

# AGENDA

## Denver Board of Water Commissioners

Video Conference: <http://zoom.us/join>, Meeting ID: 918 2005 1960 - Passcode: 934401 or

Dial in (669) 900-6833 - Meeting ID: 918 2005 1960 - Passcode: 934401

**Wednesday, May 26, 2021 9:00 a.m.**

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### 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

1. Introduction of Frank Beum, New Regional Forester of the USDA Forest Service Rocky Mountain Region

#### D. Legislative Update                      Lauren Morales                      5 minutes

### 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. Denver International Airport Vault and Cathodic Protection Improvements – Contract 504627
2. Third Amendment with Velocity Constructors Inc. for Foothills Treatment Plant Filter Media Replacement – Contract 503793
3. Non-Potable Water Lease Agreement with Bluff Lake Nature Center – Contract 504864
4. Intergovernmental Agreement and Temporary Amendment of the March 3, 1987 Rock Creek Lease Agreement as Previously Modified – Contract 504884
5. Property, Casualty, and Cyber Insurance Policy Renewals/Purchases

## **B. Individual Approval Items**

- |  |                   |            |
|--|-------------------|------------|
| 1. The U.S. Forest Service 2021 Collection Agreement from Forests to Faucets Partnership – Contract 504858     | Christina Burri   | 5 minutes  |
| 2. Intergovernmental Agreement for Lead Service Line Replacements with the City of Edgewater – Contract 504886 | Dan Arnold        | 5 minutes  |
| 3. 2020 Audited Financial Statements   | Paul Niedermuller | 10 minutes |
| a. 2020 Audited Financial Statements Presentation  |                   |            |

## **III. POLICY MATTERS**

- |                                      |                |            |
|--------------------------------------|----------------|------------|
| <b>A. Northwater Treatment Plant</b> | Pete McCormick | 10 minutes |
|--------------------------------------|----------------|------------|

## **IV. EXECUTIVE UPDATE**

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

## **V. BRIEFING PAPERS & REPORTS**

### **A. Briefing Paper**

- 1. Project Completion for Foothills Treatment Plant Process Mechanical Project
- 2. Sustainability Update

### **B. Report**

- 1. Lead Reduction Program Dashboard

## VI. ADJOURNMENT

## VII. TRUSTEE MATTERS

### I. ACTION ITEMS

1. Meeting as Trustee and or Plan Sponsor: 2020 Retirement Plans Audited Financial Statements Sam Hellwege, CLA 10 min
2. Meeting as Trustee: Minutes from February 24, 2021 Trustee Meeting

### II. INFORMATION ITEMS

1. Meeting as Trustee and or Plan Sponsor: DB Plan - 1Q 2021 Performance Report Usha Sharma 5 min
2. Meeting as Plan Sponsor: 401(k) Plan and 457 Plan - Portfolio Evaluations, Inc 1Q 2021 Performance Report Greg McCarthy, PEI 10 min
3. Meeting as Plan Sponsor: 1Q 2021 Performance Report and Due Diligence Report for DB Plan, 401 (k) Plan and 457 Plan

## 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

Meeting Date: May 26, 2021

Board Item: II-A-1

## Denver International Airport Vault and Cathodic Protection Improvements Contract 504627

Action by Consent

Individual Action

### **Purpose and Background:**

Denver International Airport (DIA) has been in operation for 26 years and has proven to be a harsh environment for maintaining utility infrastructure due to highly corrosive soils and poor drainage conditions that allow water and deicing fluid to accumulate and deteriorate existing utility vaults. The annual DIA Vault Improvement Program includes replacement of existing “vault hatches that have failed or are prone to failure,” and replacement of corroding ladders. The annual DIA Cathodic Improvements Program involves testing and repairs to prevent corrosion and provides cathodic protection to Denver Water’s existing distribution pipelines. The 2021 work includes repairs and improvements to 9 vaults and 23 cathodic protection sites.

### **Budget and Schedule:**

The total amount of this contract is \$1,376,424.15 and the term of the contract is May 26, 2021 through November 19, 2021. Funds for this contract will come from the 2021 budget of \$1,250,134 for DIA Vault Improvements Program and DIA Cathodic Protection Improvements Program business units, which do not have sufficient funds to pay the \$1,542,424.15 estimated to be needed for external design assistance, internal labor, and contractor payments in 2021. The required increase in funds is due to supply chain issues detailed on the attached Bid Tab. A project budget adjustment in the amount of \$292,290.15, is recommended by the Systems and Programs Managers.

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

Denver Water solicited bids from three general contractors on the prequalified contractors list under the Vaults discipline. This contract was an unrestricted bid process using invitations to bid on the QuestCDN platform. On May 11, 2021, bids were received from three general contractors. IHC Scott, Inc. dba Interstate Highway Construction, Inc. was selected based on the lowest cost bid.

### **S/MWBE Information:**

The Minority and Women-owned Business Enterprise goal established for this project is 5% participation. IHC Scott, Inc. dba Interstate Highway Construction, Inc. has proposed 5% participation.

### **Recommendation:**

Staff recommends that the Board approve Contract 504627 with IHC Scott, Inc. dba Interstate Highway Construction, Inc. for the DIA 2021 Vault and Cathodic Protection Improvements for the contract period of May 26, 2021 through November 19, 2021, for a total contract amount not to exceed \$1,376,424.15.

### **Approvals:**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> James S. Lochhead, CEO/Manager              | <input type="checkbox"/> Brian D. Good, Chief Administrative Officer             |
| <input type="checkbox"/> Julie Anderson, Chief of Staff                         | <input type="checkbox"/> Mike King, Chief External Affairs Officer               |
| <input type="checkbox"/> Jessica R. Brody, General Counsel                      | <input checked="" type="checkbox"/> Robert J. Mahoney, Chief Engineering Officer |
| <input checked="" type="checkbox"/> Angela C. Bricmont, Chief Financial Officer | <input type="checkbox"/> Thomas J. Roode, Chief Operations Officer               |

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# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: II-A-2

## Third Amendment with Velocity Constructors Inc. for Foothills Treatment Plant Filter Media Replacement Contract 503793

Action by Consent

Individual Action

### **Purpose and Background:**

Foothills Treatment Plant has 16 rapid gravity filters that remove particles and turbidity from the water. The filters are comprised of 20 inches of anthracite above 8 inches of filter sand over 12 inches of support gravel and clay tile underdrains. The anthracite filter media has noticeably degraded over the past 22 years since last being replaced in 1999. The degradation in the media affects the efficiency of operations by reducing filter run times; increasing the number of required backwashes; increasing operating costs, all of which ultimately limit plant production and efficiency. In addition, it is good practice to remove the sand, support gravel, to clean, inspect, and repair the tiles and underdrain system if needed. Repairs did occur in Phases 1 and 2.

The filter media replacement in the 16 filter bays at Foothills Treatment Plant is being completed in four stages over a four-year period to minimize impacts to plant production. Phase 1 and 2 of this four-phase project have now been completed. Phase 3 will involve the removal and replacement of media in five filters and will be completed in 2022. The final phase, Phase 4, will complete the project in 2023 and the remaining three filters.

Amendment No. 3 to the Foothills Treatment Plant Filter Media Replacement contract adds the remaining eight filters to the existing contract and extends the contract period for the final two phases to winter of 2021/2022 and 2022/2023. The approach to amend this contract with the current general contractor, Velocity Constructors, Inc., was presented to the Board on April 14, 2021. The following is a summary recap of benefits for amending the original contract as opposed to bidding out Phases 3 and 4.

1. **Risk Mitigation:** Five filters must be completed in the winter of 2021 in Phase 3. Following Phase 2, Velocity Constructors, Inc. has shown they can successfully complete five filters in one winter season. Amending their contract eliminates time needed to submit on materials, obtain approvals, media procurement, and other items which are needed to ensure the five filters are completed on schedule.
2. **Cost Savings:** Velocity Constructors, Inc. has agreed to keep pricing for the filter media and their costs the same as the first two phases, with only a slight increase for storing the Phase 4 media on site. With this pricing, it eliminates future price escalation and barring any unforeseen conditions, the project should be well below the four-phase project budget.
3. **Saves time:** The amendment eliminates many hours of staff time to complete bidding documents and then procure another contract. It also eliminates new contractor meetings, submittal reviews, requests for information, and other associated work with a new contract, and the inefficient contractor learning curve experienced on Phase 1.

### **Budget and Schedule:**

The total amount of this amendment is \$2,483,642 and the term of the contract will be extended through April 15, 2023. Funds for this contract will come from 2021 budget for the Foothills Filter Media and Underdrain Replacement business unit, which does not include sufficient funds to pay the \$1,300,000 estimated to be needed in 2021. A project budget adjustment in the amount of \$500,000 is recommended by the System and Program Managers. The remaining funds of \$1,183,642 will be budgeted in years 2022 and 2023.

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**Selection of Business Partner:**

Velocity Constructors, Inc. was selected for Foothills Treatment Plant Filter Media Replacement, Phase I through a competitive bid selection process that included four bidders. The original contract was approved by the Board on July 24, 2019 in the amount of \$1,177,302.

**S/MWBE Information:**

The Minority and Women-owned Business Enterprise (MWBE) goal established for this project was 5% participation. Velocity Constructors, Inc. will exceed that goal with 12% MWBE participation of the adjusted contract amount.

**Recommendation:**

Staff recommends that the Board approve this Third Amendment to Contract 503793 with Velocity Constructors, Inc. for the Foothills Treatment Plant Filter Media Replacement through April 15, 2023 and for a total addition of \$2,483,642 for a total amended contract amount not to exceed \$4,902,765.

**Approvals:**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> James S. Lochhead, CEO/Manager              | <input type="checkbox"/> Brian D. Good, Chief Administrative Officer             |
| <input type="checkbox"/> Julie Anderson, Chief of Staff                         | <input type="checkbox"/> Mike King, Chief External Affairs Officer               |
| <input type="checkbox"/> Jessica R. Brody, General Counsel                      | <input checked="" type="checkbox"/> Robert J. Mahoney, Chief Engineering Officer |
| <input checked="" type="checkbox"/> Angela C. Bricmont, Chief Financial Officer | <input type="checkbox"/> Thomas J. Roode, Chief Operations Officer               |

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: II-A-3

## Non-Potable Water Lease Agreement with Bluff Lake Nature Center Contract 504864

Action by Consent

Individual Action

### **Purpose and Background:**

The purpose of this contract is for a new water lease agreement with Bluff Lake Nature Center (BLNC) for sixty (60) acre-feet of non-potable raw water annually for replacement of storm water detained in Bluff Lake. Bluff Lake is an off-channel, man-made water body, located in the City and County of Denver, and it captures storm water from areas within the City of Aurora and the Central Park neighborhood in Denver. BLNC operates the lake as a wildlife refuge and outdoor classroom.

In 2014, BLNC received a \$1.1 million grant from the state's settlement with the U.S. Army and Shell over damages to the state's natural resources earmarked for projects that restore natural resources. BLNC sought to use the grant to purchase recycled water to maintain lake levels and to repair the dam. Denver Water committed to serve recycled water to BLNC, helping BLNC to secure its grant.

The subsequent repair of the dam at Bluff Lake in 2017 modified the lake's operations by causing it to retain additional water, increasing BLNC's need for water to comply with Colorado State water law. Around the same time, Denver Water determined that the operational requirements to comply with Colorado State water quality regulations would significantly add to the cost of recycled water deliveries.

In lieu of recycled water, Denver Water now desires to lease non-potable raw water to BLNC as a substitute supply for use under a plan for augmentation. The non-potable raw water will be delivered to the downstream calling right on the river in replacement of storm water detained in BLNC. Under the lease, Denver Water will assess the lower System Development Charge (SDC) that would have been assessed for recycled water deliveries and assume responsibility for securing a plan for augmentation through water court. BLNC will provide engineering services to support the plan for augmentation and perform accounting and measurements required to operate the plan for augmentation after it is decreed.

### **Budget and Schedule:**

The Water Lease Agreement with BLNC will result in receivables for Denver Water in the amount of \$66,930.00 for SDCs as well as charges recovered through the assessment of annual water rates.

### **Recommendation:**

Staff recommends that the Board approve the Non-Potable Water Lease Agreement with the Bluff Lake Nature Center for a lease of sixty (60) acre-feet annually.

### **Approvals:**

- James S. Lochhead, CEO/Manager
- Julie Anderson, Chief of Staff
- Jessica R. Brody, General Counsel
- Angela C. Bricmont, Chief Financial Officer

- Brian D. Good, Chief Administrative Officer
- Mike King, Chief External Affairs Officer
- Robert J. Mahoney, Chief Engineering Officer
- Thomas J. Roode, Chief Operations Officer

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# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: II-A-4

## **Intergovernmental Agreement and Temporary Amendment of the March 3, 1987 Rock Creek Lease Agreement as Previously Modified Contract 504884**

Action by Consent

Individual Action

### **Purpose and Background:**

The purpose of this Inter-governmental Agreement and Temporary Amendment of the March 3, 1987 Rock Creek Lease Agreement as Previously Modified (“Agreement”) is to establish the agreed-upon budget and authorize Denver Water’s 2021 contribution of 45.33% of the Colorado River Water Conservation District’s (“CRWCD”) cost to operate, maintain and rehabilitate (“OM&R”) Wolford Mountain Reservoir and Ritschard Dam (“Reservoir”), consistent with the Agreement. Under the Agreement, the River District shall not expend in excess of 10% or \$5,000, whichever is greater for any individual line item, or in excess of 10% of the overall budget, without written amendment executed in the same formality as this Agreement. Staff recommends that the Board delegate authority to its CEO/Manager to approve any amendments to the OM&R budget that do not exceed these amounts.

In addition, the Agreement temporarily modifies the budgeting procedures set forth in the July 21, 1992 Amendment. The 1992 Amendment required that Denver Water and the CRWCD agree upon an annual budget for OM&R according to a timeframe that does not correspond with both parties’ current budgeting process. To address this, the Agreement sets forth a mutually acceptable timeline that Denver Water and the CRWCD will use to develop an acceptable OM&R budget for calendar year 2022.

The Agreement also establishes a process to budget for Denver Water staff time allocated to OM&R, as well as a reimbursement process, and creates a mutual right on behalf of the CRWCD to audit and inspect Denver Water’s accounting records supporting its allocation of staff time for OM&R costs. In 2021, Denver Water will deduct \$10,000 from its budget payment to account for its staff time and will reconcile its deduction with actual expenses in 2022.

In 2022, Denver Water and the CRWCD plan to evaluate the effectiveness of this approach and determine whether to incorporate the revised budgeting process into a permanent amendment of the March 3, 1987 Rock Creek Lease Agreement.

### **Budget and Schedule:**

The total amount of this Agreement is \$603,240.00 and the term of the Agreement extends from the effective date of the Agreement through December 31, 2022. Funds for this Agreement will come from the 2021 budget for Wolford Mountain which has a budget of \$400,000. A variance of \$203,240 will be needed in 2021.

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**Recommendation:**

Staff recommends that the Board approve Contract No. 504884 with the Colorado River Water Conservation District for Denver Water's portion of Wolford OM&R costs during calendar year 2021 for a total contract amount not to exceed \$603,240.00, and delegate authority to its CEO/Manager to approve any amendments that do not exceed 10% or \$5,000, whichever is greater for any individual line item, and that do not exceed 10% of the overall budget.

**Approvals:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> James S. Lochhead, CEO/Manager              | <input type="checkbox"/> Brian D. Good, Chief Administrative Officer          |
| <input type="checkbox"/> Julie Anderson, Chief of Staff                         | <input type="checkbox"/> Mike King, Chief External Affairs Officer            |
| <input checked="" type="checkbox"/> Jessica R. Brody, General Counsel           | <input type="checkbox"/> Robert J. Mahoney, Chief Engineering Officer         |
| <input checked="" type="checkbox"/> Angela C. Bricmont, Chief Financial Officer | <input checked="" type="checkbox"/> Thomas J. Roode, Chief Operations Officer |

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: II-A-5

## Property, Casualty, and Cyber Insurance Policy Renewals/Purchases

Action by Consent

Individual Action

### **Purpose and Background:**

At the May 12 Board meeting, Marsh, Denver Water's insurance broker, presented and recommended Denver Water renew its existing insurance policies. Coverage would include property, fiduciary, excess liability, crime, cyber, and terrorism along with buying additional coverage for malicious attacks. Staff also provided the Board a briefing paper at the May 12 meeting. All lines of coverage except for crime insurance will be effective for the next 12 months, beginning June 1, 2021. Attached is a table that provides a summary of the coverage amounts, retention amounts, premiums, and insurance providers.

### **Budget and Schedule:**

The total amount of these policy renewals is \$951,118 and the term of the policies are June 1, 2021, through May 31, 2022 for all lines of coverage, except for crime, which has an end date of May 31, 2023. Funds for these services will come from the 2021 budget for insurance budget. The Finance division budgeted \$900,736 in the 2021 budget for the above policies except for the premiums for malicious attack coverage. In 2021, the market experienced a hardening of pricing, which affected all of Denver Water's lines of coverage as compared to the prior years. While staff budgeted for an inflationary increase for this year's renewals, the combination of the hardening markets and the additional lines of coverage will create a budget variance of \$50,382. Most of this budget variance is driven by the increased premium on property and equipment insurance of \$64,120 as compared to the prior year, and \$20,640 for the additional monoline coverage of malicious attack insurance.

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

Denver Water issued a Request for Proposal for broker services in June 2019 and received five proposals. Marsh was selected based on their experience, staffing plan, understanding of work, professional references, demonstrated expertise, and pricing. Marsh markets Denver Water's property and casualty insurance every three to five years, or sooner if market conditions exist.

### **S/MWBE Information:**

Small/Minority and Women-owned Business Enterprise goals are not applicable for this item.

### **Recommendation:**

Staff recommends that the Board approve the 2021-2022 insurance strategy and delegate renewal of the agreements for property and equipment, excess liability, fiduciary, crime, cyber, terrorism, and malicious attack insurance to the CEO to bind annual coverage. The total amount of this renewal is \$951,118.

### **Approvals:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> James S. Lochhead, CEO/Manager              | <input checked="" type="checkbox"/> Brian D. Good, Chief Administrative Officer |
| <input type="checkbox"/> Julie Anderson, Chief of Staff                         | <input type="checkbox"/> Mike King, Chief External Affairs Officer              |
| <input type="checkbox"/> Jessica R. Brody, General Counsel                      | <input type="checkbox"/> Robert J. Mahoney, Chief Engineering Officer           |
| <input checked="" type="checkbox"/> Angela C. Bricmont, Chief Financial Officer | <input type="checkbox"/> Thomas J. Roode, Chief Operations Officer              |

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## Denver Water Insurance Program Structure

Insurance Type	Insurer	Annual Premium (2020)	Annual Premium (2021)	Premium Change from 2020 to 2021	Coverage Limit (2021 & 2020)	Retention (2021 & 2020)	Renewal Date	Last Competitive Bid	Next Expected Competitive Bid
Property & Equipment	AXA XL	\$624,000	\$688,120	\$64,120	\$500MM <sup>1</sup>	\$500,000	June 1, 2021	2020	2023
Excess Liability	APR <sup>2</sup>	\$84,151	\$116,838	\$32,687	\$10MM	\$1MM	June 1, 2021	2021	2023
Fiduciary	Travelers	\$19,900	\$36,625	\$16,725	\$10MM	\$50,000	June 1, 2021	2021	2023
Crime	Travelers	\$5,114	\$5,114	\$0	\$2MM	\$25,000	June 1, 2021	2020	2023
Terrorism	Talbot	\$29,958	\$27,010	(\$2,948)	\$150MM <sup>3</sup>	\$500,000	June 1, 2021	2020	2023
Cyber	Crum & Forster	\$30,092	\$56,771	\$26,679	\$5MM	\$50,000	June 1, 2021	2020	2023
Malicious Attack	Hiscox	\$0	\$20,640	\$20,640	\$2.5MM	\$2,500	June 1, 2021	2021	2023

<sup>1</sup>Coverage varies and is dependent on type of property, cause of damage, flood plain location and various other contingencies.

<sup>2</sup>New carrier partner for 2021 (Allied Public Risk) due to late-term notice of non-renewal from Argonaut reinsurer.

<sup>3</sup>Liability is sub-limited to \$100mm.

Premiums above contemplate estimated surplus lines taxes and fees.

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: II-B-1

## The U.S. Forest Service 2021 Collection Agreement From Forests to Faucets Partnership Contract 504858

Action by Consent

Individual Action

### **Purpose and Background:**

Since 2010, the From Forests to Faucets Partnership (Partnership) has been a successful collaborative partnership between Denver Water and the U.S. Forest Service (USFS). The goals of the partnership are to implement forest and watershed health projects to reduce the risk of catastrophic wildfire and restore forests impacted by catastrophic wildfire events in Denver Water's priority watersheds.

An expanded Partnership program was previously recommended to the Board on December 14, 2016. The program was initiated by a Memorandum of Understanding (MOU) with the USFS, Colorado State Forest Service (CSFS), and Natural Resources Conservation Service. Under the expanded partnership, Denver Water will invest \$16,500,000 in forest and watershed health, which will be matched at least dollar for dollar by USFS and/or CSFS for a total value of the Partnership of over \$33,000,000.

Every year under the MOU, the USFS submits a collection agreement for the proposed forest health projects. This collection agreement (Contract 504858) for \$1,866,227 is from the MOU's committed funds as part of the partnership. The focus of this agreement is to conduct wildfire risk reduction, watershed restoration and improvements, and maintenance of past and current treatments on approximately 9,210 acres on National Forest System lands within priority watersheds.

### **Budget and Schedule:**

In the year 2021, it is anticipated we will spend the budgeted amount of \$2,500,000 for From Forests to Faucets, which includes some of the \$1,866,227 from this agreement. Funds for this contract will come from the 2021 budget for From Forests to Faucets business unit, which has sufficient funds. Any variances to the spending against this budget will be reported as an exception on the Quarterly Performance Reports.

### **Recommendation:**

Staff recommends that the Board approve Contract 504858 for \$1,866,227 with USFS for forest health and wildfire risk reduction for the contract period May 26, 2021 through May 26, 2026.

### **Approvals:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> James S. Lochhead, CEO/Manager              | <input type="checkbox"/> Brian D. Good, Chief Administrative Officer          |
| <input type="checkbox"/> Julie Anderson, Chief of Staff                         | <input checked="" type="checkbox"/> Mike King, Chief External Affairs Officer |
| <input type="checkbox"/> Jessica R. Brody, General Counsel                      | <input type="checkbox"/> Robert J. Mahoney, Chief Engineering Officer         |
| <input checked="" type="checkbox"/> Angela C. Bricmont, Chief Financial Officer | <input type="checkbox"/> Thomas J. Roode, Chief Operations Officer            |

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# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: II-B-2

## Intergovernmental Agreement for Lead Service Line Replacements with the City of Edgewater Contract 504886

Action by Consent

Individual Action

### **Purpose and Background:**

Contract 504886 is an Intergovernmental Agreement for lead service line (LSL) replacements with the City of Edgewater. Edgewater is a Denver Water master meter distributor and a part of Denver Water's integrated system, which is organized to comply with Safe Drinking Water Act parameters including the variance allowing for implementation of Denver Water's Lead Reduction Program Plan. Edgewater has approximately 150 LSLs within its service area, nearly all of which are partial LSLs. Because partial LSLs have the potential for higher levels of corrosion, they can result in increased lead levels at the customers' taps. Edgewater plans to replace these LSLs in 2021 using a contractor selected through a competitive bid process. Under the IGA, Denver Water will reimburse Edgewater for the cost to replace its LSLs based upon a unit cost of \$4,200.00 per partial LSL, for a total amount not to exceed \$630,000. Denver Water will reimburse Edgewater no earlier than January 15, 2022. This partnership with Edgewater will allow Denver Water to explore how best to partner with its distributors to remove LSLs within their service areas in furtherance of the Lead Reduction Program Plan and help Denver Water to further develop its LSL inventory within its distributor's service areas.

### **Budget and Schedule:**

The total amount of this contract is \$630,000 and the term of the contract extends from the date of approval by the Board through December 31, 2022. Funds for this contract, \$630,000, will be budgeted in 2022 in the Accelerated Lead Service Line Replacement business unit.

### **Recommendation:**

Staff recommends that the Board approve Contract 504866 with the City of Edgewater for lead service line replacements for the contract period extending to December 31, 2022 for a total contract amount not to exceed \$630,000.

### **Approvals:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> James S. Lochhead, CEO/Manager              | <input type="checkbox"/> Brian D. Good, Chief Administrative Officer          |
| <input type="checkbox"/> Julie Anderson, Chief of Staff                         | <input checked="" type="checkbox"/> Mike King, Chief External Affairs Officer |
| <input type="checkbox"/> Jessica R. Brody, General Counsel                      | <input type="checkbox"/> Robert J. Mahoney, Chief Engineering Officer         |
| <input checked="" type="checkbox"/> Angela C. Bricmont, Chief Financial Officer | <input checked="" type="checkbox"/> Thomas J. Roode, Chief Operations Officer |

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# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: II-B-3

## 2020 Audited Financial Statements

Action by Consent

Individual Action

### **Purpose and Background:**

Attached are Denver Water's audited financial statements, which are being presented for the Board's acceptance. CliftonLarsenAllen, LLP (CLA), Denver Water's external auditors, conducted an audit of the financial statements in accordance with Generally Accepted Auditing Standards resulting in an unmodified (clean) opinion.

The audited financial statements being provided to the Board are included in the Comprehensive Annual Financial Report for Denver Water. The audit opinion is incorporated into the financial statements as the "Independent Auditors' Report." Upon the Board's acceptance, the Annual Report is posted to both the internal and external Denver Water websites, and the Electronic Municipal Market Access (EMMA) website in compliance with SEC regulations.

There are three sections of the Annual Report. The first section is an introduction, the second section is the financial section which includes the audited basic financial statements, and the third section includes unaudited statistical information.

Below are some highlights:

Operating income increased 140% from 2019 to 2020. Operating revenues increased approximately \$40.0 million primarily because of an increase in water sold between years and the 2020 3% rate increase. Operating expenses decreased approximately \$14.7 million (net of depreciation). The decrease was primarily due to the actuarially calculated pension expense which reflects the measurement date of 12/31/2019 and the capitalization of regulated assets due to the Lead Reduction Program.

Net position, an indicator of our financial strength, increased \$119.1 million due to net income of \$75.5 million and capital contributions of \$43.6 million.

Denver Water implemented the GASB 97 Fiduciary Fund guidance, which resulted in the Denver Water Supplemental Retirement Savings Plan (401k) no longer being reported as a fiduciary fund. The Employees' Retirement Plan (pension) is reported as a Fiduciary Pension Trust Fund and incorporated in Denver Water's basic financial statements.

### **Budget and Schedule:**

There is no budgetary impact for this item.

### **Recommendation:**

Staff recommends that the Board accept the 2020 Comprehensive Annual Financial Report for Denver Water.

### **Approvals:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> James S. Lochhead, CEO/Manager              | <input type="checkbox"/> Brian D. Good, Chief Administrative Officer  |
| <input checked="" type="checkbox"/> Julie Anderson, Chief of Staff              | <input type="checkbox"/> Mike King, Chief External Affairs Officer    |
| <input type="checkbox"/> Jessica R. Brody, General Counsel                      | <input type="checkbox"/> Robert J. Mahoney, Chief Engineering Officer |
| <input checked="" type="checkbox"/> Angela C. Bricmont, Chief Financial Officer | <input type="checkbox"/> Thomas J. Roode, Chief Operations Officer    |

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# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: V-A-1

## Project Completion Briefing Paper for Foothills Treatment Plant Process Mechanical Project

### Background

**Multiple improvements were combined into a single CMAR project for this baseload plant.**

The Foothills Treatment Plant (Foothills) is Denver Water's baseload treatment plant, built in 1982 with a finished water production capacity of 280 million gallons per day. Major projects at Foothills often require a plant outage, and outages are only available during off peak seasons to maintain adequate redundancy and reliability in the system during load season. Extended outages are rare and will be more challenging as construction of the Northwater Treatment Plant is underway and the expansion of Gross Reservoir approaches. Treatment operations staff identified a number of improvements throughout the plant to address regulatory, safety and sustainability, maintenance, and reliability and redundancy issues. The Lead Reduction Program Plan (LRPP) also required improvements to the chemical feed systems for lead corrosion control. These scope items were combined into one project using the Construction Manager At-Risk (CMAR) delivery method to coordinate all the required work and meet a six-month outage window.

### Scope/Schedule/Budget

**Denver Water took action to make up for the Contractor's lack of delivery to get the plant back online.**

#### Scope:

The project scope included work items to address regulations, safety, sustainability, maintenance, reliability, and redundancy. Most of the scope was completed during a planned outage from the beginning of November 2018 through the middle of April 2019.

Construction was delivered using the CMAR delivery method with work broken into four work packages. Work Package No. 1 included the General Conditions for the project. Work Package No. 2 included large diameter flocculation, sedimentation, and filter valves plus other smaller work items. Work Package No. 3 included procurement of long lead time items plus the electrical work for chemical feed system upgrades. Work Package No. 4 included construction of chemical feed system upgrades.

#### Schedule:

The substantial completion date for the project was April 10, 2019. Interim milestones were included in the contract for long-lead equipment delivery. The Prime Contractor was unable to meet the project schedule, including interim milestones for equipment delivery, substantial completion, and final completion. Causes for delays included issues with timely submittals from the contractor, contractor staff turnover, and re-work. Denver Water trades shops, treatment plant staff, and a third-party contractor (Kiewit Infrastructure Co.) were mobilized to complete portions of the Prime Contractor's work to bring the treatment plant back online. Liquidated damages were assessed against the Prime Contractor for the delays totaling 119 days and \$136,000. Credits totaling \$84,100 were assessed against the Prime Contractor for work completed by Denver Water and Kiewit Infrastructure Co.

*Denver Water aspires to be the best water utility in the nation.*

Integrity :: Vision :: Passion :: Excellence :: Respect



**Budget:**

The entire project, including internal labor, professional services, construction costs, and owner contingency was approved by the Board on April 11, 2018 for a total project cost of \$10,000,000. Actual costs were tracked against the original approved \$10,000,000. Actual costs totaled \$9,379,811 and are summarized below.

**Project was delivered within the approved budget.**

<b>Contract</b>	<b>Approved Budget</b>	<b>Actual Costs</b>
Kiewit Infrastructure Co. Cost Estimating	\$18,969	\$15,061
Chem. Feed Study/Design/SDC <sup>(1)</sup>	\$931,481	\$931,481
Owner Procured Valves	\$1,133,936	\$1,133,936
CMAR Design Services	\$146,768	\$85,753
General Conditions (WP1)	\$800,000	\$781,929
Valve Package (WP2) <sup>(2) (3)</sup>	\$3,049,000	\$4,111,193
Chem Feed Electrical (WP3) <sup>(4)</sup>	\$1,246,000	\$804,593
Chem Feed (WP4) <sup>(5)</sup>	\$1,845,000	\$1,294,797
Internal Labor	\$480,000	\$441,168
Owner Contingency	\$348,846	-
Liquidated Damages/Credits	-	(\$220,100)
<b>Total</b>	<b>\$10,000,000</b>	<b>\$9,379,811</b>

<sup>(1)</sup> Includes study for chem. feed improvements for Marston & Moffat.

<sup>(2)</sup> 0.92% change orders.

<sup>(3)</sup> Includes \$75,377 amendment for scope added by Denver Water.

<sup>(4)</sup> 4.78% change orders.

<sup>(5)</sup> 3.07% change orders.

**Program Challenges and Success Highlights**

On the challenging side, the Prime Contractor lost key personnel seven weeks prior to startup and struggled to keep qualified trade labor throughout the entire project. As a result, several areas required re-work which delayed startup of the plant by nearly three weeks.

On the positive side, Engineering and Operations & Maintenance, with the help of Kiewit Infrastructure Co., completed all critical work required to bring the plant online before load season. Other noted successes include:

- Successfully fast-tracked design of the chemical feed systems as part of the Denver Water's LRPP.
- No work-related injuries.
- Design and construction delivered under Board approved budget.
- Low change order percentage of 1.66% total for all work packages.



## MWBE Participation

The MWBE goal for the project is 5% for the design contract and the CMAR work packages. The following MWBE contractors were employed on this project. The total MWBE achieved was 2.25%.

Phase	MWBE Contractor	Scope	Total Paid (% of Contract)
Design/SDC <sup>(1)</sup>	ZGL Engineering Services, Inc.	Design drafting	\$108,930 (11.69%)
CMAR Design Services	-	-	-
Work Package No. 1	-	-	-
Work Package No. 2	Hotshot supply	Construction materials	\$14,874 (0.36%)
Work Package No. 3	Horizon Mechanical	HVAC	\$5,000 (0.63%)
Work Package No. 4	Solar Valley	Mechanical demolition	\$51,500 (3.99%)

<sup>(1)</sup> Contract amended for Services During Construction (SDC).

## Program Challenges and Success Highlights

The project team documented lessons learned that are categorized into the following main areas.

Issue	Lesson Learned
Large amount of work within an outage.	Spend more effort assessing and right sizing amount of work planned during an outage.
Contractor schedule or staffing issues.	Identify issues early and appropriately escalate.
Contractor schedule slippage impact on facility and system.	Develop facility and system contingency plans to mitigate potential schedule slippage.

Respectfully submitted,

Ryan Walsh, Engineering Manager

Robert J. Mahoney, Chief Engineering Officer

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 26, 2021

Board Item: V-A-2

## Briefing Paper for 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 and 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 conjunction with the Startup, Commissioning, and Optimization (SCO) team, and onsite operations, \$15,875 was spent in 2020 on a submetering project at Marston Treatment Plant. Early findings in 2021 include identification of malfunctioning equipment and multiple areas for improved energy use and cost savings. Sustainability staff is working with operations to address the findings.

### Alternatives

Not applicable

### Approach

Facilities

All facilities on the Operations Complex received LEED certification in January:

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

## Energy

Denver Water's carbon footprint was 45,355 metric tons of carbon dioxide equivalent (mtCO<sub>2e</sub>) in 2019, and 37,514 mtCO<sub>2e</sub> in 2020. The organizational carbon emission goal for 2020 was 41,524 mtCO<sub>2e</sub>. The decrease of emissions produced in 2020 was due to the completion of the Operations Complex Redevelopment project; increased hydroelectric generation; and partly attributed to dispersed operations due to Covid-19.

2020 vehicle idling levels remained relatively unchanged from 2019 levels, with a less than 1% increase in gallons of fuel associated with idling. The total operational idling estimates exceeded \$123,000. This equates to an estimated 52,685 gallons of fuel and 482 metric tons of CO<sub>2</sub>. Fuel waste associated with idling is currently trending higher than 2020 through the first quarter of 2021.

The Sustainability team has been working with Fleet Services to incorporate hybrid and electric vehicles into the fleet to reduce greenhouse gas emissions. A pilot program is expected by the end of the year with hybrid vehicles assigned to multiple work groups to see how they function in different scenarios (Source of Supply, Engineering, Recreation, etc.). Through vehicle tracking and integration of data into the greenhouse gas inventory, the highest use (mileage) and therefore highest emission vehicles have also been identified as targets for replacement with higher efficiency vehicles (hybrids or electric) in the future.

Sustainability is also collaborating with the Safety team on a potential project for new gas monitoring equipment. Updating to new cloud-based technology will allow teams to calibrate on site, reducing the need to travel to the Operations Complex for this calibration, which will save vehicle miles traveled, work hours, and increase safety.

Working with the Hydroelectric Program, a model for hydro production during the 2021 capacity season has been produced, showing 92% of necessary production is needed to maximize payments for 2022. This information is being provided to all stakeholders before capacity season to assist in reaching this level of production. Reaching 92% of production would be considered a success considering Roberts Tunnel will not be operational until September.

Denver Water produced 69,596,984 kilowatt hours (kWh) of renewable energy (hydroelectric and solar) in 2020 and consumed 68,123,021 kWh equivalents (electricity and natural gas). The 2020 goal of reaching net-zero energy use was accomplished, with Denver Water net producing 1,473,963 kWh.

The Operations Complex solar arrays generated 1,145 megawatt hours (MWh) in 2020. Submetering for the Admin Building was completed in December 2020 and will allow the monitoring necessary to meet the goal of net-zero energy use.

## Water

The Sustainability team prepared an inventory of water fixtures at all Denver Water metro area facilities in 2020 and provided an estimate of replacement cost to meet LEED requirements per the sustainability guide. This inventory was provided to Operations and Maintenance (O&M) for review and prioritization.

Interior water use and irrigation at metro area facilities was successfully tracked through 2020. Three out of the four treatment plants were under budget for interior and exterior water usage in 2020. The Recycled Water Treatment Plant was 349,000 gallons above budget. Belleview Pump Station is routinely over budget due to a metering issue that has been addressed with the plumbing shop. The highest water user in 2020 (when discarding the metering issue at Belleview) was Capitol Hill Pump Station, but it did not exceed the allocated water budget.

## Waste

Sustainability and Information Technology (IT) teams continue to collaborate to improve equipment longevity, electronic waste diversion, and energy savings through employee communications on best practices. 2020 electronic waste weights were significantly lower than previous years. There was a 63% decline in weights from 2019 to 2020. The Sustainability team worked closely with IT to create communications for the new internal standard to replace equipment at failure, rather than scheduled replacements. This new standard will help curb electronic waste further and reduce spend on IT equipment.

Municipal waste generation (compost/recycling/landfill) in 2020 had a delayed response to the pandemic, with weights declining more significantly in the fall and winter. February 2021 showed the lowest total municipal solid waste weight since the 2018 baseline. This still demonstrates that a large percentage of our waste streams are operational, and not daily office-type waste.

## Procurement and Contracts

Sustainability has been working closely with the Procurement and Environmental Compliance teams on selecting a contractor and environmentally preferable options for disposal of water treatment residuals. The goal is to support beneficial reuse as much as possible.

## Education

Denver Water's updated Sustainability Guide was published with goals and commitments for the years 2021-2025 and beyond. Sustainability has been presenting the new plan and goals to teams inside and outside of the organization.

The Sustainability team had a large outreach and education push in April for Earth Month. There were 9 unique lunch and learn presentations that were held virtually for employees on various topics, including waste hauling, recycling, composting, organic gardening, pollinators and native species, fashion manufacturing, invasive species, and more. The lunch

and learns were supported with daily postings to the Earth Month page on Inflow.

The use of Sustainability Software EnergyCAP continues to be expanded and integrated into processes and departments across Denver Water. Current activities include weekly bill analysis for pump stations and distribution system, budget analysis for multiple facilities, and delivery of monthly reports for O&M. Sustainability presented on dashboard data and functionality for a recent Knowledge Talk.

**Owner(s)** Kate Taft, Administrative Services

**Attachments** (New) Sustainability Guide 2021-2025

Respectfully submitted,

Kate Taft, Sustainability Manager

Brian Good, Chief Administrative Officer

 DENVER WATER

# PLANNING FOR OUR FUTURE



SUSTAINABILITY GUIDE  
2021-2025

# CONTENTS

- 3 Foreword
- 4 Sustainability Timeline
- 6 Environmental Stewardship
- 7 What is Sustainability?
- 12 Where are We Now?
- 14 Key to Our Future

## WATER

Water Use | Water Supply | Water Quality and Treatment

## ENERGY AND TRANSPORTATION

Energy Use and Supply | Transportation

## LAND AND ECOSYSTEMS

Land Use and Ecosystem Stewardship

## MATERIALS

Materials Management | Procurement

## DENVER WATER PEOPLE

Inspired People

## INFRASTRUCTURE AND ASSETS

Built Environment and Operations | Assets

- 21 Implementation and Reporting

Sustainability is at the heart of everything Denver Water does. It has been our responsibility to sustain the growth, development, and economic, social and physical health of the Denver-metro area for more than 100 years. To meet this challenge, we developed and sustained a vast, complex water infrastructure system that reaches Denver from the heart of Colorado's forests and mountains.

However, the concept of sustainability involves more than developing and maintaining our water supply system and delivering safe drinking water to our customers. As we look forward to our next 100 years, we face numerous challenges that merit rethinking and expanding what the term sustainability means to us. We will be increasingly challenged by climate change, regulatory uncertainty, economic and social changes, natural and perhaps manmade disasters, and other unknown events. In 2020, we learned just how unexpected some challenges can be, as the COVID-19 pandemic fundamentally changed how we operate on a day-to-day basis while we continued delivering safe water to our customers.

We have updated our Sustainability Plan since its initial rollout in 2016. The newest plan continues to represent the evolution of Denver Water's sustainability ethic and details how we will integrate it into our business operations. Since our inaugural plan, we have made important progress in reducing our dependence on fossil fuel, increasing our own inventory of renewable energy sources, limiting waste, and reducing the energy we require to operate across the organization. Few achievements represent this progress better than the redevelopment of our 35-acre Operations Complex, now a Colorado showcase for sustainability and innovative design.

Sustainability for the next 100 years will require continued reinvention, resilience and adaptability in everything we do. It means long-range planning based on uncertainty. It means ensuring that the development and collection of water supplies do not degrade aquatic habitats, and partnering with the federal government, private landowners and other stakeholders to protect the ecological health of watersheds that supply our water.


It means developing and protecting flows in the urban reach of the South Platte River. It means working to protect and enhance the High Line Canal as an ecological and recreational resource for the metro area. It means promoting the most efficient use of water throughout our service area, including expanding the use of nonpotable water. It means partnering with our neighbors regionally to achieve better management of water resources. It means scaling our systems to allow for nimble and flexible operations in an era of climate change and extreme patterns of rainfall and drought.

It means protecting the security of our infrastructure and facilities, and being prepared for emergencies. And it means operating our infrastructure, facilities and buildings in ways that demonstrate the most efficient water uses, that generate the most and use the least amount of energy, and that promote the health and wellbeing of our employees.

Given this expanded ethic of sustainability, we will develop and implement this updated plan as a further commitment not only to today's customers, but also to our customers over the next 100 years and beyond. We have much work to do. This plan will guide us in implementing the best industry-leading practices in our operations. It will keep us accountable to our commitment to sustainability and will be a critical tool in our journey to becoming the best water utility in the nation.



Gary M. Reiff, President, Board of Water Commissioners

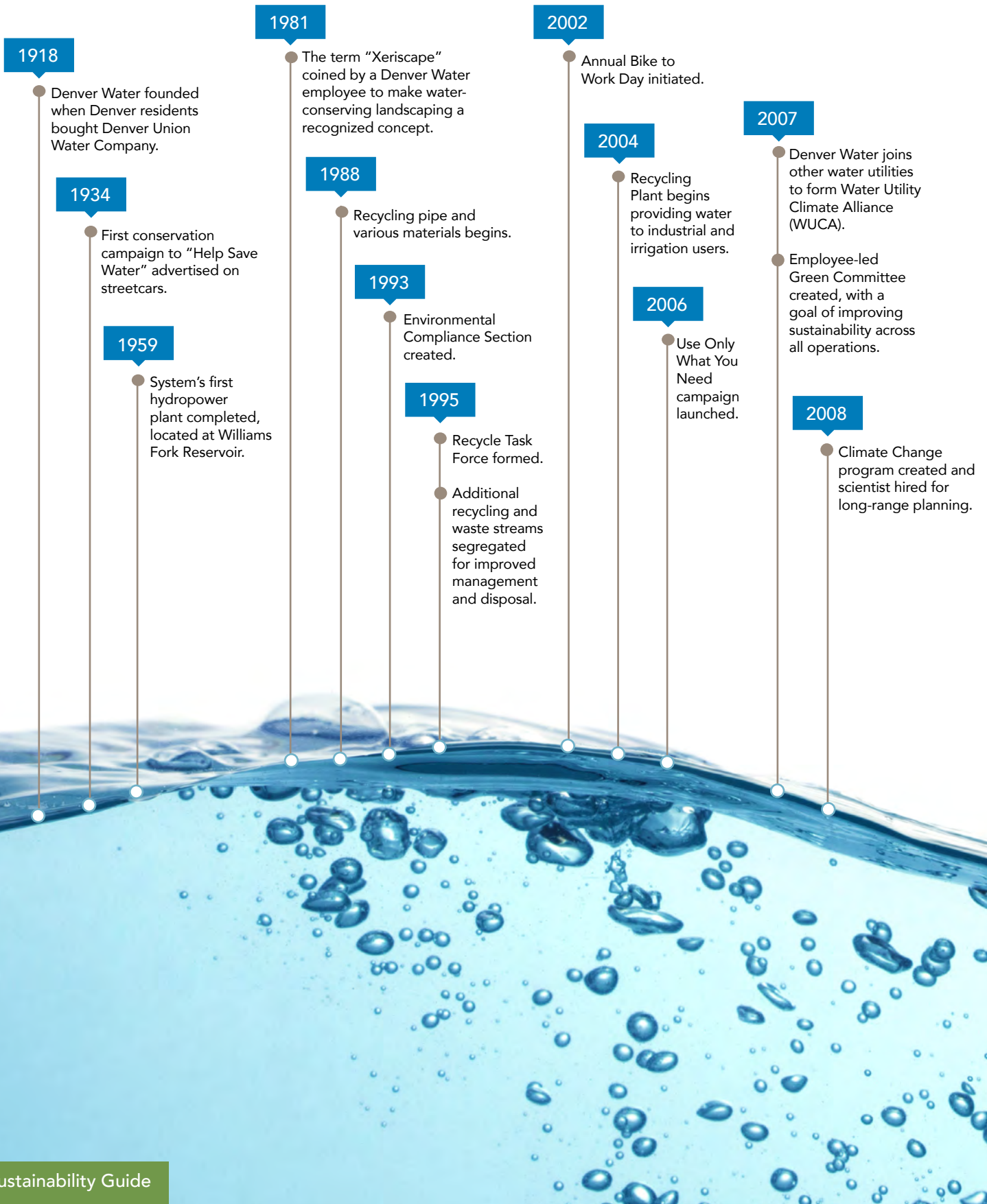


James S. Lochhead, CEO/Manager



# Our Sustainability Timeline

Denver Water's efforts in sustainability and stewardship



2009

- Regional Transportation District bus and light rail passes issued to staff.
- Carpool intranet page initiated.

2010

- First annual greenhouse gas inventory completed.

2011

- Sustainability incorporated into Strategic Plan.

2012

- Colorado River Cooperative Agreement (CRCA) completed with West Slope entities.

2014

- Colorado River System Conservation Agreement (CRSCA) completed.

2015

- Regional Transportation District and staff increase bus access to Operations Complex.

2016

- Sustainability manager hired.
- Compost introduced at Denver Water facilities.
- GoTober commuting challenge and carpooling incentives initiated.

2017

- Energy analyst and sustainability program assistant hired.
- Hydropower research pilot begins testing an array of 10 turbines along South Boulder Canal.
- Compost introduced at treatment plants and remaining Operations Complex facilities.
- First Sustainability Guide published.
- Green bonds developed and released to strengthen stewardship and partnerships.

2019

- Net-zero energy Administration Building constructed with highly efficient design and 1.3 megawatts of onsite solar.

2020

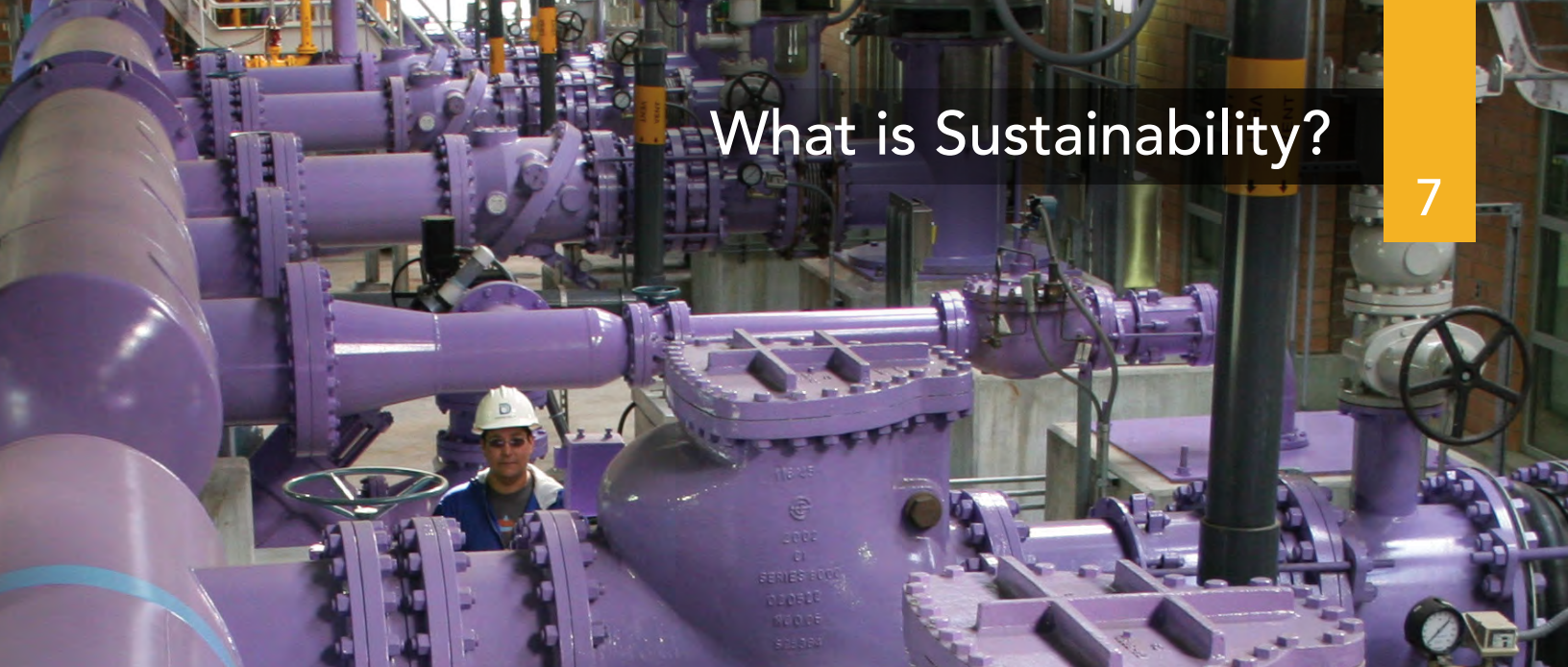
- Denver Water facilities are awarded Gold status in the Colorado Environmental Leadership Program.
- Operations Complex Redevelopment completed as a LEED-certified campus.

# Environmental Stewardship

Denver Water serves one-quarter of the state's population with less than 2% of all water used in the state. And Colorado's population is expected to nearly double by 2050. Everyone is starting to think about resources, and Denver Water wants to continue to lead the industry and the community with best practices.

Denver Water has taken a leadership role in understanding and promoting sustainability. Our Environmental Stewardship Statement identifies our guiding principles for environmental stewardship and sustainability:

- **Best Practices and Compliance with Environmental Requirements** – Denver Water will comply with all applicable environmental laws, regulations and standards, and will develop and adhere to environmental best practices and performance standards in order to achieve environmental sustainability beyond minimum legal requirements.
- **Leading by Example** – Denver Water will be a leader and engage with environmental communities, government, industry and academic research agencies in order to learn and further develop our environmental stewardship programs and share our experience and expertise. We will develop progressive positions on evolving environmental issues impacting the interests of the organization and our customers.
- **Healthy Built Environment** – Denver Water is committed to workforce safety, health, wellness, and quality of work-life through buildings and grounds integrated with the natural environment and promotion of indoor environmental quality.
- **Responsible Operations** – Denver Water is committed to the responsible management and sustainable growth and operation of all our assets, including land, forest, water and other natural resources in our control. We recognize the impacts to the environment from our operations and will take active measures to minimize this footprint. Denver Water will continue to improve environmental best practice standards and will include such standards in procurement and contract processes. Employees will work to recognize and resolve environmental impacts within Denver Water facilities, operations and policies.
- **Waste Diversion and Pollution Prevention** – Denver Water is steadfast in our commitment to responsible solid and electronic waste management. This includes reuse, recycling and compost programs, and the careful and proper use, tracking, storage and disposal of hazardous materials.
- **Climate Adaptation and Mitigation** – Denver Water is a nationally recognized leader in understanding and preparing for the complex challenges of climate change. A multi-faceted approach focuses on partnerships, knowledge generation and transfer, research, long-range planning, and operationalizing adaptation practices across the organization. Denver Water will minimize our own climate impacts by measuring and tracking goals for the reduction of climate changing emissions, including updating an annual greenhouse gas inventory and incorporating climate adaptation and mitigation into current and future operations, plans and policies.
- **Environmental Management System** – Annually, with internal and external stakeholder input, the Environmental Compliance Section will review the Environmental Management System and Denver Water's compliance. The review will assess existing environmental objectives, performance standards and best practices. Based on review, the section will make updates and recommend changes in Denver Water's operations to achieve better performance.
- **Environmental Education and Awareness** – Employee training will include a review of the commitments, related policies, introduction to the Environmental Management System and best sustainability practices.



## Who Are We?

As a major water provider in the West, Denver Water views itself as having a special responsibility to the environment. It is a responsibility we take very seriously. We incorporate it into both our strategic thinking and daily operations.

We view ourselves as stewards of the environment. It is an ethic and value that runs deep in our organization. It is inherent in everything we do because our infrastructure is not just our pipes and reservoirs – it is also millions of acres of Colorado forests and thousands of miles of rivers and streams.

Our environmental commitment also stems from the preciousness of the resource with which we work. Water is essential to making Colorado beautiful and to ensuring the quality of life we enjoy. Yet it is scarce in our state. And demands for it are intensifying.

With that understanding, Denver Water's highest responsibility remains to serve 1.5 million people today and a growing population in the future. We strive to do so while minimizing our environmental footprint and working collaboratively with our neighbors to protect and enhance supplies for agriculture, riparian habitat, stream health and many other needs.

Denver Water is committed to continuously improving our operations while remaining responsible stewards of our natural environment and contributing to a vibrant community.

Sustainability in Denver Water operations is any effort or improvement that allows for a better and longer existence. In other words, sustainability is any change in any employee's workday that makes our systems more efficient and healthier for our ecosystems, our staff and the community.

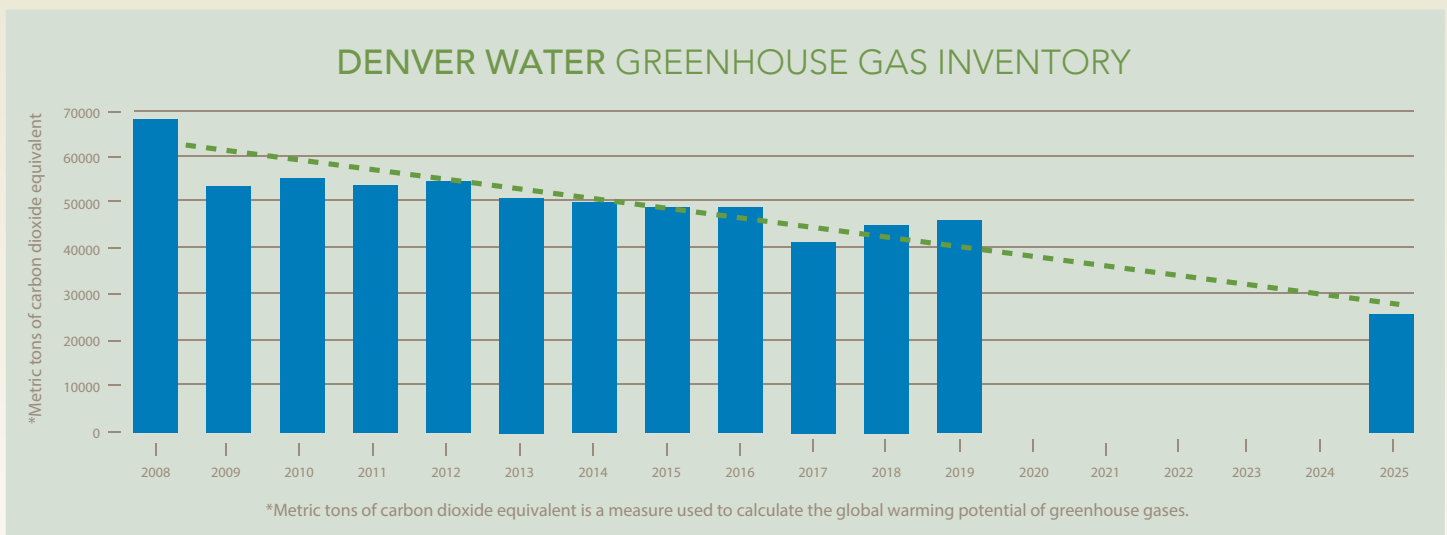


## Sustainability Program and Greenhouse Gas Inventory

Every Denver Water employee makes decisions that have environmental, social and financial impacts. In 2016 Denver Water hired a sustainability manager to internalize, systemize and track sustainability within our operations. Developing a Sustainability Program with high-level sustainability strategies and goals for the organization provides clear direction to employees and supports sustainability in their everyday work responsibilities.

In 2017, a sustainability program assistant and energy management analyst joined the team to support education and outreach to staff and improve the metrics and reporting of operational utility consumption and waste streams.

Denver Water participates with the Climate Registry, a nonprofit collaboration among North American entities that sets consistent standards to calculate, verify and publicly report greenhouse gas emissions into a single registry. Since 2008, we have been tracking and reporting our greenhouse gas footprint so we can find ways to reduce our impact.





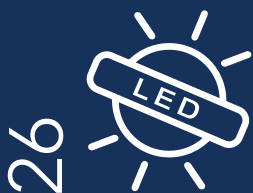
## Environmental Compliance and Environmental Management System

The Environmental Compliance Section at Denver Water is responsible for organization-wide adherence to air, water and environmental regulations, safe waste recycling and disposal, and required inspections. This team visits Denver Water facilities and sites and meets with operational teams to develop standard operating procedures.

An Environmental Management System, implemented by our Environmental Compliance team, manages environmental commitments and obligations at Denver Water. This system inventories the aspects and environmental impacts of our operations to ensure they are being effectively controlled.

Both the Environmental Management System and the Sustainability Guide serve as a gap analysis to identify all our impacts and best practices, and what areas we still must cover.

### Environmental Management System (EMS) 2019 Highlights



26  
Percent reduction in energy usage due to LED lighting retrofits at 11 facilities.



12,648  
Pounds of metal returned to manufacturer for processing into new meters.



100  
Gallons of glyphosate weed killer eliminated.



194  
Pounds of oil-based paint recycled.

## Climate Change Planning and Integrated Resource Plan

Climate change is a new and complex challenge for water utilities. There is a wide range of future climate predictions for Colorado, which makes supply planning difficult. Yet Denver Water is a leader in addressing and incorporating climate change. In 2008, Denver Water hired a climate scientist and brought climate change into resource planning. We are working with national climate agencies and universities to best understand how climate conditions may change in our area. We also are promoting the need for better science, and better modeling and uncertainty planning, in order to meet the needs of water providers.

In preparing for multiple scenarios in our Integrated Resource Plan, we continue to build a resilient system that ensures service of a reliable supply of high-quality water to our customers. Our new Integrated Resource Plan details the possible water-system effects of climate change and will help us decide on future water supply projects. We will use the plan to guide our decisions related to our water system over the next 50 years.

## Green Committee

Denver Water has always had passionate employees, and years prior to the Sustainability Program, a volunteer committee came together to focus on environmental and sustainable improvements at Denver Water. The Green Committee inspires environmentally responsible behavior, stewardship and sustainability in the lives of employees through education, outreach and advocacy in order to build a strong and connected community. The Green Committee also partners with the Sustainability Program to support best practices and improvements across the organization.





## Operations Complex Redevelopment project

At Denver Water, we know our operations are inextricably linked to the environment. We take this responsibility very seriously and designed our new Operations Complex with resource efficiency and environmental health as priorities.

The fleet services, warehouse, trades and meter shop facilities were completed in summer 2017. The Administration Building and parking garage were completed in 2019, followed by the final conversion of a historic pump station into a conference center and renovation of campus landscaping in 2020.

### Sustainable building features include:



Natural daylighting in all buildings through large windows and skylights.

**100%** LED lighting with daylight harvesting.



Passive treatment of stormwater through rain gardens and detention ponds.



Robust building envelopes that include triple-pane glass and extra insulation.



Radiant heating and cooling from a central utility plant that uses water from a large water pipeline for preheating and precooling (similar to geothermal).



Automatic window blinds in the Administration Building for heat and glare control.



Centralized waste for garbage, recycling and compost.



Controlled outlets in nonoperations buildings that turn off computer monitors and other unneeded equipment when the space is not occupied.



Rainwater capture for irrigation.

**NET-ZERO ENERGY**

for the Administration Building (offset with 1.3 megawatts of onsite solar).



Blackwater capture with onsite treatment and reuse for toilet flushing and irrigation.



# Where Are We Now?

12

Sustainability is not new to Denver Water. Even if it were not always known by that name, stewardship of the environment, extensive financial and future planning, and focus on the welfare of both employees and customers have always been priorities in our goal of becoming the best water utility in the nation.

## The following goals have been met for the organization:

### Water

- Water reuse and the concept of One Water is integral to Denver Water operations, including recycled water options for customers and an onsite blackwater treatment system at the main Operations Complex.
- Organizational water usage is reported against site budgets, which are set based on facility and grounds size, occupants and use type.
- All major irrigated sites on Denver Water property have central control systems.

### Energy

- Organizational energy portfolio is tracked and reported continually, with a goal of continued energy neutrality.
- Renewable energy, including hydroelectric generation and solar photovoltaic systems, is in place at nine sites, with 26.5 megawatts of capacity and average production of 60,000 MWh.
- Innovative efficiency systems, including thermal heat recovery at the main Operations Complex, are used to drive down demand.
- Treatment plants continue to adjust operating hours and processes to conserve energy when possible.

### Land Use and Ecosystems

- Denver Water supports the Coalition for Upper South Platte in its planning and restoration of Horse Creek to reduce sediment loading into the Strontia Springs Reservoir by 50,000 tons per year.
- The From Forests to Faucets partnership with the U.S. Forest Service includes fuels reduction, restoration and wildfire prevention projects in priority watersheds.
- For more than 30 years, Denver Water's partnership with the Colorado State Forest Service has helped maintain the health and resiliency of forests on Denver Water properties.

### Materials

- Denver Water works to close loops and divert waste continuously, including providing shred bins for direct paper recycling, returning waste material to manufacturer for reuse when possible, and donating electronics before recycling.
- Road base material used to access Denver Water's raw water collection system is reused by the U.S. Forest Service, reducing landfill waste.
- Compost and recycling bins are located throughout facilities, where hauling is available, reducing landfill waste.

### People

- Denver Water supports employee committees that focus on inclusivity, wellness, and environmental activism.
- Denver Water's smoke-free campus includes smoking cessation programming at all facilities.
- Employees receive a transit pass to encourage alternative transportation opportunities.

### Infrastructure and Assets

- All operating facilities are recognized with Gold status in the Colorado Department of Public Health and Environment's Environmental Leadership Program.
- Organizational green cleaning standards have been developed for all facilities.
- Sustainability goals, standards, and commitments were integrated into Denver Water's Engineering Standards and Capital Project Construction Standards.



## Planning For Our Future

We are proud of the innovation, determination and environmental consideration that Denver Water has always led with, but we know that there are always improvements to be made. In the pages that follow, we chart our course and lay out a set of stretch goals, standards and commitments we aspire to. This is an inventory and overview of the best practices Denver Water operates within. It showcases both our successes and trials at advancement. We have analyzed and scrutinized projections for sustaining our operations into the future, with our customers and the environment at the forefront of this planning. As we work toward these goals with our commitments and standards, we will see areas for improvement that will become new goals.

## Framework

This document includes Denver Water's best practices and commitments, broken into six resource areas. Many times, these best practices create positive change in more than one resource area. In order to reach the goals, standards and commitments have been established and will be quantified.

**Goal:** A goal is a metric set for improvement that is both tracked and reported. Goals are organization-wide resource reductions with measurable metrics.

*"Increase Denver Water energy portfolio by one megawatt of renewable energy by 2025."*

**Standard:** A standard is an internal policy, a third-party standard or a guiding document that goes above and beyond standard work. Standards are organization-wide standards that govern our operations.

*"Develop policy with regional and state agencies that allows and encourages 'One Water' implementation."*

**Commitment:** A commitment is a best practice that contributes to efficiency or resource conservation.

*"Account for value of sustainability in scoring procurement proposals (RFPs)."*

# Key to Our Future

## WATER



WATER USE



WATER SUPPLY



WATER QUALITY AND TREATMENT

## ENERGY AND TRANSPORTATION



ENERGY USE AND SUPPLY



TRANSPORTATION

## LAND AND ECOSYSTEMS



LAND USE AND ECOSYSTEM STEWARDSHIP

## MATERIALS



MATERIALS MANAGEMENT



PROCUREMENT

## DENVER WATER PEOPLE



INSPIRED PEOPLE

## INFRASTRUCTURE AND ASSETS



BUILT ENVIRONMENT AND OPERATIONS



ASSETS

# Water

Creating a culture of conservation in Denver dates back to 1936 when Denver Water put messaging on street trolleys to educate the community about saving water. The modes of transportation have changed, but the message remains the same, as does our operational commitment to using this precious resource wisely. Denver Water ensures a continuous supply of water to 25% of Colorado's population with only 2% of the state's water supply. We continue to explore further conservation opportunities through technical, policy and behavioral adaptation.



## WATER USE

### Goals:

- Reduce Denver Water facility irrigation by meeting LEED standards for low water use by 2025.
- Reduce Denver Water facility water use by meeting LEED fixture standards by 2025.

### Commitments:

- Include water-saving fixtures and applicable irrigation controls on all new construction and renovation.
- Continuously improve water budget and reporting to include Denver Water facilities outside of Denver Water service area.
- Include community education about leading-edge water best practices at all Denver Water facilities with public interface.



## WATER SUPPLY

### Standard:

- Develop policy with regional and state agencies that allows and encourages "One Water" implementation.



## WATER QUALITY AND TREATMENT

### Goal:

- Install real-time watershed water quality monitoring units at 15 sites by 2025.

### Commitment:

- Remove customer-owned lead service lines from distribution system through current Lead Reduction Program and when encountered.

# Energy and Transportation

As the oldest and largest water utility in Colorado, Denver Water is fully aware of the water-energy nexus, and extremely focused on conserving resources. The energy needed to collect, store, treat and distribute water is continuously decreasing because of policy and behavioral changes, technologically efficient upgrades, and generation of renewable hydropower within our operations.



## ENERGY USE AND SUPPLY

### Goals:

- Reduce organization-wide greenhouse gas emissions 50% from 2015 baseline by 2025.
- Maintain energy neutrality while decreasing energy use (electricity and natural gas) 10% from baseline (2015-2019 average annual use) by 2025.
- Increase Denver Water energy portfolio by 1 MW of renewable energy by 2025.

### Commitments:

- Install occupancy/vacancy sensors on all new construction and renovation.
- Upgrade to LED on all new and replacement lighting.
- Offset at least 50% of energy use with renewable energy generation, preferable on-site, with all new construction and major renovation projects.
- Continue to improve hydroelectric system operations with holistic integration of water resources, maintenance planning and contractual obligations.
- Maximize participation and benefits available through demand-side management programs, utility incentives and external efficiency sources when applicable.
- Continue to participate in the Carbon Footprint Registry program to qualify Denver Water's greenhouse gas inventory for higher certification.



## TRANSPORTATION

### Goals:

- Update Denver Water idling policy to include idle-free campuses by 2022.

### Standards:

- Uphold Denver Water idling policy with continued annual reporting and goals for reduction.

### Commitments:

- Monitor all fleet vehicles with software for anti-idling and speed-limit fuel efficiency.

# Land and Ecosystems

Denver Water’s collection system covers about 2.5 million acres of land. We are committed to supporting and improving natural ecosystems and using resources wisely. We work with multiple federal agencies, nongovernmental organizations, private landowners and other Front Range water providers to identify and prioritize at-risk watersheds that will be the focus of protection measures, and to preserve, restore and ensure the health of watersheds. We work with mountain communities daily to proactively identify ways to operate our system so that flows are provided for rivers and streams.



## LAND USE AND ECOSYSTEM STEWARDSHIP

### Goals:

- **Convert 185 acres of the High Line Canal land to green infrastructure to benefit public recreation and to treat approximately 200 acre-feet (66 million gallons) of stormwater, by 2025.**
- **Develop drought-tolerant, pollinator-supporting landscaping on five Denver Water properties by 2025.**

### Standards:

- Uphold federal and state standards regarding the detection, monitoring and prevention of aquatic nuisance species within Denver Water’s collection system.
- Uphold state standards regarding detection, monitoring and eradication of noxious weeds on Denver Water properties through an integrated management plan.

### Commitments:

- Create opportunities for innovation in watershed health through collaborations and research with the National Western Stock Show Complex redevelopment.
- Support the assessment and implementation of an additional 90,000 acres, both National Forest and private lands, into the From Forests to Faucets Partnership, for forest restoration and wildfire risk reduction projects.
- Develop a watershed inventory, assessment, prioritization and plan for our South Collection System.
- Develop a 20-year plan to reduce sediment loading in Strontia Springs Reservoir.
- Increase survivability of revegetation efforts in the Hayman burn scar by selecting more resilient species and using innovative planting methodologies.

# Materials

Our operations are focused on closing loops and responsibly managing waste streams. Denver Water's teams work tirelessly within our operations to safely recycle or dispose of operational waste with a priority to minimize the use of hazardous materials. Additionally, our compost, recycling and e-waste programs are successfully diverting waste from the landfill.



## MATERIALS MANAGEMENT

### Goals:

- **Reduce municipal solid waste going to landfill 25% from 2020 baseline by 2025.\***
- **Reduce per-capita municipal solid waste (all streams) 25% from 2020 baseline by 2025.\***  
\* Data does not currently include remote location facilities where recycling and compost hauling are not available.
- **Reduce per-capita electronic waste 25% from 2020 baseline by 2025.**
- **Develop and implement print standards to reduce paper use 50% from 2019 baseline by 2025.**

### Commitments:

- Compost all landscaping.
- Optimize water treatment chemicals in volume and type.
- Identify beneficial reuse options for water treatment residual disposal.



## PROCUREMENT

### Standards:

- Uphold Denver Water sustainability procurement standards regarding waste reduction, product and service improvement, and efficiencies within Denver Water operations.

### Commitments:

- Continue to reduce shop and maintenance chemical use and work with the purchasing department to find more sustainable alternatives.
- Account for value of sustainability in scoring RFPs.

# Denver Water People

Denver Water knows that employee satisfaction means employee retention, which is at the heart of a sustainably run organization. To attract and retain the best talent, Denver Water focuses on safety, health, wellness and high quality of work life for employees. As a result, our employees have a passion for stewardship and are preparing for the future. Because it is the right thing to do.



## INSPIRED PEOPLE

### Goals:

- Increase Denver Water safety maturity, a metric calculated from traditional safety measures of accidents, incidents, program quality metrics, and cultural indicators, from 3.75 to 4.2 by 2025.

### Standard:

- Maximize participation and benefits available through WELL Building Standard and other wellbeing certifications by implementing optimizations on Denver Water properties when applicable.

### Commitments:

- Continue to offer sustainability awareness training through communication, education events, lunch and learns, coffee breaks and new employee orientation.
- Expand and improve supplier diversity strategy to strengthen relationships and create more business opportunities for small, woman-owned and minority-owned businesses.
- Continue to promote telework and flexible work opportunities for safety and health of employees.
- Facilitate collaborations to support employee pilot innovations and sustainable improvements to our operations.
- Promote professional development for future leaders.
- Continue to improve sustainable transportation incentives and programs for employees.
- Continue to improve employee wellbeing at all Denver Water locations with options for physical activity and healthy food.



# Infrastructure and Assets

Denver Water has taken a leadership role in understanding and promoting sustainability both in the state of Colorado and in water utility planning. Our goal is to build environments responsibly and enhance Denver Water property. We are dedicated to sustainable growth and operation of our assets and leading by example to share experience and expertise.



## BUILT ENVIRONMENT AND OPERATIONS

### Goals:

- Incorporate standards that include stormwater runoff in the redevelopment of two Denver Water properties by 2025.

### Standards:

- Maximize participation and benefits of LEED, Envision, SITES and other building certifications by implementing standards in all new construction and major renovation when applicable
- Uphold Denver Water's green cleaning standards regarding chemical type in product and services within Denver Water operations.

### Commitments:

- Continue to participate in the Colorado Department of Public Health and Environment's (CDPHE) Environmental Leadership Program (ELP) at the Gold Leader level.
- Continue to participate in the City and County of Denver's Certifiably Green Denver Program to qualify Denver Water's fleet shop for certification.
- Continue to invest and participate in new trials and pilots for energy, water, and waste savings within our infrastructure.
- Install permeable pavement and surfaces when applicable in development and resurfacing projects.
- Include sustainability goals for all Continuous Improvement events.



## ASSETS

### Commitments:

- Consider fuel-efficient vehicles and alternative transportation options for all new fleet vehicles.
- Continue to evaluate and update IT Asset Management Plan.



## Sustainability Implementation and Reporting

This guide applies to all of Denver Water's operations. A majority of the reporting will require implementing metering and tracking mechanisms that establish baselines. These mechanisms are in the process of being defined and implemented if an existing tracking system is not already in place. Additionally, Denver Water is committed to assessing the software used for tracking work orders to report on improvements and upgrades to our infrastructure's efficiency.

### Continuous Improvement

A key component of our sustainability implementation is following a continuous improvement model to determine new opportunities for advancement.

Sustainability is full-circle thinking at Denver Water, and we take these steps in our work:

- Continuously analyze the current state of operations and ecosystems.
- Identify baselines.
- Engage stakeholders.
- Define opportunities.
- Set goals.
- Initiate changes.
- Deploy programs.
- Document and verify results.
- Evaluate processes.
- Analyze the current state again.



As technology advances and best practices evolve, Denver Water continues to revisit and update our operations to make them as sustainable as possible.

## Denver Water's Outdoor Recreation Areas

There's more to water than drinking it. Denver Water's reservoirs and watershed areas offer many recreational activities. Denver Water owns nine sites that are open to public recreation, including Antero, Cheesman, Dillon, Eleven Mile, Gross and Williams Fork reservoirs, as well as the High Line Canal, South Platte River and Waterton Canyon/Strontia Springs Reservoir.

Ultimately, this is why we incorporate sustainability into everything we do: So that future generations can enjoy and experience the great outdoors as much as we do today.

Activities allowed at each site vary, but include:



- Bicycling
- Camping
- Canoeing
- Cross country skiing
- Fishing
- Hiking
- Horseback riding
- Hunting (big game and fowl)
- Ice fishing

- Paddle boarding
- Kayaking
- Motorboating
- Nature viewing
- Picnicking
- Renting
- Rowing
- Sailboating
- Snowmobiling
- Windsurfing



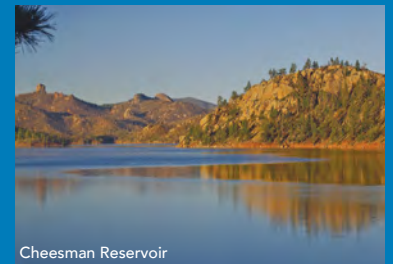
Antero Reservoir



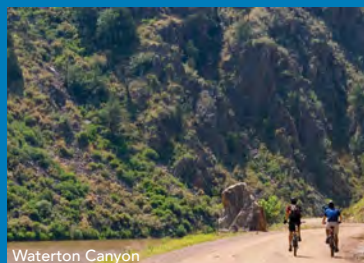
Dillon Reservoir



Eleven Mile Canyon Reservoir



Cheesman Reservoir



Waterton Canyon



Williams Fork Reservoir

Many minds and voices were engaged in conversation to compile the history, best practices and current efforts in efficiency and sustainability within Denver Water operations. We would like to acknowledge the contribution of those who participated in the development of this guiding document. This guide shares Denver Water's foundation of stewardship, engagement in continuous improvement and plans for future generations. We would like to acknowledge the contributions and efforts of all employees who steadily improve our operational use of energy, water, and resources while diverting waste and maintaining focus on ecological health and social justice.

And thank you to the organizations and partners that continue to work alongside us and recognize our efforts.

- U.S. Green Building Council's LEED certification for Operations Complex, including Platinum for the Administration Building (2021).
- City and County of Denver's award Certifiably Green Business for the Administration Building (2020).
- Colorado Department of Public Health and Environment's Environmental Leadership Program's recognition for Gold Leader (2020).
- Carbon Footprint Registry's Award for Gold Status (2019).
- City and County of Denver Office of Sustainability's "Love This Place" Award for Implementer of Sustainability (2018).
- Association of Metropolitan Water Agencies' Award for Sustainable Water Utility Management (2018).
- Blue Star Recycler's Award for Star Partner (2017).
- Association of Municipal Water Agencies' Platinum Award for Utility Excellence (2015).
- Global Water Award for Water Performance Initiative of the Year (2015).
- Trout Unlimited River Stewardship Honoree in the "Learning by Doing" partnership (2016).
- EPA WaterSense Excellence Awards (2015 and 2014).



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