## AGENDA Denver Board of Water Commissioners

Video Conference: http://zoom.us/join, Meeting ID: 988 1535 8154 - Passcode: 302381 or

Dial in (669) 900-6833 - Meeting ID: 988 1535 8154 - Passcode: 302381

Wednesday, December 2, 2020 9:00 a.m.

#### I. INTRODUCTORY BUSINESS

#### A. Call to Order and Determination of Quorum

#### **B. Public Comment and Communications**

At this point in the agenda, the Board may allow members of the public to address the Board on any item of interest within the jurisdiction of the Board, and not on the agenda for action. Speakers wishing to address a specific Action Item will be invited to address the Board when the item is being considered. Three minutes are allowed for each person unless the President determines otherwise.

- 1. Distributor Communications
- 2. Citizen Advisory Committee Communications
- C. Ceremonies, Awards and Introductions
- D. Annual Meeting Agenda Minutes from December 4, 2019

#### II. ACTION ITEMS

#### A. Consent Items

Items listed below are considered routine and may be enacted by one motion and vote. If any Board member desires discussion beyond explanatory questions, or corrections to the Minutes, the President may order that item to be considered in a separate motion and vote.

- 1. Minutes from November 4, 2020
- 2. Minutes from November 18, 2020
- 3. Amendment No. 2 with Pure Technologies for Conduit No. 94 Electromagnetic Inspection and Acoustic Fiber Optic Monitoring System Contract 500917
- 4. Intergovernmental Agreement for the Rueter-Hess Drought Water Supply Pilot Plan Agreement 504649

#### **B.** Individual Approval Items

**1.** 2021 Budget Presentation

Stephanie Abram

15 minutes

a. Approval of 2021 Budget

DENVER WATER

#### III. POLICY MATTERS

A. National Western Update

Nicole Poncelet

10 minutes

**B.** Hillcrest Year-End Review

Paul Ries

10 minutes

#### IV. EXECUTIVE UPDATE

- A. CEO Update
- **B.** CFO Update
  - 1. Monthly Financial Update
- C. Operations Update

#### V. BRIEFING PAPERS & REPORTS

- A. Briefing Paper
  - 1. Integrated Marketing Strategy
  - 2. Sustainability Update
- B. Report

- VI. ADJOURNMENT
- VII. TRUSTEE MATTERS
- VIII. EXECUTIVE SESSION

The Board may adjourn the regular meeting and reconvene in executive session on topics authorized by D.R.M.C Sec. 2-34.

A. Confidential Report



#### **Denver Board of Water Commissioners**

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Dial in (669) 900-6833 - Meeting ID: 988 1535 8154 - Passcode: 302381

Wednesday, December 2, 2020 9:00 a.m.

I. Call to Order

#### **II.** Election of Officers

**President and First Vice President Secretary and Assistant Secretaries** 

#### **Present Officers**

H. Gregory Austin President

Gary M. Reiff First Vice-President
Paula Herzmark Vice-President
John R. Lucero Vice-President
Craig A. Jones Vice-President

#### Present Secretary and Assistant Secretaries

James S. Lochhead Secretary

Julie A. Anderson
Angela C. Bricmont
Brian D. Good
Assistant Secretary
Mike King
Robert J. Mahoney
Thomas J. Roode
Assistant Secretary
Assistant Secretary
Assistant Secretary
Assistant Secretary
Assistant Secretary

- **III. Other Business**
- IV. Adjournment



#### DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 2, 2020 Board Item: II-A-3

## Amendment No. 2 with Pure Technologies for Conduit No. 94 Electromagnetic Inspection and Acoustic Fiber Optic Monitoring System Contract 500917

	□Individual Action
•	

#### Purpose and Background:

Conduit No. 94 is a 15.8-mile-long pipeline that carries treated water from the Moffat Treatment Plant to the 56th Avenue Pump Station and Reservoir. This 60-, 66-, and 72-inch conduit was constructed in the mid-1970s of prestressed concrete cylinder pipe for approximately 10.5 miles of the conduit. This prestressed concrete cylinder pipe was manufactured with high tensile strength wire, which has been found to be susceptible to breakage and may lead to premature pipe failures.

To address this concern, Denver Water awarded a contract to Pure Technologies in 2014 for continuous monitoring of the pipeline which is accomplished with an acoustic fiber optic monitoring system. The monitoring system detects and locates wire breaks in real-time, producing data used to prioritize pipe repairs and section replacements to reduce the risk of needing to replace the entire conduit. The original contract was approved by the Board August 27, 2014 in the amount of \$1,625,506 for several items, which included a pipeline condition assessment inspection, furnishing and installing a pipeline monitoring system, and one year of operating the pipeline monitoring system. The first amendment was approved by the Board February 10, 2016 to extend monitoring and maintenance services through December 2020.

This second amendment extends the contract to include monitoring of the system through December 2025. Denver Water negotiated with the firm to establish a fixed annual price of \$112,051 for the term of the service. The fixed price is the same amount agreed upon in the original contract. Denver Water has included funds in the long-term budget for this work.

#### **Budget and Schedule:**

The total amount of this amendment is \$560,255 and the term of the contract will be extended through December 31, 2025. Funds for this contract are proposed in the 2021 budget for Conduit No. 94 Acoustic Fiber Optic Monitoring business unit, which has sufficient funds to pay the \$112,051 estimated to be needed in 2021. The remaining \$448,204 will be budgeted in years 2022 through 2025.

#### **Selection of Business Partner:**

The original contract required a sole source solicitation because this firm utilized proprietary inspection and monitoring equipment. An amendment is recommended in lieu of a new solicitation due to the proprietary nature of this system and the fixed annual price with no increases over current rates.

#### S/MWBE Information:

Minority and Women-owned Business Enterprise goals were not established due to the specialized nature of the work.



#### **Recommendation:**

Staff recommends that the Board approve this second amendment to Contract 500917 with Pure Technologies to operate the pipeline monitoring system through December 31, 2025 and for an additional amount of \$560,255 for a total amended contract amount not to exceed \$2,746,016.

Approvais:	
⊠ James S. Lochhead, CEO/Manager	☐ Brian D. Good, Chief Administrative Officer
☐ Julie Anderson, Chief of Staff	☐ Mike King, Chief External Affairs Officer
☐ Jessica R. Brody, General Counsel	oxtimes Robert J. Mahoney, Chief Engineering Officer
☑ Angela C. Bricmont, Chief Financial Officer	☐ Thomas J. Roode, Chief Operations Officer

#### **DENVER BOARD OF WATER COMMISSIONERS**

Meeting Date: December 2, 2020 Board Item: II-A-4

#### Intergovernmental Agreement for the Rueter-Hess Drought Water Supply Pilot Plan – Agreement 504649

Supply Pilot Plai	n – Agreement 504649
⊠Action by Consent	□Individual Action
the feasibility of future water storage opportunitie Rueter-Hess Reservoir (RHR). This Intergovernr Water Supply Pilot Plan between Denver Water, and East Cherry Creek Valley Water and Sanitat temporarily book over water into RHR. A pilot protrack Denver Water's water. At a time agreed to the pilot project storage account will be traded worked pilot plan storage account will be transferred transferred from Castle Rock Water's account in Water will receive all its water back less any transpilot project to test the feasibility of a longer-term. The exact amount of water to be transferred into known, but the objective of this pilot is to test relations.	or future water supply needs, staff has been exploring es in Parker Water and Sanitation District's (PW&SD) mental Agreement (IGA) for the Rueter-Hess Drought PW&SD, Town of Castle Rock (Castle Rock Water), tion District (ECCV) will allow Denver Water to oject storage account will be established in RHR to by Denver Water and Castle Rock Water, the water in with Castle Rock Water's account in Chatfield Reservoir. It to Castle Rock Water and an in-kind amount will be Chatfield Reservoir to Denver Water. Thus, Denver the insit and evaporative losses. The IGA will operate as a marrangement to store water that would otherwise spill. It and out of the pilot project storage account is not actively small amounts of water transfers. Likely between red into and out of RHR over the entire four-year Pilot
Budget and Schedule: There is no budgetary impact for this item. The Fand continue through December 31, 2024.	Pilot Project will begin once all approvals are received
	ement 504649 with PW&SD, Castle Rock Water, and Project Plan for the contract period December 15, 2020
Approvals:	
	☐ Brian D. Good, Chief Administrative Officer



☐ Robert J. Mahoney, Chief Engineering Officer

☐ Thomas J. Roode, Chief Operations Officer

☐ Julie Anderson, Chief of Staff

☐ Jessica R. Brody, General Counsel

☐ Angela C. Bricmont, Chief Financial Officer





## Approach to 2021 Budget Development

- A team of experts from across the organization was formed in early April to develop multi-year scenario plans to assess the potential revenue and cost impacts of COVID-19
- During budget development, divisions reviewed every project, program, and expenditure to identify areas where costs could be reduced with minimal impact to our mission and to accommodate a lower than planned rate increase of 1.5%
- Significant reductions were identified, which helped to offset costs for the required expansion of CO811 utility locating and the increased costs for materials, supplies, and chemicals critical to our daily operations



## 2021 Budget Summary

### Sources of Funds/Revenue - \$709.8M

- Increase of \$186.4M from 2020
  - Water Sales reflect updated demand projections and approved 1.5% rate increase to support the Lead Program
  - Reduction to SDC budget to reflect slowing growth and uncertainty around COVID-19 related impacts
  - Includes \$350M debt issuance planned for 2<sup>nd</sup> quarter 2021



## 2021 Budget Summary

## Operating Expense w/o Projects - \$195.8M

- Increase of \$0.8M from 2020
  - Total FTE and LTE 1,149.16
    - Increase of 25.37 FTE (includes new FTE to support CO811 and DW performed main replacements)
    - No change in LTE total
  - Salary budget includes a decrease to the budgeted vacancy rate to 3.5% in 2021 from 5% in 2020.
  - Salary budget does not include a merit increase due to constraints placed on budget from lower rate increase coupled with increased operating costs
    - Do not anticipate a negative impact on competitive alignment of Total Rewards package as many Front Range peers are not budgeting for merit increases
  - Includes reductions made across all divisions in multiple expenditure areas (Seasonal Labor, Contingent Staffing, Professional Services, Travel, Conferences, Sponsorships)
  - Additional budget added to support Water Distribution (Other Pay, Construction & Field Services, Materials & Supplies) and Water Quality & Treatment (Chemicals)



## Projected 2021 Merit Increases for Front Range Peers

	Projected Merit	
Organization	Increase	Notes
City of Colorado Springs	0%	
Colorado Springs Utilities	0%	
State of Colorado	0%	
Centennial Water District	3%	
City of Aurora	2%	Reducing FTE
City of Boulder	0%	3% for Police pursuant to collective bargaining agreement
City and County of Denver	0%	
City of Fort Collins	0%	Considering a one time "bonus type" payment. Timing uncertain, if approved.
Southwest Metro Storm Water Authority	4%	

Source: Employer's Council Employer Survey, July 2020 – response verified November 2020



## 2021 Budget Summary

## Operating Projects - \$12.8M and Capital Projects - \$356.7M

- Operating Projects Decrease of \$13.4M from 2020
  - Two projects moved to Capital: Chatfield Orphan Shares and lead service lines removed by Water Distribution
- Capital Projects Increase of \$60.3M from 2020
  - Major projects in 2021 include: Lead Reduction Program, Northwater Treatment Plant, Main Replacements & Improvements



## 2021 Budget Summary

DENVER WATER - 2021 BUDGET									
2020 2021 2020-2021 %									
\$ in thousands	Current Budget	Proposed Budget	Budget Change	Budget Change					
Water sales	306,147	311,270	5,124	1.7%					
Hydropower	3,872	3,801	(71)	-1.8%					
Special assessments and fees	6,940	7,057	117	1.7%					
SDC revenue	29,985	22,000	(7,985)	-26.6%					
Contributions	8,032	5,485	(2,547)	-31.7%					
All other Revenue	13,453	10,221	(3,232)	-24.0%					
TOTAL REVENUE	\$ 368,429	\$ 359,835	\$ (8,594)	-2.3%					
Proceeds from debt	155,000	350,000	195,000	125.8%					
TOTAL SOURCES OF FUNDS	\$ 523,429	\$ 709,835	\$ 186,406	35.6%					
Salaries and Benefits	129,340	128,748	(591)	-0.5%					
Professional and Purchased Services	43,677	44,999	1,322	3.0%					
Materials, Supplies, and Chemicals	19,461	20,440	978	5.0%					
Travel, Training, and Conferences	1,390	501	(889)	-64.0%					
Other Expense	1,143	1,129	(14)	-1.2%					
TOTAL OPERATING w/o PROJECTS	\$ 195,011	\$ 195,817	\$ 806	0.4%					
Information Technology Projects	4,527	4,094	(433)	-9.6%					
Systems and Programs Projects	21,577	8,654	(12,923)	-59.9%					
Operating Projects (incl. applied labor)	26,104	\$ 12,748	(13,356)	-51.2%					
TOTAL OPERATING COSTS	\$ 221,115	208,565	\$ (12,550)	-5.7%					
Information Technology	156	968	812	519.7%					
Systems and Programs Projects	296,249	355,745	59,496	20.1%					
TOTAL CAPITAL (incl. applied labor)	\$ 296,405	\$ 356,713	\$ 60,308	20.3%					
Interest expense	26,243	32,071	5,828	22.2%					
Principal payments	19,926	18,280	(1,646)	-8.3%					
DEBT SERVICE	\$ 46,169	\$ 50,351	\$ 4,182	9.1%					
TOTAL USES OF FUNDS	\$ 563,688	\$ 615,629	\$ 51,941	9.2%					

GRANT FUNDS - SUMMARY						
Grant Name	<b>Grant Period</b>	Expense	Actuals to Revenue	Date Expense		
Healthy Babies Bright Futures	October 13, 2020 to April 30, 2022	25	-	-		

<sup>\*</sup>Note: The revenue and expenditures listed in this summary are not included in the preceding Denver Water financial report

#### **DENVER BOARD OF WATER COMMISSIONERS**

Meeting Date: December 2, 2020 Board Item: II-B-1

#### **Approval of 2021 Budget**

☐Action by Consent	⊠Individual Action
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#### Purpose and Background:

Due to economic uncertainty caused by the pandemic, along with a lower approved rate increase for 2021, Denver Water has taken a proactive approach to reduce costs and ensure the organization is well-positioned financially now and in the future. Each project, program, and expenditure was reviewed during the budget development process to identify costs that could be deferred, delayed or eliminated with minimal impact to our mission.

Staff presented to the Board the proposed 2021 budget at the November Budget Workshop. The 2021 budget reflects the financial strategy provided to the Board during the financial planning presentations in July and September 2020. The 2021 budget includes revenue of \$359.8M, a planned bond issuance of \$350.0M, and \$615.6M of budgeted expenditures. There is also one grant budgeted for 2021.

A summary of the 2021 budget is below:

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\$ in thousands	Current Budget	Proposed Budget	Budget Change	Budget Change				
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neartify babies bright Futures	to April 30, 2022	25	25	_	-	

<sup>\*</sup>Note: The revenue and expenditures listed in this summary are not included in the preceding Denver Water financial report

#### **Budget and Schedule:**

This board item is for approval of the overall 2021 budget for Denver Water.

<u>S/MWBE Information:</u>
Small/Minority and Women-owned Business Enterprise goals are not applicable for this item.

#### **Recommendation:**

Staff recommends that the Board approve the proposed 2021 Budget as summarized in this Board item.

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☑ James S. Lochhead, CEO/Manager	$\square$ Brian D. Good, Chief Administrative Officer
☑ Julie Anderson, Chief of Staff	☐ Mike King, Chief External Affairs Officer
□ Jessica R. Brody, General Counsel	☐ Robert J. Mahoney, Chief Engineering Officer
	☐ Thomas J. Roode, Chief Operations Officer

#### DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 2, 2020 Board Item: V-A-1

#### **Briefing Paper for Integrated Marketing Strategy**

## Strategic Plan Alignment

The Public Affairs Integrated Marketing Team helps educate and engage our community and customers while reinforcing our brand and positioning Denver Water as the trusted source on water, as outlined in the Strategic Plan.

Lenses: ☐ Customer Centric ☐ Industry Leader ☐ Long-Term View

#### **Summary**

The Integrated Marketing Team supports Denver Water's brand reputation and works to maintain the trust we have with the communities we serve, including (but not limited to) employees, customers, stakeholders, partners, source markets and elected officials. Maintaining this trust is especially important in times of uncertainty.

In response to COVID-19, the team pivoted from carrying out the planned "Life is better with water" campaign to other efforts, including: addressing public concern about the pandemic with a hand-washing campaign, supporting the launch of the Lead Reduction Program, wrapping up OCR signage, migrating Denver Water's TAP news site to a more stable platform and continuing to ensure consistent delivery of our brand across several projects and organizational initiatives.

#### **Background**

The Integrated Marketing team manages Denver Water's external websites, supports external communications about key Denver Water initiatives, provides graphic design services and ensures consistent visual expression of Denver Water's brand identity across the organization. We work closely with the Public Affairs Communications Team to create content for TAP, social media and other internal and external communication channels. Together, we execute the integrated communications and marketing plans.

At the start of 2020, the Integrated Marketing Team planned to carry out the following initiatives:

- Launch the "Life is better with water" advertising campaign.
- Develop and distribute external communications for Denver Water's Lead Reduction Program, North System Renewal, Water Efficiency Program and Gross Reservoir Expansion Project.
- Manage and finalize the Operations Complex Redevelopment wayfinding signage and wall graphics in the Three Stones building.
- Manage the creation and installation of the three public art structures at the new complex.
- Develop an overall brand consistent signage plan for Denver Water's recreation areas.
- Migrate the TAP news site from WordPress to the Drupal content management system, which we use for denverwater.org, to increase site stability and security.
- Provide daily support through graphic design work, website management and email development for the organization.



#### **Approach**

The Integrated Marketing Team carried out the majority of its overall plan for 2020, though the "Life is better with water" advertising campaign was mostly paused due to budget reductions and the pandemic.

We initiated the new ad campaign with nine outdoor billboards and targeted digital ads in the first quarter of 2020. When the budget restrictions came about due to the pandemic, we canceled the remaining media of the paid campaign, except for one contract that was already committed. For that space, we pivoted from "Life is better with water" messaging to promote hand-washing during the early months of COVID-19. We also integrated all of this messaging and the new campaign into our customer and employee communications, such as WaterNews, Pipeline, social media, TAP and denverwater.org.

Other key highlights this year include:

- Supporting the Lead Reduction Program through program branding, creating materials in English and Spanish, targeted mailings, revamping denverwater.org/Lead, running two paid media campaigns and more.
- Completing the interior graphics installation in the Three Stones building in September.
- Anticipating completion of the public art installation by the end of the year.

#### In 2021, we are planning to:

- Continue integrating "Life is better with water," where appropriate, throughout Denver Water external communications.
- Migrate the Gross Reservoir Expansion website from its current platform to the Drupal platform that we use for denverwater.org for increased stability and security.
- Develop a business case for an organizational customer relationship management (CRM) database tool to help manage customer, partner, property owner and other community contacts to effectively manage information and customize targeted communications. The CRM will be extremely helpful in managing the Lead Reduction Program, Gross Reservoir Expansion Project and other organizational initiatives.
- Select a linguistics agency through RFP to assist with culturally relevant content in multiple languages to reach more of our customers about important programs.
- Finalize and execute the wayfinding signage masterplan for Denver Water's recreational facilities to ensure consistency in experience for visitors.
- Incorporate lessons from 2020 to continue supporting the Lead Reduction Program in a more efficient and targeted way.

#### Owner(s)

Kathie Dudas, Brand and Marketing Manager, External Affairs

#### **Attachments**

PowerPoint with examples of work from:

- "Life is better with water" and COVID-19 messaging.
- Lead Reduction Program communications, website, media campaign images and metrics.
- OCR signage and public art.

Respectfully submitted,  $\boxtimes$  Kathie Dudas, Brand and Marketing  $\boxtimes$  Mike King, Chief External Affairs Officer

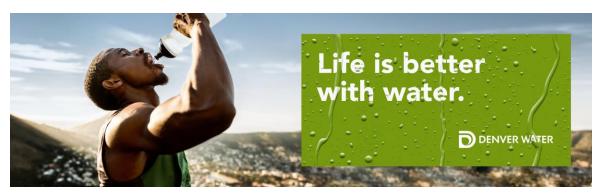


"Life is better with water" campaign (March 9 through May 18).









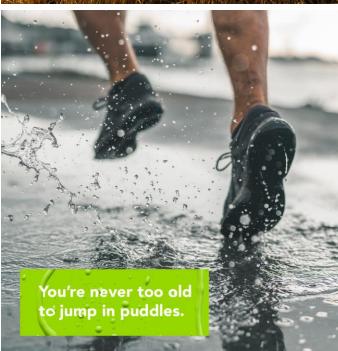
Billboards launched March 9 in various locations throughout the Denver metro area.

When the pandemic hit, the remaining media plan was canceled.









Digital ads were created but pulled due to COVID-19.

We did use the images on our social media channels, Twitter, Instagram and Facebook, throughout the summer.





Targeted digital ads promoting hand-washing ran April 13 through May 1.

The campaign produced more than 6 million impressions and more than 13K click-throughs to TAP stories about Denver Water's COVID-19 response.

Additionally, we used the images in English and Spanish on social media channels Twitter, Instagram and Facebook through the peak months of the pandemic.



# Lead Reduction Program campaigns







Small billboards appeared in 13 locations identified as priority neighborhoods for the Lead Reduction Program. The purpose was to build awareness of the program and reinforce the use of the water filter pitchers.







This billboard ran in one of the priority neighborhoods in which Spanish was identified as the dominant language.



To make sure lead stays out of your water, we're starting with your pipes.

Denver Water is committed to delivering safe water to our community. So, we're replacing customers' lead pipes, one impacted property at a time. To find out if you're one of them, visit our website.

Learn more at DenverWater.org/Lead







Para asegurarnos de que su agua no tenga plomo, empezaremos por sus tuberías.

En Denver Water tenemos el compromiso de entregar agua segura a nuestra comunidad. Por eso, estamos remplazando las tuberías de plomo de nuestros clientes, una por una. Para saber si tiene una línea de servicio de plomo, visite nuestro sitio web.

Obtenga más información en DenverWater.org/Lead





The English version of this ad ran in Greater Park Hill News, Colorado Community News (Denver Herald), Life on Capitol Hill, Wash Park Profile, Cherry Creek/Glendale Chronicle, Denver Urban Spectrum and Asian Avenue Magazine starting June 29.

The Spanish version ran in La Prensa, El Semanario, La Voz and El Comercio de Colorado starting June 29.

Running ads in the community newspapers also opened doors for them to run more in-depth stories about the program.



## Lead is heavy on our mind.

Though the water we provide is safe, clean and lead-free, lead can get into the water as it moves through customerowned plumbing. So we're replacing customer service lines, one impacted property at a time. To find out if you're one of them, visit our website.

Learn more at DenverWater.org/Lead







# El plomo pesa mucho en nuestras mentes.

Aunque el agua que proveemos es segura, limpia y libre de plomo, este se puede mezclar con el agua al pasar por las tuberías de su casa. Por eso, estamos remplazando las líneas de servicio de nuestros clientes, una por una. Para saber si tiene una línea de servicio de plomo, visite nuestro sitio web.



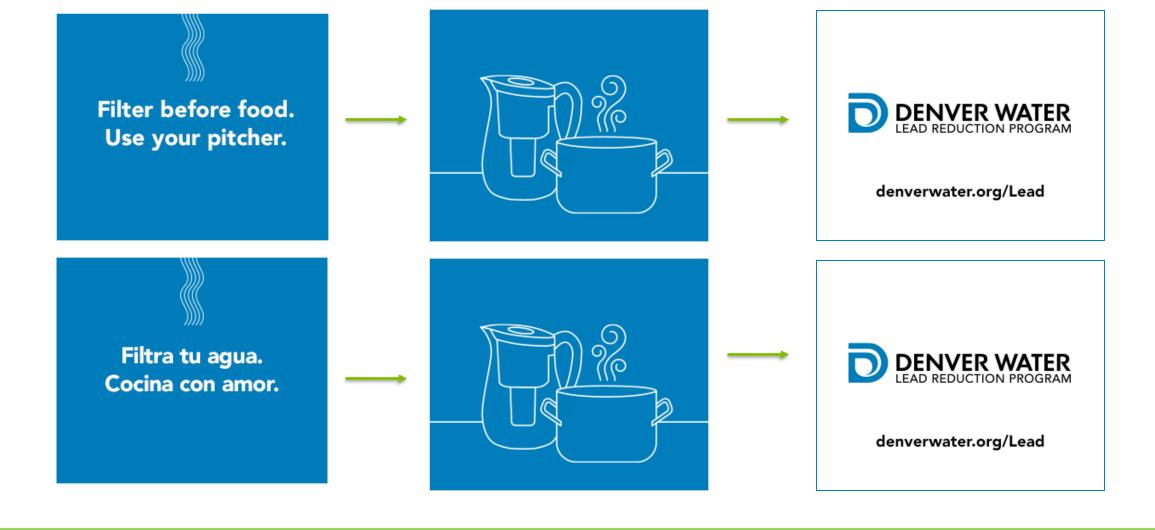
Obtenga más información en DenverWater.org/Lead



The English version of this ad ran in Colorado Community News (Denver Herald) on July 13.

The Spanish version ran in La Prensa, El Semanario, La Voz and El Comercio de Colorado on July 13.

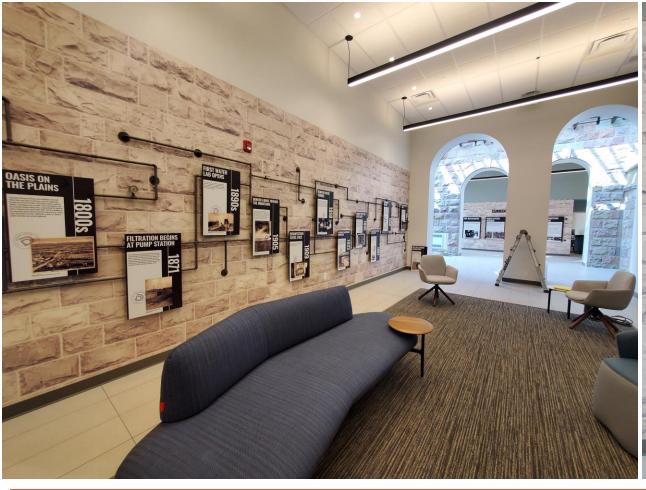
Additionally, all the print ad creative was resized and repurposed for Denver Water social media: Twitter, Instagram and Facebook.



Animated digital ads ran in English and Spanish promoting using filtered water for cooking. The campaign targeted residents who live in identified priority neighborhoods.

This campaign produced 4.3 million impressions and more than 35K click-throughs to denverwater.org/Lead.



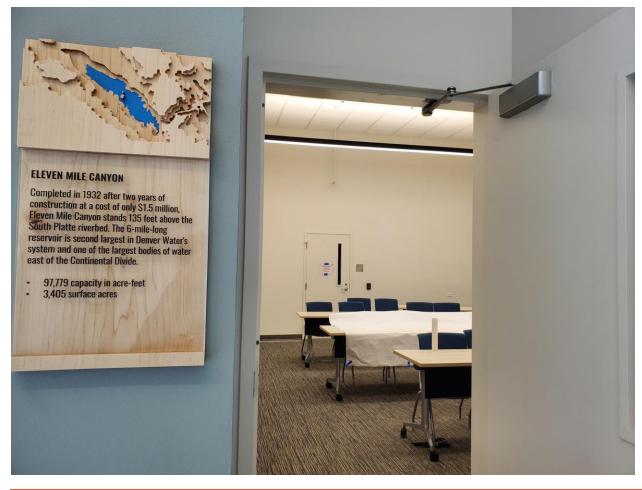




Installed a timeline of Denver Water's history in the main lobby.

Created a wall of "Current Projects" that can be updated as projects change.

The wallpaper behind the timeline and current projects was created using images of the actual stones in the Three Stones building.

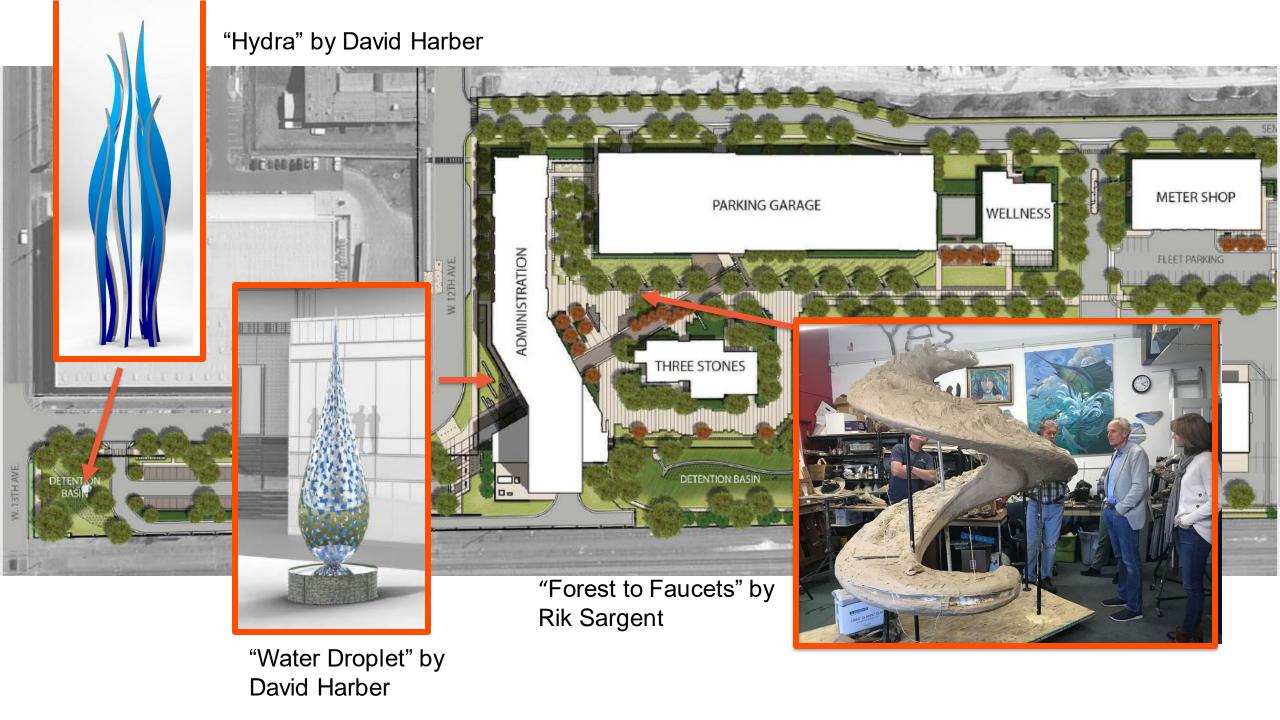


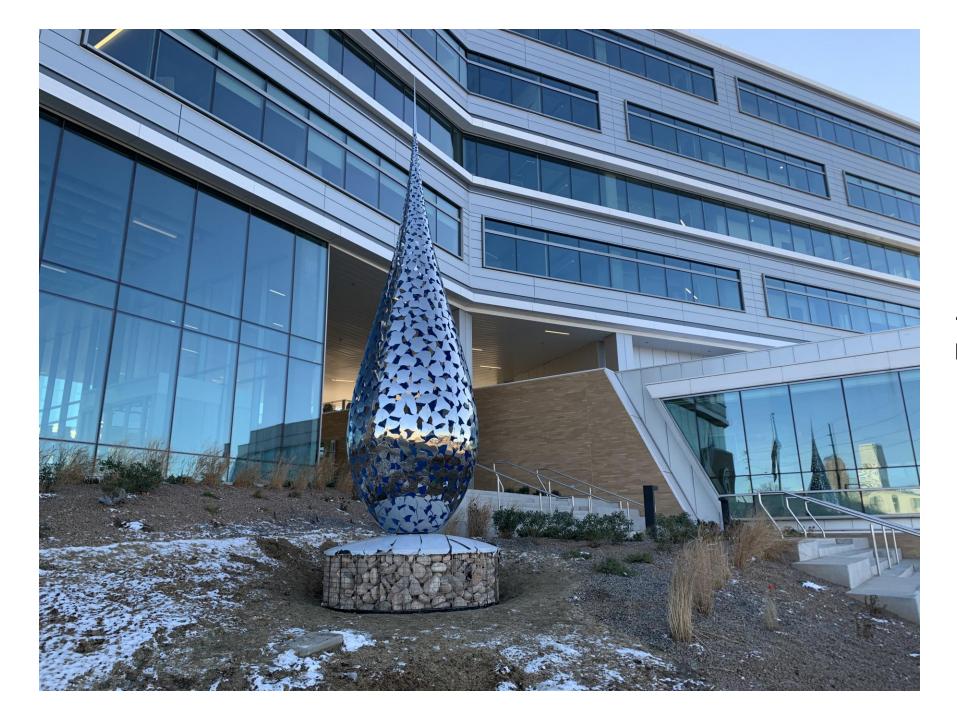


Created custom room identification to educate visitors about our reservoirs. Each room includes a 3D wood cutout at the entrance to the room. The rooms in Three Stones are named:

- Eleven Mile Canyon
- Antero
- Cheesman
- Dillon

## Public art creation and installation

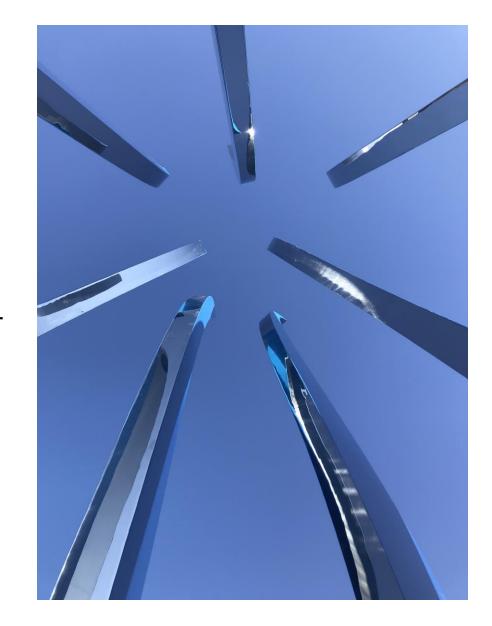




"Water Droplet" by David Harber

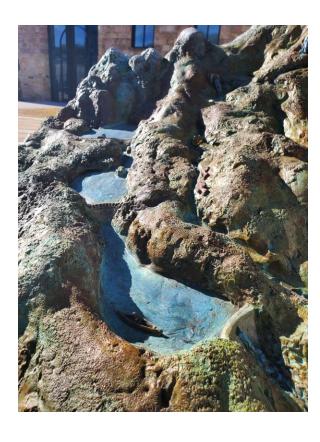


"Hydra" by David Harber









"Forest to Faucets" by Rik Sargent

#### DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 2, 2020 Board Item: V-A-2

#### **Sustainability Update**

## Strategic Plan Alignment

Lenses: 
Customer Centric 
Industry Leader 
Long-Term View Sustainability is an integral part of the Strategic Plan, within the Excellent Operations perspective. Our focus on sustainability saves resources, reduces costs, strengthens our resiliency and long-term planning, and positions Denver Water as an industry leader.

#### **Summary**

The Sustainability Team continues to assess and monitor Denver Water's use of energy resources, metro-area municipal waste streams, vehicle idling, and facility water consumption. The team also assists with LEED (Leadership in Energy and Environmental Design) and other green building design and certification.

The team's daily work includes incorporating sustainability goals into procurement and processes, guiding facility energy and water efficiency upgrades, educating employees about Denver Water's sustainability goals and efforts, assisting with hydroelectric generation program planning, monitoring and improving facility lighting and control systems, leading commissioning of new facilities and systems, and monitoring and reporting on sustainability metrics.

#### **Background**

As a major water provider in the West, Denver Water has a special responsibility to the environment, which is incorporated into both our strategic thinking and daily operations. Sustainability for the next 100 years will require innovation, resilience and adaptability in everything we do.

#### **Budget**

The budget for system-wide energy efficiency and lighting upgrade projects, support of sustainability pilots, and waste diversion improvements is \$43,000.

In 2020, Sustainability committed \$10,000 to LED lighting upgrades at Moffat Treatment Plant which will save 65,000 kWh and \$5,000 annually; \$5,000 to LED upgrades at Winter Park Headquarters which will save 10,000 kWh and \$1,000 annually; and \$6,550 for a photovoltaic (PV) system monitoring and maintenance contract.

#### **Alternatives**

Not applicable

#### **Approach**

Facilities

All facilities on the Operations Complex are on track for LEED certification:

- Administration Building, Platinum
- Three Stones, Silver
- Water Distribution, Silver or Certified
- Trades, Gold
- Meter Shop, Gold
- Fleet, Gold
- Warehouse, Gold
- Wellness, Gold



#### Energy

The Greenhouse Gas Inventory currently being verified for 2019 increased to 45,145 mtCO<sub>2</sub>e (metric tons of carbon dioxide equivalent) from the previous year's total of 44,363 mtCO<sub>2</sub>e. Weather, higher energy use for treatment at Marston instead of Foothills, and lower hydropower production due to maintenance at Williams Fork, Foothills, Hillcrest, and Roberts Tunnel contributed to this increase of emissions in 2019.

The Sustainability Team works with Fleet Services to report monthly idling totals, which track both the emissions and monetary cost of unnecessary vehicle idling. In 2019, Denver Water's operational idling estimates exceeded \$138,000 in fuel costs and 478 metric tons of CO2. Idling totals through October 2020 have exceeded \$103,900 in fuel. Sustainability and Fleet Services are working to improve the asset data in the tracking software and educate employees and supervisors on their accessibility to the data, for better employee performance.

The team worked with SOS to produce a predictive capacity factor model for 2020 hydroelectric generation. The 2020 capacity season of June through September was predicted at 53% production, which would meet the minimum requirements for Denver Water to maximize the 2021 financial incentive from Xcel. Denver Water exceeded that prediction with 73% of capacity produced for the 2020 season, which will result in an estimated additional payment from Xcel of \$550,000 in 2021. Both Roberts Tunnel and Gross Reservoir produced higher than anticipated hydroelectricity while all other hydropower units ran consistently throughout the capacity season. We are waiting for confirmation on Xcel's plans for 2021 capacity rates.

In June of 2020 Denver Water produced 13,052,537 kWh of renewable energy, inclusive of all hydroelectricity and the solar generation at the Operations Complex. This is the first month since tracking started that we have surpassed the 13,000,000 kWh mark.

The Operations Complex photovoltaic system went live in January 2020 and has produced over 1,057 MWh (megawatt hours) as of October 31, 2020. This production is on pace to offset 100% of the anticipated energy use for the Administration Building. Participation in Xcel's Solar Connect program is contributing carbon-free energy at 10 other Denver Water locations. In total, Denver Water will offset approximately 1,350 MWh of coal-powered energy with solar energy in 2020, saving 850 mtCO2e from entering the atmosphere.

The Sustainability Team is utilizing the EnergyCAP utility management software to track and report site-specific energy usage, water consumption, and waste diversion. The tool also supports faster payment and better budget tracking, reduces billing errors, and provides Denver Water improved measurement and verification of energy efficiency improvements and operational adaptations.

The monitoring of energy use in the new Administration Building will benefit Denver Water by testing and optimizing the performance of all equipment and identifying savings opportunities and operational inefficiencies. Troubleshooting the Administration Building power meters continues; they were reconnected and tested on November 14, 2020, and data is now being verified.

The Sustainability Team developed a dashboard in the EnergyCAP tool that reports facility energy use and organization resource consumption. The dashboard utilizes data from billing and software tracking mechanisms.

#### Water

Water usage by the 27 Denver Water metro-area facilities which have consumption data is tracked and reported monthly by the Sustainability Team. These totals are compared to site-specific water budgets developed in 2019 and will be updated and refined in the future as site irrigation, fixtures, and occupancies change.

Water data is now uploaded monthly into the EnergyCAP software for reporting on the Sustainability Dashboard, including a three year back-cast for comparison.

#### Waste

The Sustainability and IT teams have been collaborating to improve equipment longevity and electronic waste diversion through employee communications and education on best practices. Regular discussions have also improved the replacement schedules for equipment by utilizing electronics longer into their useful life, beyond previous warranty replacement timelines.

Solid waste generation of trash, recycling, and compost at Denver Water sites has not significantly changed during the COVID pandemic. Contrary to expectations, having less employees working at our sites has not decreased the waste being hauled. Most facilities are still producing an average or above average amount of waste compared to previous years. This finding suggests that a majority of Denver Water municipal waste, which doesn't include construction waste, is most likely operational waste and not employee daily "office" waste.

#### **Procurement and Contracts**

Sustainability meets quarterly with the Procurement team to improve the terms of future contracts and amendments. This improves Denver Water operations by requesting and requiring better sustainability practices from vendors.

#### Education

Sustainability education and outreach to Denver Water employees has continued during COVID through weekly online coffee break discussions, monthly virtual lunch and learns, and regular Conduit and Inflow postings. Guest speakers from the CDPHE, Denver Urban Gardens, and DRCOG, as well as internal Denver Water experts, have presented to our employees.

The Sustainability team provided training sessions in October for EnergyCAP database data utilization by facilities and operators throughout the organization. Nineteen additional Denver Water employees now have access to information that can benefit operations and increase efficiency throughout our systems.

Owner(s) Kate Taft, Administrative Services

**Attachments** Denver Water net-energy graph, to-date

Respectfully submitted,

#### MONTHLY ENERGY METRICS

Generated kWh	5,915,643
Consumed kWh equivalent (kwh & natural gas)	5,080,777
Net Energy (kWh equivalent)	-834,866

