)
External Affairs	\$1,507.41	5.29	17.21
IT	\$43.36	0.15	1.28
Admin Services	\$49.03	0.17	1.64
Engineering	\$676.70	2.38	7.56
O&M	\$9,657.09	33.90	15.31

\*\*August 2019 Fuel Cost \$2.608/gal\*\*



**Year to Date Summary:**

	<b>2019</b>
<b>Total YTD Cost:</b>	\$94,649.97
<b>Total YTD CO2 Emissions:</b>	338.09 metric tons
<b>Total Fuel Wasted:</b>	36,934.62 gallons

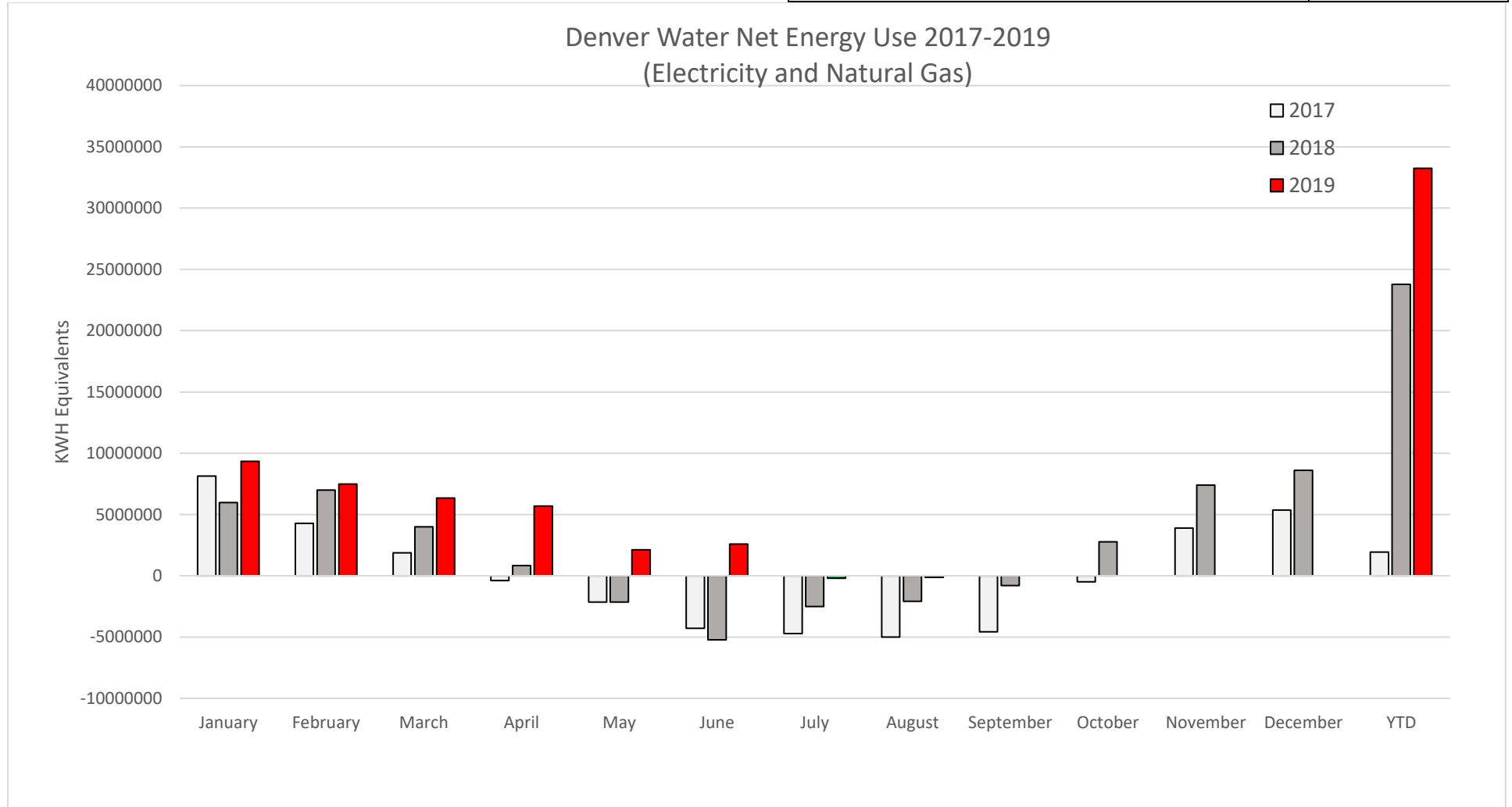
**Top 10 Idling Vehicles:**

Label	Groups	Filtered Idle Time (hr)	Filtered Idle Percentage
V434	1007055200 STREET WORK	97.77	63.27%
V435	1007055200 STREET WORK	90.17	65.03%
V432	1007051000 WD ADMINISTRATION	88.33	51.98%
V075	1007063000 FLEET	84.78	66.58%
V014	1007054100 EMERGENCY SERVICES	83.60	56.88%
V057	1007051000 WD ADMINISTRATION   1007055410 DISTRIBUTION MAINS	81.75	46.81%
V469	1007054300 DISTRIBUTION SERVICES	78.87	56.78%
V106	1007055200 STREET WORK	76.33	46.02%
V147	1007051000 WD ADMINISTRATION	69.77	44.30%
V807	1007051000 WD ADMINISTRATION	69.65	55.18%



ENERGY METRICS

Generated kWh	6,658,308
Consumed kWh equivalent (kwh & natural gas)	6,527,925
Net Energy (kWh equivalent)	<b>-130,383</b>



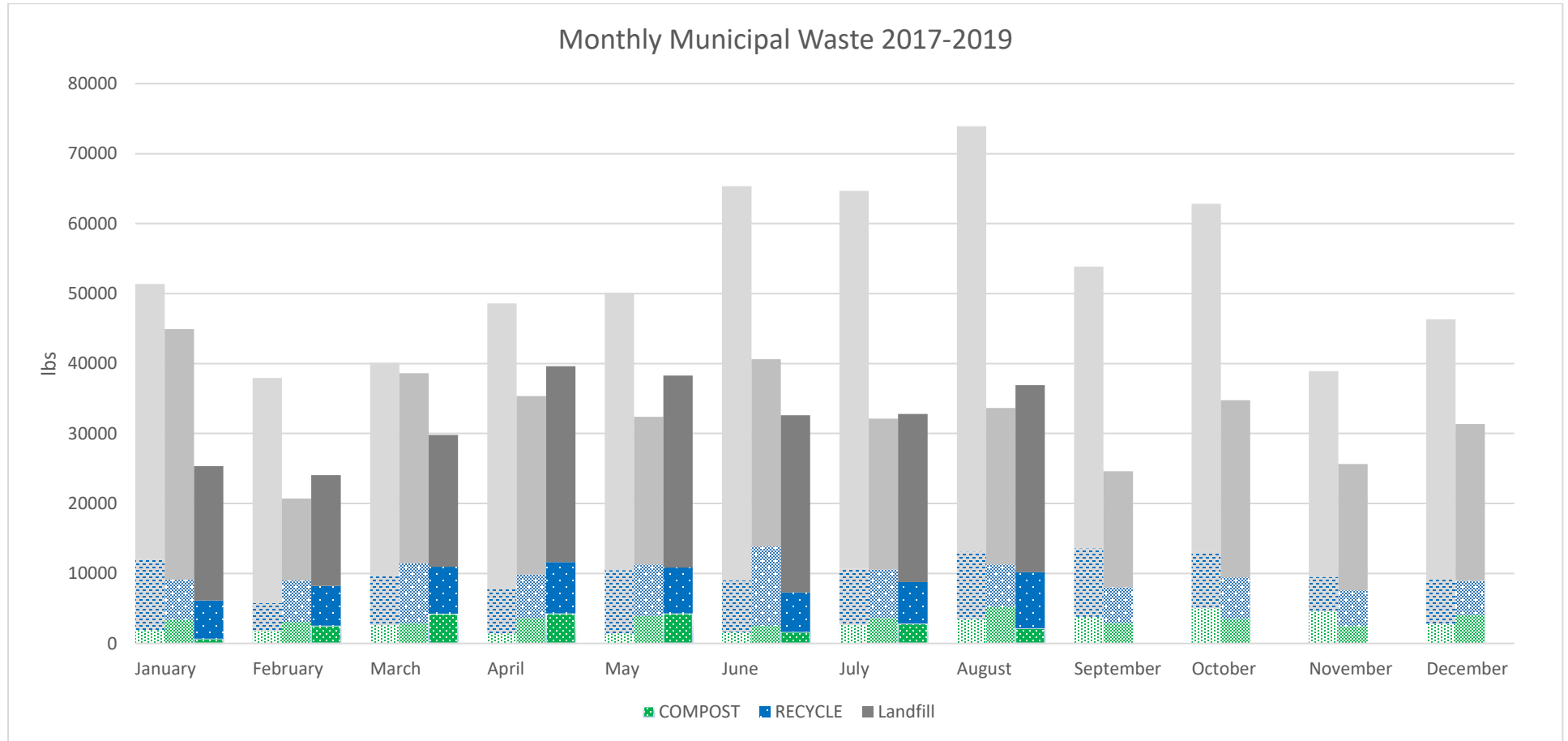
	January	February	March	April	May	June	July	August	September	October	November	December	2019 YTD
Net Energy (kWh eq.)	9,342,115	7,480,925	6,347,959	5,684,622	2,120,447	2,596,653	-202,340	-130,383	0	0	0	0	33,239,998
Utility Delivered Energy (kWh eq.)	10,712,102	9,748,788	9,197,083	7,979,377	4,856,665	5,980,877	6,505,387	6,527,925	0	0	0	0	61,508,204
DW Generated Energy (kWh)	1,369,987	2,267,863	2,849,124	2,294,755	2,736,218	3,384,224	6,707,727	6,658,308	0	0	0	0	28,268,206

10/7/2019

WASTE METRICS

Compost generated lbs/person	2.2
Recycling generated lbs/person	8.1
Landfill generated lbs/person	<b>27.1</b>

\*lbs/person not inclusive of remote location facilities or pump stations



	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC	
	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19
pounds	35,805	<b>19,235</b>	11,700	<b>15840</b>	27,200	<b>18852</b>	25,509	<b>27981</b>	21103	<b>27435</b>	26767	<b>25336</b>	21600	<b>24013</b>	22384	<b>26748</b>	16569		25330		18072		22387	
	5,696	<b>5,421</b>	5,956	<b>5667</b>	8,535	<b>6695</b>	6,255	<b>7343</b>	7366	<b>6541</b>	11330	<b>5622</b>	6908	<b>5947</b>	6049	<b>7998</b>	5144		5922		5113		4905	
	3,414	<b>700</b>	3,049	<b>2552</b>	2,891	<b>4258</b>	3,584	<b>4298</b>	3931	<b>4292</b>	2510	<b>1656</b>	3626	<b>2831</b>	5230	<b>2170</b>	2902		3511		2455		4060	

## EDUCATION METRICS

Outreach Events	# per Month	Total Reached
Coffee Breaks	2	23
Conduits	9	NA
LNLs	2	29
Sustainability Bar	2	12
<b>Total</b>	15	<b>64</b>

## DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: November 6, 2019

Board Item: *(manager's office only)*

### Briefing Paper Regarding Policy Options for Reimbursements for Third Party Lead Service Line Replacements

**Strategic Plan Alignment** This briefing paper presents options for the Board's consideration regarding reimbursement of third party lead service line replacement costs as a part of Denver Water's proposed Lead Reduction Program Plan (LRPP). Denver Water has received inquiries from a variety of customers and other stakeholders regarding whether Denver Water will reimburse customers and others who replace lead service lines ahead of Denver Water's scheduled replacements or who have replaced lines prior to the start of the LRPP. This briefing paper outlines options and associated impacts for discussion at a future Board meeting.

Lenses:  Customer Centric  Industry Leader  Long-Term View

**Summary** Denver Water has recently requested that the Environmental Protection Agency (EPA) approve a variance from the Safe Drinking Water Act's Lead and Copper Rule's corrosion control treatment requirements to allow Denver Water to implement its LRPP in place of orthophosphate treatment. If approved, Denver Water will take a strategic approach to determining how to prioritize lead service line (LSL) replacements based upon health equity and environmental justice (HE&EJ) principles, lead exposure risk, the City and County of Denver's paving schedule, and other relevant factors.

This briefing paper presents the following policy questions for the Board's consideration:

- (1) Should Denver Water reimburse customers, developers and/or the City when they replace LSLs in advance of Denver Water's prioritized LSL replacements under the LRPP?
  - (a) If yes, should reimbursements be made at Denver Water's average cost of LSL replacement, actual third party cost, or a hybrid approach?
- (2) Should Denver Water reimburse distributors in situations in which they would otherwise have to replace LSLs under Denver Water's Operating Rules?
- (3) Should Denver Water allow for retroactive reimbursement of customers who replaced their LSLs at their cost prior to the LRPP?

**Background** Under the LRPP, Denver Water must replace at least 4,477 LSLs per year based upon its current LSL inventory to complete replacement of all LSLs by 2034. In meeting this requirement, Denver Water plans to prioritize replacements based on lead exposure risk, health equity and environmental justice, as well as logistical considerations, as outlined in the LRPP. Areas with the highest risk score will be prioritized for LSL replacement, which will occur according to a block by block or street by street replacement schedule.

Independent of these prioritized LSL replacements, Denver Water will continue to perform unscheduled LSL replacements during water main replacement work or when responding to customer leaks (estimated at 900 per year). These LSLs are currently replaced at Denver Water's cost.

Unscheduled LSL replacements also include situations in which Denver Water requires third parties to replace LSLs at their cost. These include the following types of replacements:

- In cooperation with the Denver Building Department, Denver Water requires customers and developers to replace LSLs when major construction work is being performed at a licensed premise pursuant to Operating Rule 9.04.3 (estimated at 200 to 500 per year).
- Denver Water may require developers to replace LSLs when the developer is also required to make a main extension or upgrade pursuant to Operating Rule 2.09.1 (estimated at 100 per year).
- Denver Water requires the City and County of Denver to replace LSLs disturbed during wastewater improvement projects pursuant to a 2018 Inter-agency Agreement (estimated at 100 per year).

The following table presents the estimated cost of replacing prioritized and unscheduled LSLs based on an assumed average replacement cost of \$6,500:

<b>Type of Replacement</b>	<b>Number of LSLs/Year</b>	<b>Total Cost</b>
Prioritized	4,477	\$29,100,500
Unscheduled		
Main Replacements & Leaks	900	\$5,850,000
Major Construction Permits	500	\$3,250,000
Developer Replacements	100	\$650,000
City IAA Replacements	100	\$650,000
<b>Total:</b>	<b>5,877</b>	<b>\$39,500,500</b>

It is important to note that as part of the LRPP, Denver Water will provide lead filters and replacement cartridges to all customers with known, suspected or possible LSLs until customers' LSL are replaced. Thus, all customers will be protected against lead exposure while they await LSL replacement.

**Policy Question 1: Reimbursement for Unscheduled Replacements**

**Budget**

If a policy is adopted to reimburse customers, developers or the City for unscheduled LSL replacements, Denver Water will need to increase its annual LRPP budget, which could result in a rate increase depending on the number of reimbursements and cost per reimbursement.

**Alternatives**

Four options are presented below:

- Alternative 1 explores the implications of not providing reimbursement for unscheduled LSL replacements.
- Alternative 2 presents an alternative of reimbursing for all unscheduled replacements based upon Denver Water's average LSL replacement cost.
- Alternative 3 presents a policy option of reimbursing for all unscheduled LSLs at actual third-party cost.
- Alternative 4 presents a hybrid policy of compensating the City at actual cost, and all other customers and developers at Denver Water's average cost.

**Alternative 1:** Should Denver Water stay with its current approach, which does not provide reimbursement of customers, developers, or the City for unscheduled replacements made in accordance with the Operating Rules and the 2018 IAA with the City?

Alternative 1	
Pros	Cons
<ul style="list-style-type: none"> <li>• This alternative would enable Denver Water to focus its LSL replacement efforts and funding entirely on prioritized LRPP replacements.</li> <li>• Denver Water would be able to better control the budget for LSL replacement rather than allocate an uncertain amount of resources for third party replacements.</li> </ul>	<ul style="list-style-type: none"> <li>• This approach might cause frustration among customers who would prefer to replace their LSLs now rather than wait for Denver Water to do so.</li> <li>• This approach is not responsive to requests from some stakeholders that we provide support to allow customers to replace their LSLs as soon as possible.</li> <li>• Denver Water would miss an opportunity to increase its annual rate of LSL replacement by incentivizing third party LSL replacement.</li> <li>• There might be questions raised about fundamental fairness: customers would be required to pay for their LSL replacements as part of home remodel projects whereas customers who are not remodeling their properties would have their LSLs replaced at Denver Water’s cost.</li> </ul>

**Alternative 2:** Should Denver Water reimburse customers, the City and developers for unscheduled LSL replacements up to a cap based on Denver Water’s average cost to replace LSLs? Denver Water’s average cost for LSL replacements is currently \$6,500 per line.

Alternative 2	
Pros	Cons
<ul style="list-style-type: none"> <li>• Offering reimbursement to customers not currently prioritized for LSL replacements would support those customers in replacing their own lines when they choose to do so with contractors they select.</li> <li>• This approach could accelerate the rate of LSL replacements or reduce the rate at which Denver Water must replace LSLs without a net increase in the program’s lifetime cost.</li> <li>• Denver Water would not have to pay permit fees for LSL replacement (estimated to be \$25/line).</li> <li>• Denver Water would avoid the risk of claims associated with performing work on private property.</li> <li>• This approach is favorable to the City and developers.</li> <li>• It would help reduce the size and cost of the filter program (a \$100/year savings per customer, approximately).</li> </ul>	<ul style="list-style-type: none"> <li>• Some might argue that the funds used for customer reimbursements should instead be applied to customers who would be next in priority under the prioritization principles.</li> <li>• Reimbursement at Denver Water’s cost might not fully reimburse some customers for the costs they pay out-of-pocket to have their own lines replaced by private contractors.</li> <li>• This approach would require that Denver Water budget additional funds for LSL replacements in the early years of the program, which could in turn impact rates or cause Denver Water to defer other work.</li> <li>• Customers replacing their own LSLs would nonetheless require that Denver Water allocate meter inspectors and personnel to make taps, when these resources might otherwise be needed for prioritized LSL replacements and water main replacement work.</li> <li>• Denver Water would need to determine whether to allow customers of distributors</li> </ul>

<p><i>If this policy is adopted, the Board could use the current average cost of LSL replacements incurred on water main replacement projects during 2020, and use the actual cost seen in the LRPP for each subsequent calendar year.</i></p>	<p>to request reimbursement. This would require coordination with distributors.</p>
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**Alternative 3:** Should Denver Water reimburse customers, the City and developers for unscheduled LSL replacements up to the actual cost for the customer to replace their LSL? Actual cost of LSL replacements by customers tends to be higher and more variable as compared to when Denver Water performs LSL replacements.

<b>Alternative 3</b>	
Pros	Cons
<p>Alternative 3 would have many of the same pros as Alternative 2 above. It would also have the following additional benefits:</p> <ul style="list-style-type: none"> <li>• This approach would provide an additional incentive above option 2 for customers to replace their own LSLs, likely accelerating the rate of LSL replacements.</li> <li>• Reimbursement based upon actual cost would likely be received well by customers seeking reimbursement, as well as other key stakeholders.</li> </ul>	<p>Alternative 3 would have many of the same cons as Alternative 2 above. It would also have the following additional drawbacks:</p> <ul style="list-style-type: none"> <li>• It could add significant cost to the LRPP because customers would not realize the economies of scale that Denver Water can achieve, and full reimbursement eliminates any drivers to minimize cost.</li> <li>• This approach would be open to abuse through customers, developers, or their contractors inflating costs.</li> <li>• This policy option could increase the challenge of budgeting funds for an unpredictable financial commitment.</li> </ul>

**Alternative 4:** Should Denver Water reimburse the City for LSL replacements at actual cost and reimbursement developers and customers at Denver Water’s average cost?

<b>Alternative 4</b>	
Pros	Cons
<p>Alternative 4 has many of the same pros as Alternatives 2 and 3. However, it has the following additional benefits:</p> <ul style="list-style-type: none"> <li>• By allowing the City to recover the actual cost of LSL replacements, this policy approach will likely reduce objections from the City and simplify financial tracking.</li> <li>• By limiting reimbursement of customers and developers to the average cost, Denver Water could avoid the risks of paying inflated costs.</li> </ul>	<p>Alternative 4 has the same drawbacks as Alternative 2.</p>

### Potential Eligibility Requirements for Alternatives 2, 3, and 4:

If Alternative 2, 3 or 4 is adopted, the Board might want to consider establishing eligibility requirements for customer reimbursements to avoid conflict with the LRPP and other stakeholders, such as Denver Public Works Department, as well as to mitigate the drawbacks of these approaches outlined above. The following types of conditions would also help focus resources on the most vulnerable customers:

- Customers could be required to first complete a water quality test, and Denver Water could set a lead concentration threshold to be eligible for reimbursement.

*A lead concentration threshold of 10 parts per billion (ppb), for example, would help Denver Water perfect its LSL inventory and focus resources on those most at risk of lead exposure. Although no level of lead is safe, a level of 10 ppb would also align with EPA's recently proposed changes to the Lead and Copper Rule.*

- The Board could choose to limit the reimbursement eligibility to customers who have children in the home under the age of 18 or who are pregnant.

*Children are the most vulnerable population when it comes to lead exposure. Thus, there is a particular rationale for incentivizing these customers to replace their LSLs.*

- The customer must not be located on a street that the City has paved within the past three years at the time of the request.

*This condition would minimize conflict with Denver Public Works' paving program and would avoid damage to streets that have been recently paved.*

- The Board could opt not to reimburse in cases in which the LSL is already scheduled to be replaced within a year.

*This condition would avoid duplicating already scheduled LSL replacement work and would minimize disruption to City streets.*

- Reimbursement in a given year could be capped based on the amount budgeted for that year.

*The number of customer-reimbursements could be limited to the amount budgeted on an annual basis to minimize impacts to rates or other planned work.*



**Policy Question 2: Reimbursement of Distributors for the Cost to Replace LSLs that Distributors are Required to Replace Under the Operating Rules**

**Background** For the purpose of this briefing paper, it is assumed Denver Water will cover distributors' costs to replace any LSLs within their service areas as part of Denver Water's prioritized LSL replacement schedule. It is conceivable that in some cases Denver Water or its contractor may perform the LSL replacements in the distributors' service areas or, in some cases, distributor might perform the replacements. In either case, additional consideration needs to be given to these issues, with input from distributors.

More immediately, it has come to Denver Water's attention that some distributors might be performing capital projects in the next few years that will impact LSLs. Under Denver Water's Operating Rule 9.04.4, if construction activities in the street result in relocation, cutting or damage to a lead service line, the responsible party must replace all non-copper components of the service line from the water main to the first copper or brass fitting within the structure. This briefing paper poses the question of whether Denver Water should reimburse the distributor for LSL replacements that they would otherwise be required to perform under Denver Water's Operating Rules.

**Budget** If a policy is adopted to reimburse distributors for LSL replacements required under Operating Rule 9.04.4, Denver Water will need to increase its annual LRPP budget, which could impact rates.

**Alternatives** Below, two alternatives are presented. Under Alternative 1, the status quo of requiring distributors to replace LSLs at their cost that have been relocated, cut or damaged, would be maintained. Under Alternative 2, Denver Water would reimburse distributors for the cost to replace these LSLs.

**Alternative 1:** Should the Board maintain the status quo of requiring distributors to replace LSLs that are relocated, cut or damaged at distributors' cost?

<b>Alternative 1</b>	
<b>Pros</b>	<b>Cons</b>
<ul style="list-style-type: none"> <li>The status quo avoids budgeting challenges and the need for a potential rate increase.</li> </ul>	<ul style="list-style-type: none"> <li>Such a policy would likely be disfavored by distributors.</li> <li>The status quo might create a fairness issue if Denver Water is collecting rates from distributors for LSL replacements, but requiring distributors to continue to bear the cost of LSL replacements required under Operating Rule 9.04.4.</li> </ul>

**Alternative 2:** Should the Board adopt a policy of allowing reimbursement of distributors for distributor-performed LSL replacements that are required under Operating Rule 9.04.4?

<b>Alternative 2</b>	
Pros	Cons
<ul style="list-style-type: none"> <li>Such a policy would likely be welcomed by impacted distributors and could encourage additional distributor support for the LRPP.</li> <li>Such a policy is more likely to be perceived as fair to distributors.</li> </ul>	<ul style="list-style-type: none"> <li>Denver Water might face challenges in controlling the budget for LSL replacements, although this could be mitigated by requiring advance notice if a distributor's planned capital work would impact LSLs.</li> <li>This approach could result in higher than anticipated costs for the LRPP.</li> <li>This could add additional complexity to administering the accelerated LSL program, as it would likely require negotiation of intergovernmental agreements for each project.</li> </ul>

If the above alternative is selected, there will be a question as to whether to allow for reimbursement based upon average or actual cost of LSL replacement. Because the distributor is likely working with a contractor as part of its capital projects, and therefore able to reduce costs of the work, the Board may want to consider whether to reimburse the distributor based upon the actual cost of LSL replacement.

### Policy Question 3: Reimbursement for Prior LSL Replacements

#### Background

Some customers have asked whether Denver Water will reimburse customers who replaced their LSLs prior to implementation of the LRPP. It is estimated that since Denver Water enhanced its lead reduction efforts in 2016, approximately 1,325 customers have replaced their lines at their cost as set forth in the table below:

Type of Replacement	Approximate Number of LSLs Replaced between 2016-2019	Approximate Reimbursement Cost
Lines Replaced Due to Construction at Licensed Premise	1,200	\$7,800,000
DURA Revolving Loan Fund	55	\$357,500
Leaks Between Meter and House	70	\$455,000
<b>Total</b>	<b>1,325</b>	<b>\$8,612,500</b>

#### Budget

If a policy is adopted to reimburse customers for LSLs previously replaced at the customers' cost, Denver Water would need to increase its annual LRPP budget, which might result greater rate increases.

#### Alternatives

Two alternatives are presented below. Under Alternative 1, Denver Water would maintain the status quo by not providing for reimbursement of customers who have

had their LSLs replaced in the past. Under Alternative 2, a policy is presented of reimbursing customers for the LSLs previously replaced at the customer's cost.

**Alternative 1:** Should Denver Water maintain the status quo through a policy that does not reimburse customers for LSLs previously replaced at customers' expense?

Alternative 1	
Pros	Cons
<ul style="list-style-type: none"> <li>This approach would avoid an adverse budget impact.</li> <li>This policy would allow Denver Water to conserve its financial resources for future LSL replacements.</li> </ul>	<ul style="list-style-type: none"> <li>Customers who have previously paid to replace their LSL might not be supportive of this approach.</li> </ul>

**Alternative 2:** Should the Board adopt a policy to reimburse customers who have previously replaced their LSLs at their own cost?

Alternative 2	
Pros	Cons
<ul style="list-style-type: none"> <li>It would create a sense of fairness for customers who have already paid the cost to replace their LSLs.</li> <li>It could increase support for the LRPP and any needed rate increases among those who have already replaced their LSLs.</li> </ul>	<ul style="list-style-type: none"> <li>It would add cost to the LRPP without reducing the LSL replacement work Denver Water will need to perform.</li> <li>It could be difficult for some customers to document the costs they paid for LSL replacements previously performed.</li> <li>It could be difficult to set criteria for reimbursement after the fact.</li> </ul>

Should the Board decide to reimburse customers for prior LSL replacements, additional consideration will have to be given to the following questions:

- How far back in time should Denver Water go in approving reimbursement?
- Should eligibility be limited to customers or should other third parties also be reimbursed?
- What standards and documentation requirements should apply?
- Should there be caps on the numbers of LSL replacements eligible for reimbursement or on the reimbursement rate?

**Conclusion** This briefing paper is being provided for informational purposes to help inform the Board's decision on the policy questions posed above. It is anticipated that the alternatives presented above will require further discussion at a future Board meeting.

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**Attachments** None.

Respectfully submitted,

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