



**Citizens’ Water Advisory Committee (CWAC) Agenda**

August 10, 2021, 6:00 p.m.

AMC 15151 E Alameda Pkwy – Aspen Conference Room 2<sup>nd</sup> Floor

WebEx Link:

<https://auroragov.webex.com/auroragov/j.php?MTID=m8ab81ecdb995f6f3ec185516480d2f1a>

Public Participation through call in number (listen only)

720-650-7664

Access code: 146 245 5086

Members: Janet Marlow - Chair, Angie Binder -Vice Chair, Jay Campbell, Tom Coker, Brandy DeLange, Richard Eason, William Gondrez, David Patterson, Mike Spatter

- |  |                             |           |
|--|-----------------------------|-----------|
| 1. Approval of Minutes – July 13, 2021   | Chair                       | 6:00 p.m. |
| 2. Introductions/Public Invited to be Heard  | Chair                       | 6:05 p.m. |
| 3. New/Old Business  | Chair                       | 6:10 p.m. |
| 4. Communications Update   | Greg Baker                  | 6:15 p.m. |
| 5. Quarterly Financial Report – Second Quarter 2021  | Jo Ann Gidding              | 6:20 p.m. |
| 6. SEAM Update/Environmental Covenant  | Sarah Young/<br>Andrea Long | 6:40 p.m. |
| 7. Sand Creek Programmable Logic Controller (PLC) Replacement                                  | Ted Hartfelder              | 7:00 p.m. |
| 8. Education and Outreach Team - Supporting the Colorado Statewide Water Education Action Plan | Natalie Brower Kirton       | 7:20 p.m. |
| 9. CWAC letter for the Special Study Session for Boards and Commissions                        | Chair                       | 7:30 p.m. |
| 10. Committee tour in September  | Chair                       | 7:35 p.m. |
| 11. Review Follow-Up Questions Generated at this Meeting                                       | Chair                       | 7:40 p.m. |
| 12. Confirm Next Meeting – Tuesday, September 14, 2021   | Chair                       | 7:45 p.m. |
| 13. Adjourn  | Chair                       | 7:50 p.m. |

**Aurora Water was ranked #1 in Customer Satisfaction with Midsize Water Utilities in the West of the J.D. Power 2021 Water Utility Residential Customer Satisfaction Study.**

For J.D. Power 2021 award information, visit [jdpower.com/awards](http://jdpower.com/awards) for more details.



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**Citizens’ Water Advisory Committee (CWAC) Minutes**  
**July 13, 2021, 6:00 p.m.**  
AMC 15151 E. Alameda Pkwy – Aspen Conference Room 2<sup>nd</sup> Floor

WebEx Link:

<https://auroragov.webex.com/auroragov/j.php?MTID=m8ab81ecdb995f6f3ec185516480d2f1a>

Public Participation through call in number (listen only)  
720-650-7664  
Access code: 146 245 5086

Members Present: Janet Marlow - Chair, Angie Binder -Vice Chair, Jay Campbell, Tom Coker, Brandy DeLange, Richard Eason, William Gondrez,

Absent: Mike Spatter, David Patterson,

Staff Present: Greg Baker, Leiana Baker, Jo Ann Giddings, Gail Thrasher, Josh Godwin, Sonya Gonzalez, Greg Hansen, Fernando Aranda Perozo, Kathy Kitzmann, Rory Franklin

Visitors Present: None

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The meeting was called to order at 6:02 p.m.

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**1. Approval of Minutes – May 11, 2021**

The June 8, 2021, minutes were approved.

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**2. Introductions/Public Invited to be Heard**

None.

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**3. New/Old Business**

None.

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**4. Communications Update**

G. Baker gave an update.

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**5. 2021 State Legislative Update**

K. Kitzmann gave an update on the 2021 State Legislative efforts by Aurora Water. Aurora Water Supported 22 bills and one joint resolution that were beneficial to protect, maintain, and develop Aurora’s water, sewer, and storm water systems for today and the future. Of these 23 (bills & resolution), 19 have passed, one is awaiting the Governor’s signature, and only three (3)

failed. Aurora Water opposed one introduced bill and opposed one draft bill with both bills failing. The remaining 37 bills and one resolution were monitored for potential amendments and passage.

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## **6. Aurora Water Virtual Water Tour Demonstration**

J. Godwin stated, the Virtual Water Tour (VWT) was developed to better explain the size and scope of Aurora Water's system in more than words: to provide a visual explanation of how expansive our system is and how Aurora moves water, at a high-level scale. This VWT is the first of its kind and while the original intent of the VWT was to help educate state legislators, the tour was developed with all in mind.

VWT Link: <https://storymaps.arcgis.com/collections/245f2bb7556a408fb24fd02842415b73>

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## **7. 2022 Proposed Operating and Capital Improvement Program Budget**

G. Thrasher stated, the 2022 budget is being proposed with a 3.5% average increase in water retail revenues, 4.0% increase in sewer rates and 3.5% in stormwater rates. Connection fees for water and sewer are proposed to increase 10.6% and 6.3% respectively. These increases are necessary to maintain and build Aurora Water's infrastructure and since there was no rate or fee increases in 2021 due to pandemic, the proposed budget was built knowing there is still uncertainty in the economy. During this time, late fees were waived on customer accounts. In addition, a 2% increase in salary-related costs is incorporated for 2022.

Increases in the Water and Wastewater Operating budgets are driven by personnel requests, an increase in utilities primarily for Metro Wastewater, and debt related increases to account for principal and interest payments in the original water and sewer debt schedules. Aurora Water is requesting 12 FTEs plus two .5 FTEs. One will be shared with Housing and Community Services. The other will be shared with the Information Technology Dept.

The combined Water and Wastewater Capital Improvement Program budget for 2022 is \$153.8 million and \$880.5 million over the five years.

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## **8. 2022 Proposed Rate and Fee Changes**

F. Aranda Perozo gave a presentation on the 2022 Proposed Rate and Fee Changes for water, sewer, and storm. The proposed 2022 budget includes the proposed rate and fee adjustments based on the latest financial plan. Aurora Water understands the impacts rate increases have to customers and therefore have a policy, whenever possible, to have small incremental rate increases as opposed to having infrequent large rate increases.

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## **9. Water Tour Participation Discussion**

G. Baker stated, the Water Tour is August 17-18 and seats are limited to allow more residents to attend. The Aurora Water Tour will be a biennial tour after this year.

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**10. Water Policy Committee Quarterly Report Discussion**

This will be presented tomorrow at Water Policy Committee tomorrow.

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**11. Review Follow-Up Questions Generate at this Meeting**

Will there be plant tours this year? G. Baker replied, no. There will be a tour to Wild Horse. A request was made to visit Rocky Ford. G. Baker suggested next year.

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**12. Confirm Next Meeting – Tuesday, August 10, 2021**

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**13. Adjourn**

The meeting was adjourned at 7:40 p.m.

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Janet Marlow, Chair  
Citizens' Water Advisory Committee

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Submitted by Leiana Baker  
Administrative Specialist, Aurora Water

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**To:** Citizens' Water Advisory Committee

**Through:** Marshall P. Brown, General Manager, Aurora Water \_\_\_\_\_

**From:** JoAnn Giddings, Deputy Director Water Financial Administration \_\_\_\_\_

**Date:** August 10, 2021

**Subject:** Quarterly Financial Report – Second Quarter June 2021

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**Highlights**

Combined operating revenues (Water, Sewer, and Stormwater): Through the Second quarter were 7.1% lower than plan and 9.1% lower than the second quarter of 2020. The decrease is due to the wet spring which delayed outdoor irrigation.

Combined Development revenues (Water, Sewer, and Stormwater) in the Second quarter of 2021 were 77% higher than plan and 1.5% higher than for the same period in 2020.

Proceeds from the SEAM debt issuance for water and wastewater (\$183 million) as well as the repayment of the interfund loan of \$16M from wastewater to water are reflected in the financial statements.

Operating expenses (Water, Sewer and Stormwater combined), excluding debt service, are under the spending plan by \$5.5 million or 8.7 percent. This variance is mainly driven by lower than anticipated expenses in Supplies and Services due to the timing of Professional Services and Purchased Vehicle and Equipment replacement. Utilities were lower than anticipated for Homestake and Pumping electricity costs and Metro Wastewater was under plan for the second quarter. Credit card fees were higher than anticipated by \$1.3 million due to account misclassification corrected in June 2021. Operating expenses, excluding debt service, were higher than 2020 (same period) by \$1.4 million or 2.5 percent.

The debt service was higher in May 2021 due to a SEAM debt repayment (\$16 million) from the Wastewater Fund to the Water Fund, and debt issue costs for the First-Lien Water & Sewer Revenue Bonds, Series 2021 (\$2.6 million). These two items are not included in the current budget and will be appropriated through the fall supplemental budget.

Statements showing the budget to actual results and the year to year comparison can be found at the end of this memo on pages 8 and 9. Capital details can be found on pages 5 and 6.

<b>Water, Sewer, and Stormwater as of End of Second Quarter</b>					
Item	YTD Plan	2021	2020	Q2 2021 vs YTD Plan	Year Over Year Difference
Operating Revenue	\$89,258,301	\$82,738,299	\$90,975,987	(\$6,520,002)	(\$8,237,688)
Development Revenue	17,531,173	30,960,596	30,497,102	13,429,423	463,494
Bond Proceeds and Transfers	0	199,043,084	0	199,043,084	199,043,084
Interest Income	1,319,994	1,759,035	2,672,427	439,041	(913,392)
<b>Total Revenue</b>	<b>\$108,109,468</b>	<b>\$314,501,014</b>	<b>\$124,145,516</b>	<b>\$206,391,546</b>	<b>\$190,355,498</b>
Operating Expense	(\$63,212,315)	(\$57,681,605)	(\$56,299,786)	(\$5,530,710)	\$1,381,819
Capital Projects	(56,548,226)	(57,384,806)	(40,635,050)	836,580	16,749,756
Debt Service	(9,658,608)	(28,036,523)	(9,246,750)	18,377,915	18,789,773
<b>Total Expense</b>	<b>(\$129,419,149)</b>	<b>(\$143,102,934)</b>	<b>(\$106,181,586)</b>	<b>\$13,683,785</b>	<b>\$36,921,348</b>

### Cash Balances

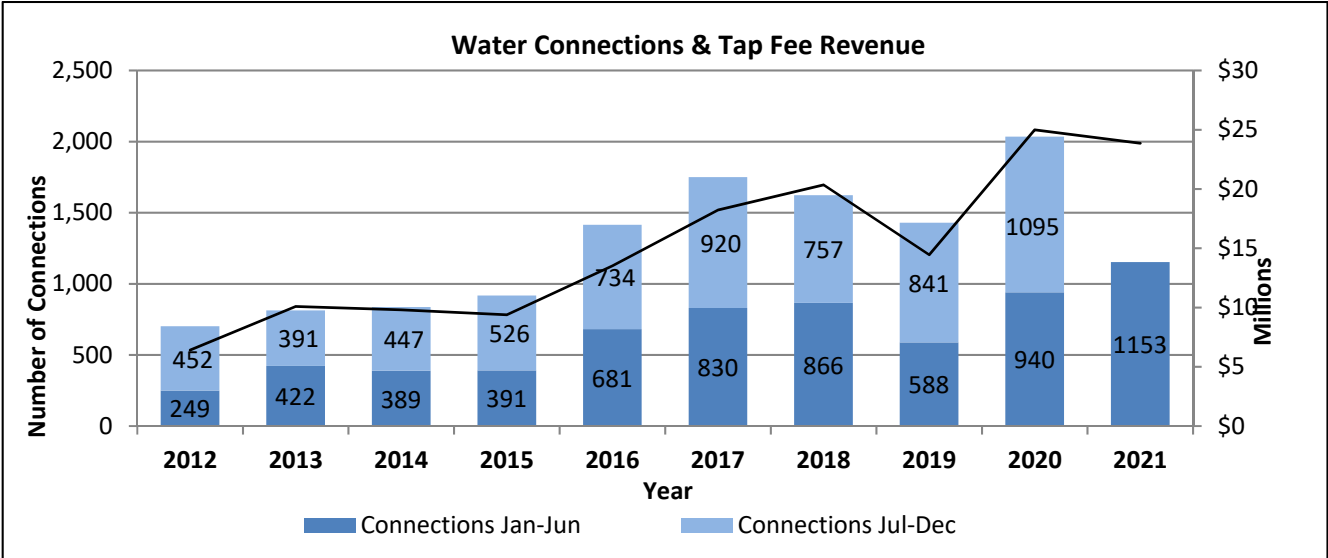
The total cash in the Water Fund increased in the Second quarter of 2021 by \$122.5 million. The increase is due to the issuance of debt and the start of the irrigation season. Total cash in the Wastewater Fund increased by \$48.4 million in the Second quarter. Reserves detail and cash balances are shown in the table below.

	<b>Water</b>	<b>Wastewater</b>
<b>Total Cash</b>	<b>\$289.9M</b>	<b>\$133.0M</b>
<b>Reserve &amp; Commitment Type</b>		
Debt Service Policy Reserve (next fiscal year debt payment)	\$25.3M	\$4.8M
Operating Reserve (25% of adopted operating budget excl debt service)	\$16.9M	\$13.9M
Water Resources Reserve (\$20 Million)	\$20.0M	
Capital Reserve (0.5% of Net Fixed assets)	\$9.3M	\$3.2M
Capital and Operating Encumbrances	\$144.8M	\$64.3M
Pass-Thru Commitments (METRO and CC Basin)		\$4.7M
WISE Liability to Denver Water	\$5.0M	
<b>Total Reserves and Commitments</b>	<b>\$221.3M</b>	<b>\$90.9M</b>
<b>Cash after Reserves &amp; Commitments</b>	<b>\$68.5M</b>	<b>\$42.1M</b>



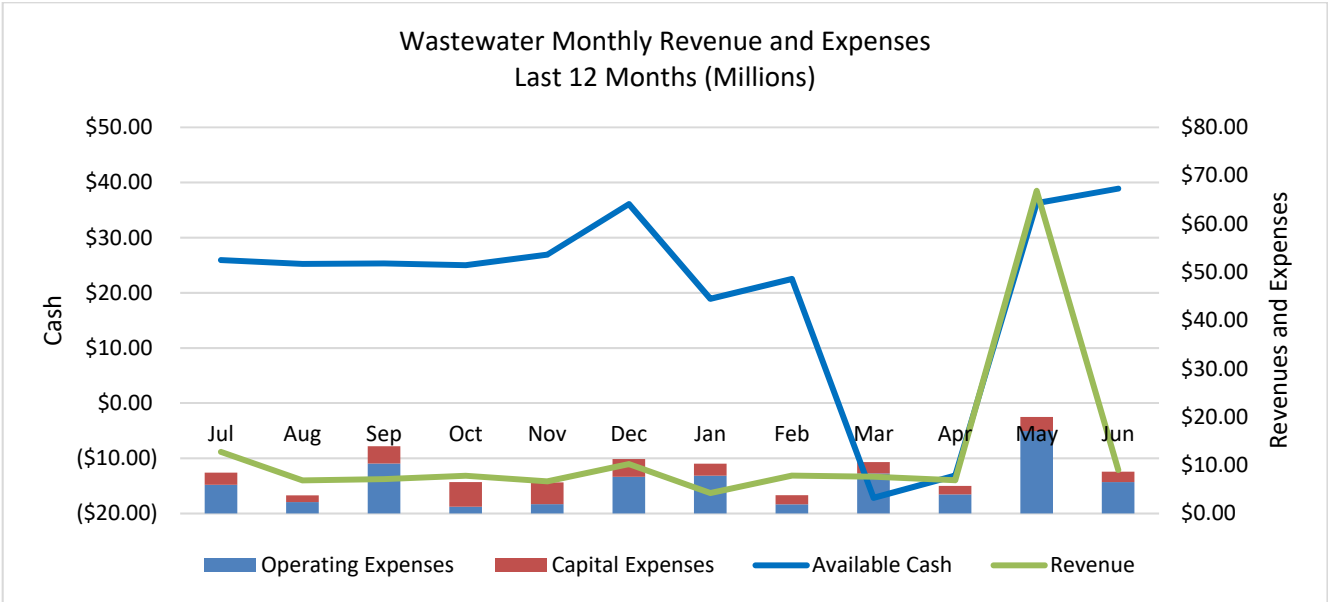
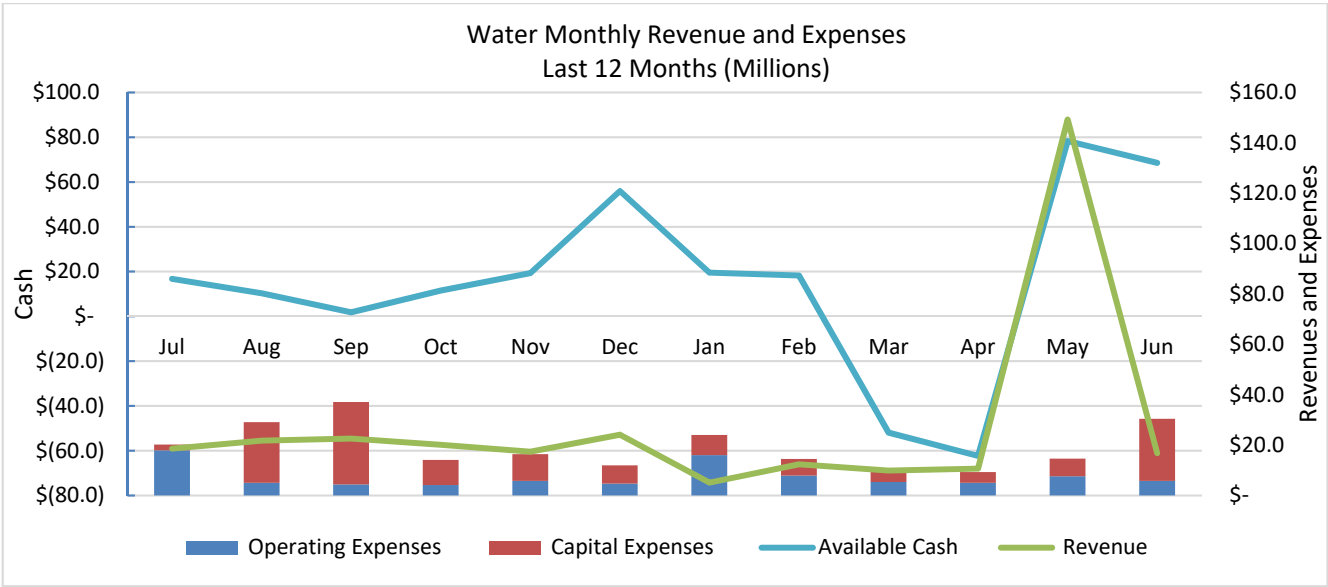
**Water Connections**

The total number of water connections (single-family, commercial, irrigation and multi-family) and the corresponding Water Connection Fee revenue for 2012-2021 are shown on the following graph. The number of water connections through the Second quarter of 2021 increased by 213 connections or 23 percent compared to the second quarter of 2020. Total water connection fee revenues through the Second quarter of 2021 were \$1.1 million (4.5 percent) lower than for the same period in 2020. Even though the number of connections was higher the revenues were lower because at this time last year a couple of large multifamily connections were added. The overall growth due to development is the highest in the last ten years.

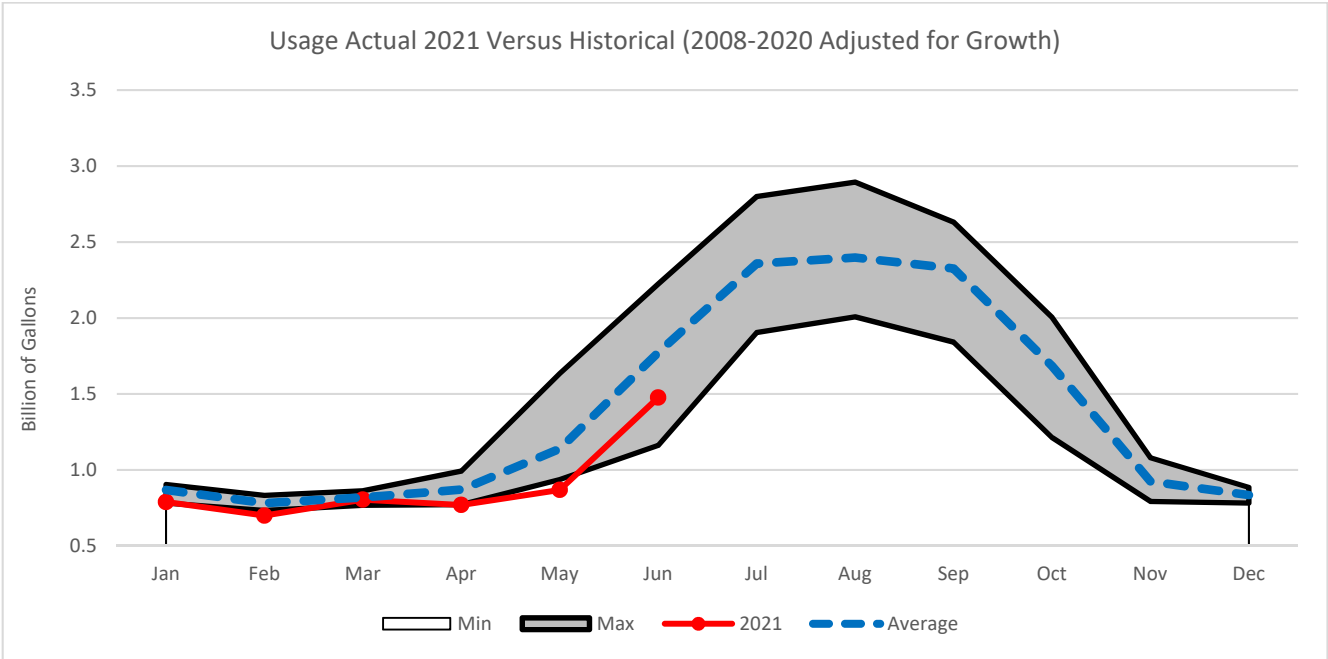
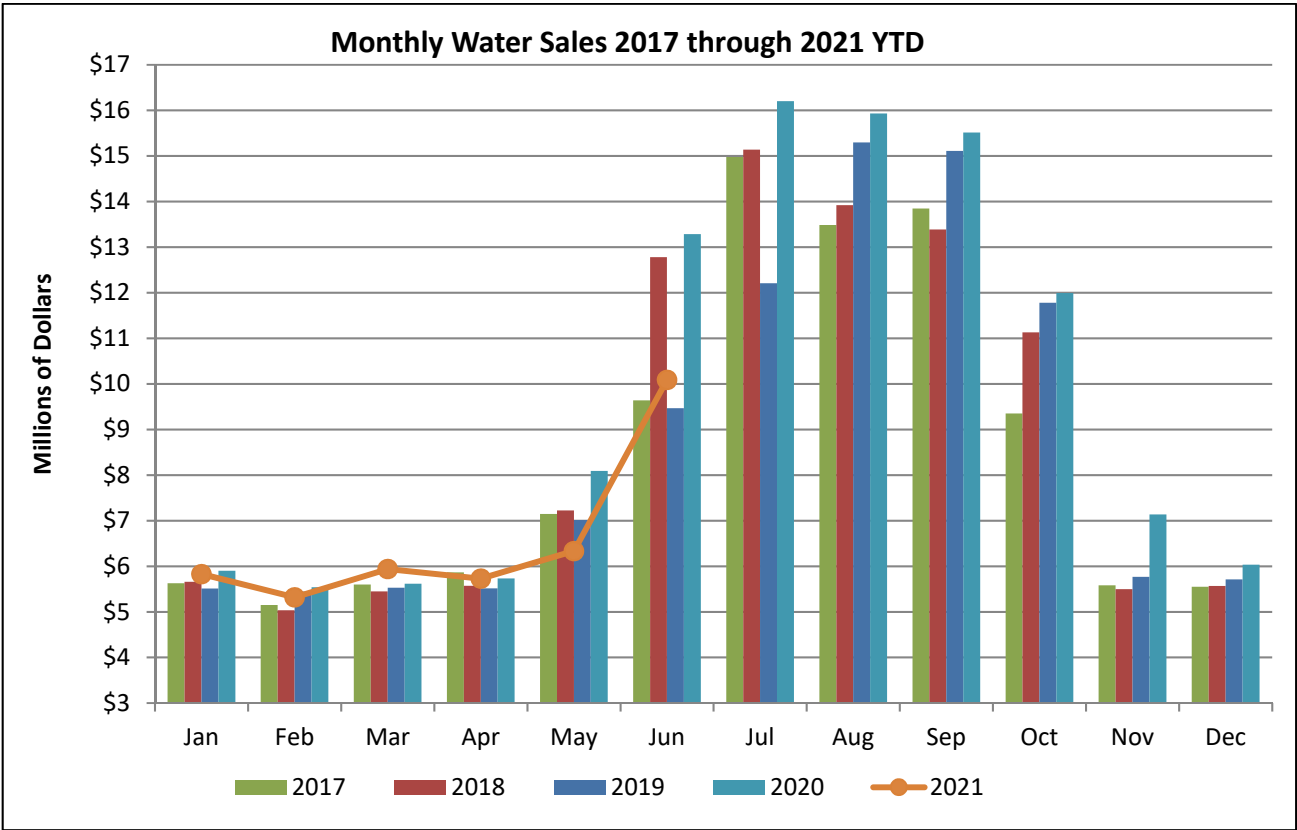


**2021 Revenue, Expenses and Cash Flow**

The following graphs present a summary of the last 12 months of monthly revenues, expenses, and cash flow.



The Available Cash & Revenue increase in May is due to bond issuance of \$120 million in Water and \$60 million in Wastewater. The encumbrances are subtracted from the cash for purposes of determining the cash available.



**Overall Capital Plan**

<b>Capital Projects Spending as of 06/30/2021</b>				
<b>Program</b>	<b>Working Budget*</b>	<b>YTD Spending Plan</b>	<b>YTD Actual Spend</b>	<b>Encumbered**</b>
<b><u>Water CIP</u></b>				
Operations & General Management	93,426,820	5,604,063	3,956,115	78,775,399
Pumping	5,545,383	1,774,201	1,375,889	3,165,605
SOS Other	48,526,089	4,217,699	833,106	4,666,122
SOS Storage	32,008,338	4,196,957	1,265,634	10,509,057
SOS Water	35,933,508	4,382,120	27,836,621	8,880,980
Transmission & Distribution	36,793,119	6,890,801	4,867,898	24,661,175
Treatment	41,496,533	11,619,678	7,094,964	9,076,712
<b>Water Total</b>	<b>293,729,790</b>	<b>38,685,520</b>	<b>\$47,230,227</b>	<b>\$139,735,050</b>
<b><u>Sewer CIP</u></b>				
Collection	38,261,034	5,885,363	2,987,759	9,542,020
Operations & General Management	43,988,797	4,549,247	3,521,762	30,613,300
<b>Sewer Total</b>	<b>\$82,249,831</b>	<b>\$10,434,610</b>	<b>\$6,509,521</b>	<b>\$40,155,320</b>
<b><u>Stormwater CIP</u></b>				
Stormwater	33,791,299	6,652,847	2,888,054	10,964,430
Operations & General Management	19,943,556	775,250	757,004	17,702,522
<b>Stormwater Total</b>	<b>53,734,855</b>	<b>\$7,428,097</b>	<b>\$3,645,058</b>	<b>\$28,666,952</b>
<b>Wastewater Total</b>	<b>135,984,686</b>	<b>\$17,862,707</b>	<b>\$10,154,578</b>	<b>\$68,822,272</b>
<b>Water &amp; Wastewater Total</b>	<b>\$429,714,476</b>	<b>\$56,548,226</b>	<b>\$57,384,805</b>	<b>\$208,557,322</b>

\*Working budget includes adopted budget, carryforward, transfers, lapsed appropriations, and supplementals.

\*\*Encumbered amounts are PO contracts that may carry multiple years.

**Capital Projects Spending**

Total capital spending in the Water Fund through the Second quarter was \$47.2 million, which was \$8.5 million greater than the year-to-date spending plan of \$38.7 million. This is due to timing differences in anticipated spending. The variance can primarily be attributed to Water Rights Acquisitions (SOS Water), which ended the quarter \$25.0 million higher than planned. A \$21.0 million purchase closed at the end of June, which included 512 acres of land for future storage development and water rights from the Godfrey Ditch & Big Bend Ditch totaling 577 Acre Feet of Consumptive Use. This overage was partially offset by the Solids Handling System Improvements project (Treatment) experiencing delayed geotechnical/surveying efforts as well as permitting delays at

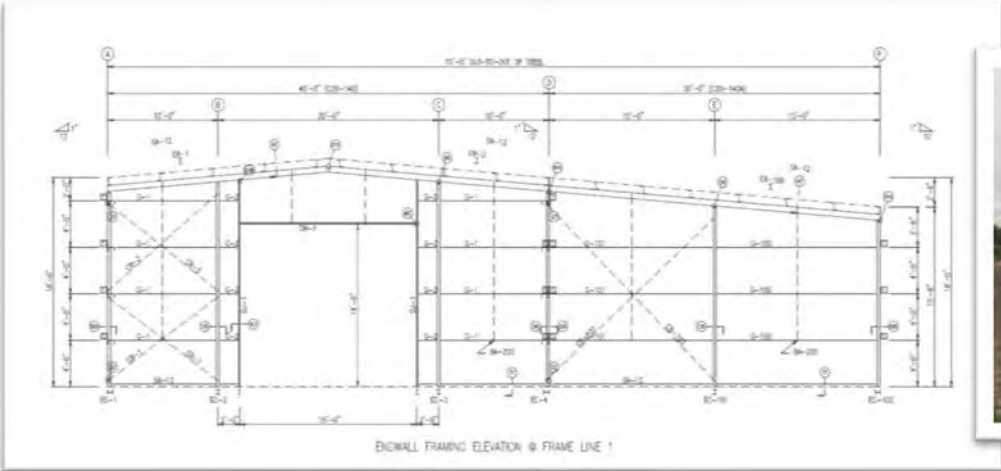
the South East Area Maintenance Facility (SEAM) and Wild Horse Reservoir (SOS Storage). Many of the projects in the Water Fund are encumbered for a total of \$139.7 million.

Through the Second quarter, total capital spending in the Wastewater Fund was \$10.1 million, which was \$7.7 million less than the spending plan of \$17.9 million. There are also timing differences of anticipated spending in the Wastewater Fund. In the Stormwater program, the Peninsula Townhomes Construction project is \$1.3 million less than plan due to contracting issues. In addition, the Fitzsimons Peoria Stormwater Outfall Project is \$0.8 million less than planned. This can be attributed to less expenditures than anticipated in phase 4 and 5 of the project. The South East Area Maintenance Facility (SEAM) is \$0.9 million less than planned also due to minor delays caused by permitting. Many of the projects in the Wastewater Fund are encumbered for a total amount of \$68.8 million.

## **Capital Improvement Project of the Quarter AVRP Shop Building**

With the purchase of the Rocky Ford Ditch by the City of Aurora, which brings 14,000-acre ft. of water to Aurora every year, also brings Colorado Water Court ordered maintenance and ongoing revegetation of over 6800 acres of land. These decreed requirements are part of the responsibilities of Aurora's Arkansas Valley Range Project (AVRP). To perform these decreed requirements there is a need for a variety of large equipment. Aurora has purchased and owns tractors, mowers, sprinklers, large pumps, ATVs, and other equipment. The maintenance, upkeep, and storage of this equipment for the most part must be performed outside. This presents a challenge and can result in unsafe working conditions in the winter cold and during summer storms.

The project was to build a 90' x 40' building with a 30' x 90' lean-to near the Rocky Ford Aurora office. This building will provide an adequate and safe indoor workspace for City of Aurora employees responsible for the maintenance and repair of the City's equipment. It will also provide additional storage for the equipment that the City has invested in which will also extend the life of the equipment by keeping it protected from the elements. The building is also being supplied with electrical and gas services. The shop will include a single phase 200A 40 circuit bolt on breaker panel, 4 square boxes with 110 v plugs set 4 ft high a maximum of 8' apart as well as 2' from each corner and door. Lights shall be high bay LED, Lithonia Lighting IBE L24 2200LM 40K or equivalent and 3 way switched by each door. The building will have a 150,000 BTU Infrared Gas tube heater and a 150,000 BTU radiant heater to maintain comfortable working temperatures in the shop building. The building is currently being constructed and is scheduled to be completed in September this year.



## 2021 Financial Comparison

The following table presents a comparison of budget to revenues and expenses through the Second quarter for the year 2021.

<b>WATER as of 06/30/2021</b>				
<b>Revenues &amp; Expenses</b>	<b>Working Budget*</b>	<b>YTD Plan</b>	<b>YTD Actual (Accrual Basis)</b>	<b>% Actual to Plan</b>
Operating Revenue	\$134,055,574	\$52,753,268	\$46,480,030	-12%
Development Revenue	34,892,631	14,443,442	24,261,592	68%
Bond Proceeds and Transfers	120,000,000	-	138,760,000	0%
Interest Income	1,900,000	949,998	1,266,831	33%
<b>Total Revenue</b>	<b>\$290,848,205</b>	<b>\$68,146,708</b>	<b>\$210,768,453</b>	<b>209%</b>
Operating Expense	(\$72,871,596)	(\$35,512,194)	(\$33,093,416)	-7%
Capital Projects	(293,729,790)	(38,685,520)	(47,230,227)	22%
Debt Service	(22,857,980)	(9,001,490)	(11,507,916)	28%
<b>Total Expense</b>	<b>(\$389,459,366)</b>	<b>(\$83,199,204)</b>	<b>(\$91,831,559)</b>	<b>10%</b>
<b>Net Revenue &amp; Expense</b>	<b>(\$98,611,161)</b>	<b>(\$15,052,496)</b>	<b>\$118,936,894</b>	
<b>SEWER as of 06/30/2021</b>				
Operating Revenue	\$51,239,954	\$24,740,030	\$24,486,351	-1%
Development Revenue	5,762,750	2,384,352	4,663,605	96%
Bond Proceeds and Transfers	44,000,000	0	60,283,084	0%
Interest Income	526,360	210,000	287,615	37%
<b>Total Revenue</b>	<b>\$101,529,064</b>	<b>\$27,334,382</b>	<b>\$89,720,655</b>	<b>228%</b>
Operating Expense	(\$42,674,581)	(\$21,033,662)	(\$19,736,842)	-6%
Capital Projects	(82,249,831)	(10,434,610)	(6,509,521)	-38%
Debt Service	(2,523,396)	(351,382)	(10,319,983)	2837%
<b>Total Expense</b>	<b>(\$127,447,808)</b>	<b>(\$31,819,654)</b>	<b>(\$36,566,346)</b>	<b>15%</b>
<b>Net Revenue &amp; Expense</b>	<b>(\$25,918,744)</b>	<b>(\$4,485,272)</b>	<b>\$53,154,309</b>	
<b>STORMWATER as of 06/30/2021</b>				
Operating Revenue	\$23,650,020	\$11,765,003	\$11,771,918	0%
Development Revenue	1,700,000	703,379	2,035,399	189%
Bond Proceeds and Transfers	0	0	0	0%
Interest Income	320,000	159,996	204,589	28%
<b>Total Revenue</b>	<b>\$25,670,020</b>	<b>\$12,628,378</b>	<b>\$14,011,906</b>	<b>11%</b>
Operating Expense	(\$13,612,830)	(\$6,666,459)	(\$4,851,347)	-27%
Capital Projects	(53,734,855)	(7,428,097)	(3,645,058)	-51%
Debt Service	(2,773,526)	(305,736)	(6,208,624)	1931%
<b>Total Expense</b>	<b>(\$70,121,211)</b>	<b>(\$14,400,292)</b>	<b>(\$14,705,029)</b>	<b>2%</b>
<b>Net Revenue &amp; Expense</b>	<b>(\$44,451,191)</b>	<b>(\$1,771,914)</b>	<b>(\$693,123)</b>	

\*Working budget includes adopted budget, carryforward, transfers, lapsed appropriations, and supplementals.

**Year-to-date Comparison to Prior Year (Water, Sewer and Stormwater)**

The following table presents a comparison of revenues and expenses through the Second quarter for years 2021 and 2020.

<b>WATER Second Quarter Comparison</b>			
<b>Revenues &amp; Expenses</b>	<b>2021</b>	<b>2020</b>	<b>% Change</b>
Operating Revenue	\$46,480,030	\$55,294,349	-16%
Development Revenue	24,261,592	25,434,108	-5%
Bond Proceeds and Transfers	138,760,000	0	0%
Interest Income	1,266,831	1,896,611	-33%
<b>Total Revenue</b>	<b>\$210,768,453</b>	<b>\$82,625,068</b>	<b>155%</b>
Operating Expense	(\$33,093,416)	(30,145,578)	10%
Capital Projects	(47,230,227)	(28,844,218)	64%
Debt Service	(11,507,916)	(9,018,025)	28%
<b>Total Expense</b>	<b>(\$91,831,559)</b>	<b>(\$68,007,821)</b>	<b>35%</b>
<b>Net Revenue &amp; Expense</b>	<b>\$118,936,894</b>	<b>\$14,617,247</b>	
<b>SEWER Second Quarter Comparison</b>			
Operating Revenue	\$24,486,351	\$24,184,937	1%
Development Revenue	4,663,605	4,226,547	10%
Bond Proceeds and Transfers	60,283,084	-	0%
Interest Income	287,615	471,413	-39%
<b>Total Revenue</b>	<b>\$89,720,655</b>	<b>\$28,882,897</b>	<b>211%</b>
Operating Expense	(\$19,736,842)	(\$21,576,762)	-9%
Capital Projects	(6,509,521)	(5,350,369)	22%
Debt Service	(10,319,983)	(117,382)	8692%
<b>Total Expense</b>	<b>(\$36,566,346)</b>	<b>(\$27,044,513)</b>	<b>35%</b>
<b>Net Revenue &amp; Expense</b>	<b>\$53,154,309</b>	<b>\$1,838,384</b>	
<b>STORMWATER Second Quarter Comparison</b>			
Operating Revenue	\$11,771,918	\$11,496,701	2%
Development Revenue	2,035,399	836,447	143%
Bond Proceeds and Transfers	0	0	0%
Interest Income	204,589	304,403	-33%
<b>Total Revenue</b>	<b>\$14,011,906</b>	<b>\$12,637,551</b>	<b>11%</b>
Operating Expense	(\$4,851,347)	(\$4,577,446)	6%
Capital Projects	(3,645,058)	(6,440,463)	-43%
Debt Service	(6,208,624)	(111,343)	5476%
<b>Total Expense</b>	<b>(\$14,705,029)</b>	<b>(\$11,129,252)</b>	<b>32%</b>
<b>Net Revenue &amp; Expense</b>	<b>(\$693,123)</b>	<b>\$1,508,299</b>	



# MEMORANDUM



City of Aurora

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**To:** Citizens' Water Advisory Committee

**Through:** Marshall P. Brown, General Manager, Aurora Water

**From:** Sarah Young, Deputy Director for Planning & Engineering, Aurora Water  
Andrea Long, Senior Engineer, Planning & Engineering, Aurora Water

**Date:** August 10, 2021

**Subject:** South East Maintenance (SEAM Facility) and Senac Creek Sanitary Sewer Interceptor Environmental Covenants

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**Purpose:**

Aurora Water is currently constructing the first phase of the Southeast Area Maintenance Facility (SEAM), with an anticipated move-in date of mid-2023. The need for sanitary sewer conveyance at the SEAM site aligned with other identified needs in this area including the opportunity to abandon an existing, historically problematic, wastewater lift station. The Senac Creek Sanitary Sewer Interceptor project details will be discussed including the unique environmental project challenges.

**Background:**

The 2016-2017 Central Facilities Space Study determined that Central Facilities is space constrained and will not be able to meet the needs of continued growth. The assessment of existing facilities considered current and future space needs as well as how and where those needs should be allocated to best serve citizens and meet the operations goals of the department. Based on the findings of the Space Study, the recommendation is that a new facility be constructed in southeast Aurora, given that existing infrastructure is constrained for Water, Public Works, Fleet and Parks, Recreation and Open Space (PROS) employees. The Southeast Area Maintenance Facility (SEAM) will be located in southeast Aurora off Quincy Avenue and near the 470 interchange with Quincy, on an 88.1-acre, City-owned parcel. The multi-department facility will first house Aurora Water employees, with long term growth opportunities to expand to include departments such as Public Works, Fleet and PROS.

**Question:**

Informational item only. No action required.

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# SEAM Update and Senac Creek Sanitary Sewer Interceptor

*Sarah Young, Aurora Water DD P&E*

*Andrea Long, Senior Engineer*



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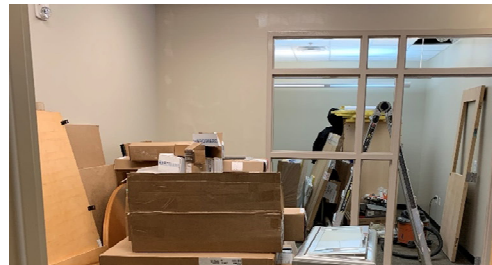
# Purpose and Need

“The quality of services that Aurora Water provides to its customers has the potential to be less effective in the future due to the current constraints of the central facilities campus. When considered along with future geographical and population growth within the city, the need for a future new facility to the southeast becomes apparent”



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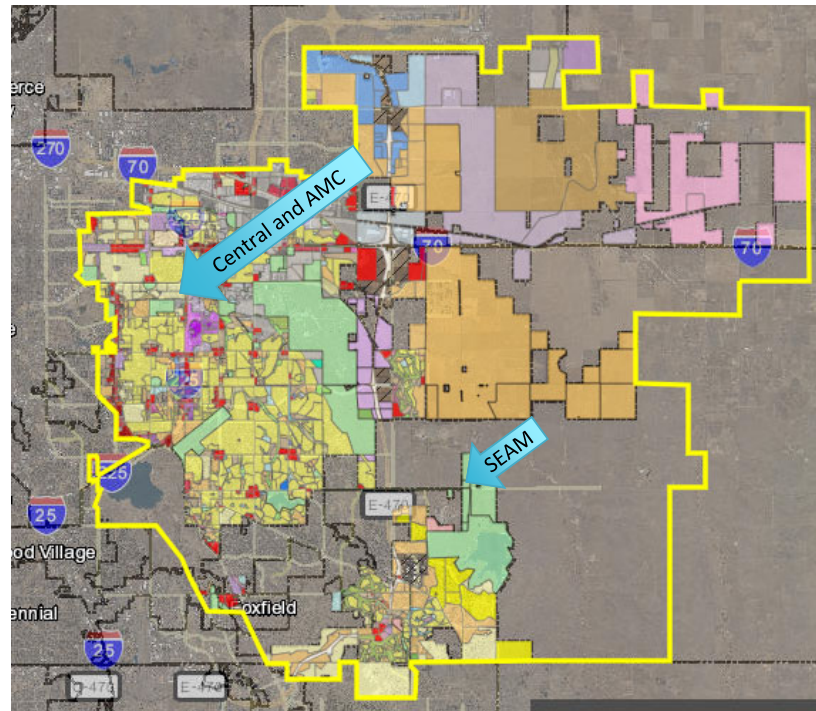


*We are bursting at the seams!*

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# Location, Location, Location



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## Staff SEAM Design Input Process

Bryan Van Winkle, Fernando Aranda Perozo, Marc Tamburro, Maria Osley, Rod Neumayer, Cynthia Collins, Victoria Keevak, Lyle Whitney, Susan Ostrout, Zachary Trabold, Matt Allsopp, Diana Denwood, Kirk Skogen, Angie Carpenter, Tom Allacher, Brian Carfield, Rodney Boyd, Matt Walczuk, Evan Kramer, Gary Burke, Vicki Bradham, Dan Marick, Sherry Scaggiari, Jacob Tolley, Kevin Amann, Susan Oster, Gary Edwards, Matthew Steel, Jim Eynouf, Lottia Villalba, Chris Leslie, Rhonda Anderson, Kyle Demoney, Jim Hamaker, Denise Schaefer, Kyle Fortner, Steve Hocker, Elly Watson, Sarah Young, and Troy Beyer



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# Staff Concept Sketches

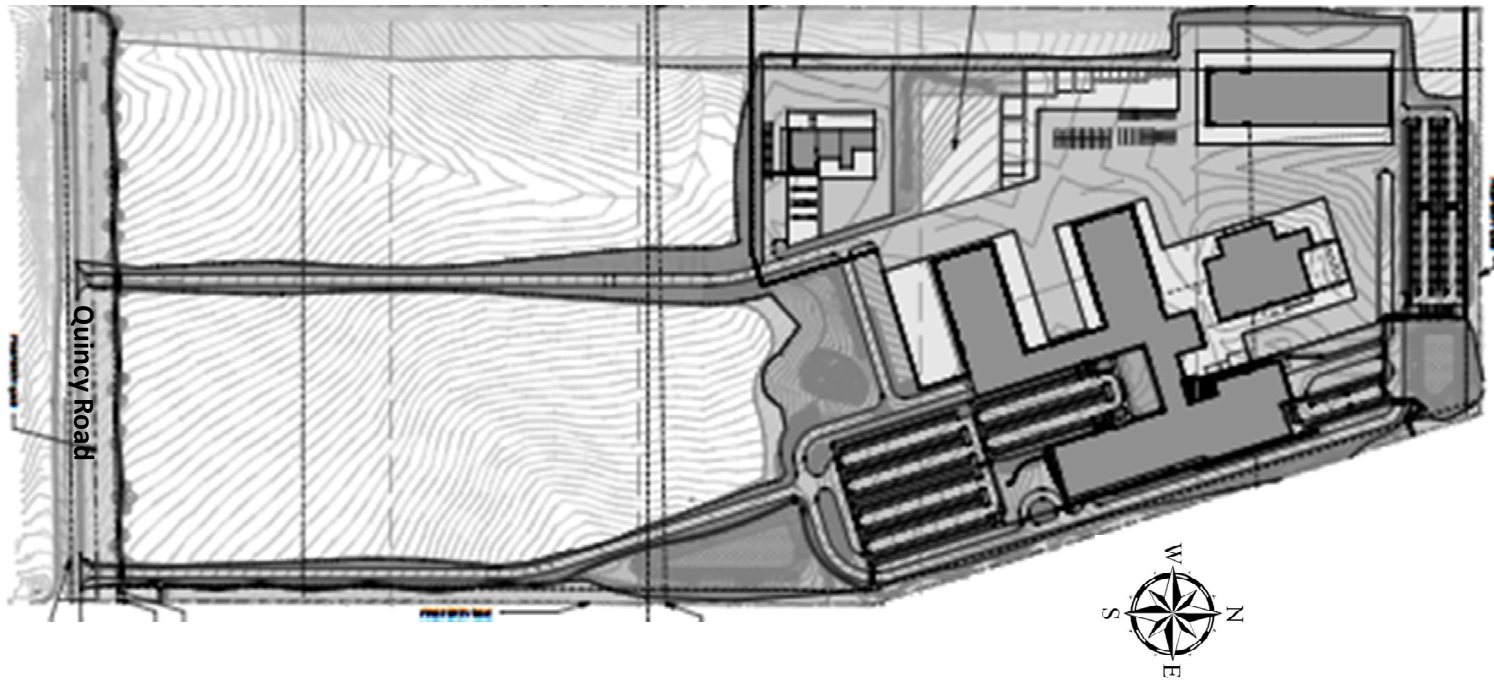


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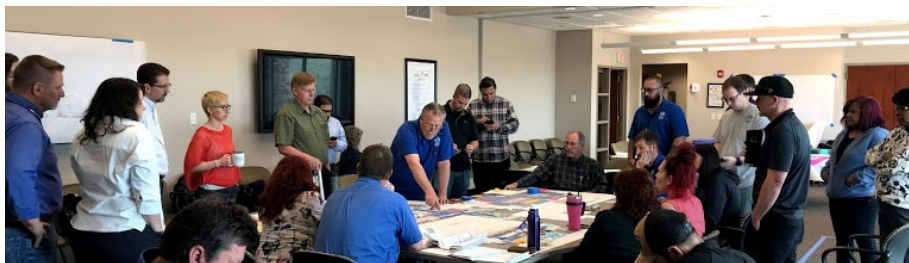
# Conceptual Design



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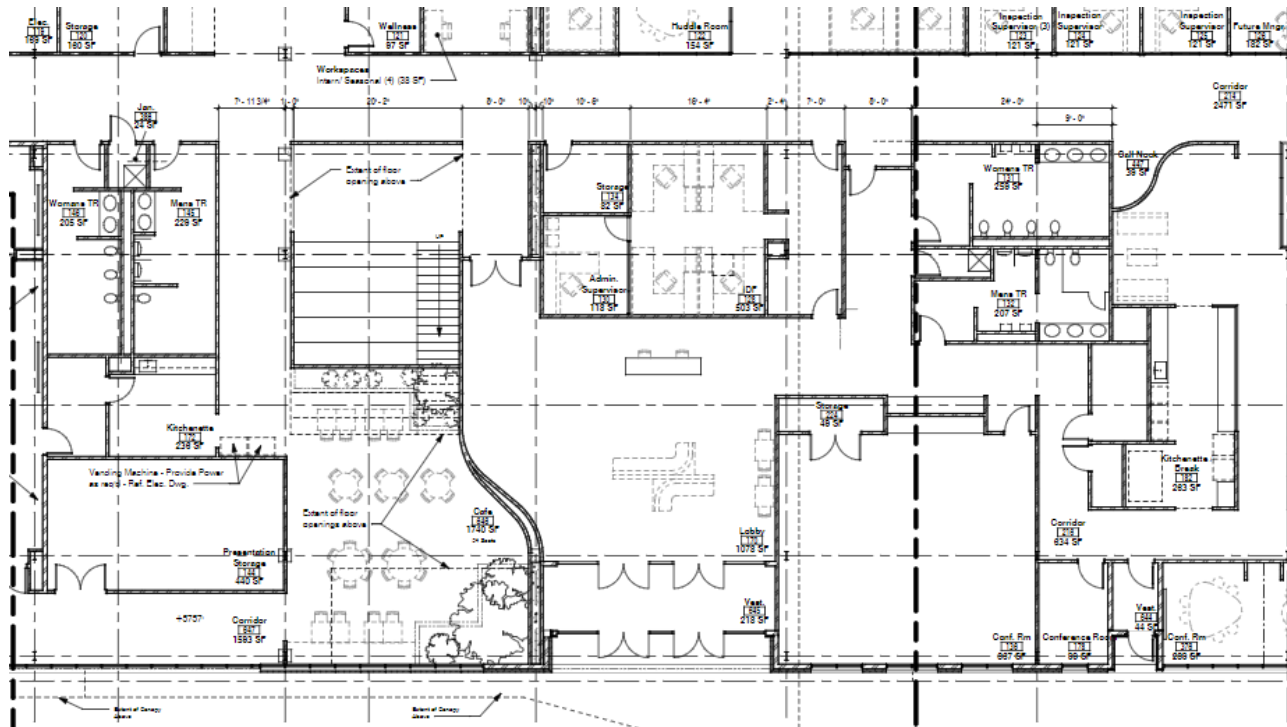
# Efficiency Inside and Out



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# Designed By Those Who Use It



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# The SEAM Leadership Team

- Aurora Water
- Public Works
- Designer – Eidos Architects
- Contractor – Saunders Construction



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# Southeast Area Maintenance Facility SEAM



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# Latest SEAM Renderings



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# SEAM Time Lapse

- <https://app.oxblue.com/open/saunders/SEAM>



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# Senac Creek Sanitary Sewer Interceptor



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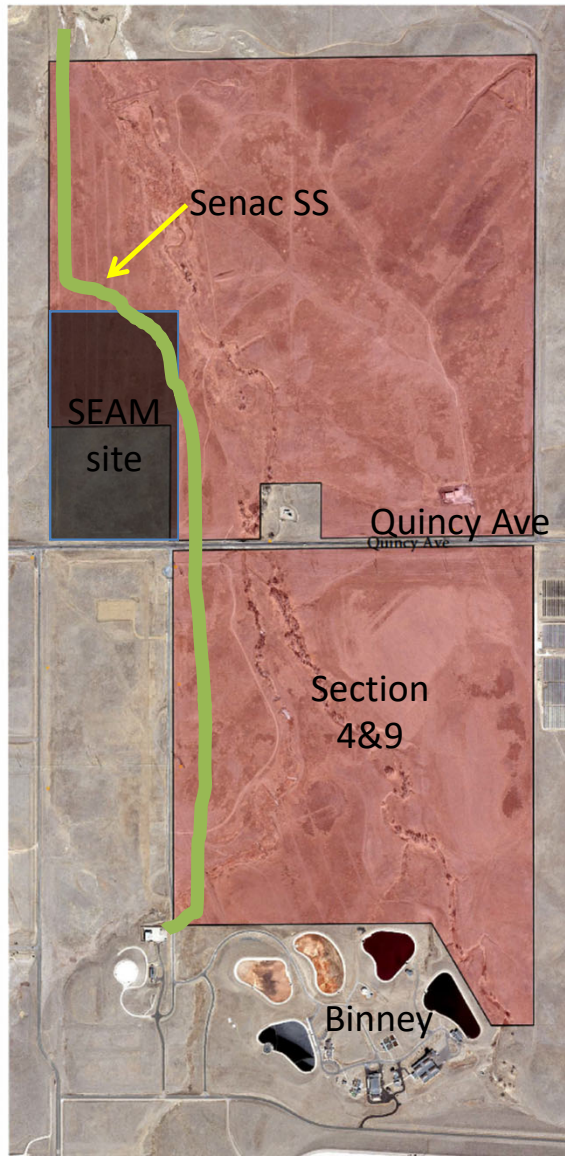






# Environmental Covenant

- Governed by CDPHE
- Outline land use restrictions
- Protects human health and the environment
- Sections 4 & 9 - previously used for wastewater treatment biosolids disposal
- Restricted GW use



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# Questions



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# MEMORANDUM



City of Aurora

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**To:** Citizens' Water Advisory Committee

**Through:** Marshall P. Brown, Director, Aurora Water  
Sarah Young, Deputy Director, Planning and Engineering, Aurora Water

**From:** Ted Hartfelder, Project Manager, Planning and Engineering, Aurora Water

**Date:** August 10, 2021

**Subject:** Sand Creek Water Reuse Facility PLC Conversion Project

---

**Purpose:**

The Sand Creek Water Reuse Facility PLC Conversion Project replaced aging/obsolete electronic process control hardware, including programable logic controllers (PLCs) used to monitor and control the facility's processes. This system upgrade also required new communications lines and an update to the facility's Control Room, all on a compressed timeframe to avoid seasonal operational needs.

**Background:**

The Sand Creek Water Reuse Facility is a 5.5 million gallon per day reuse water treatment facility that employs biological, chemical, and physical treatment processes to convert raw water diverted from a sewer interceptor into reuse water for municipal irrigation. Since commencing operations in the 1960s, the facility has undergone multiple capacity expansions and treatment processes upgrades.

**Question:**

Informational item only. No action required.

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# Sand Creek Water Reuse Facility PLC Conversion Project

*Ted Hartfelder, Project Manager*

*August 10<sup>th</sup>, 2021*



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# Outline

- Sand Creek Water Reuse Facility (SCWRF) Overview
- SCWRF PLC Conversion Project (Project) Overview
- Project Achievements



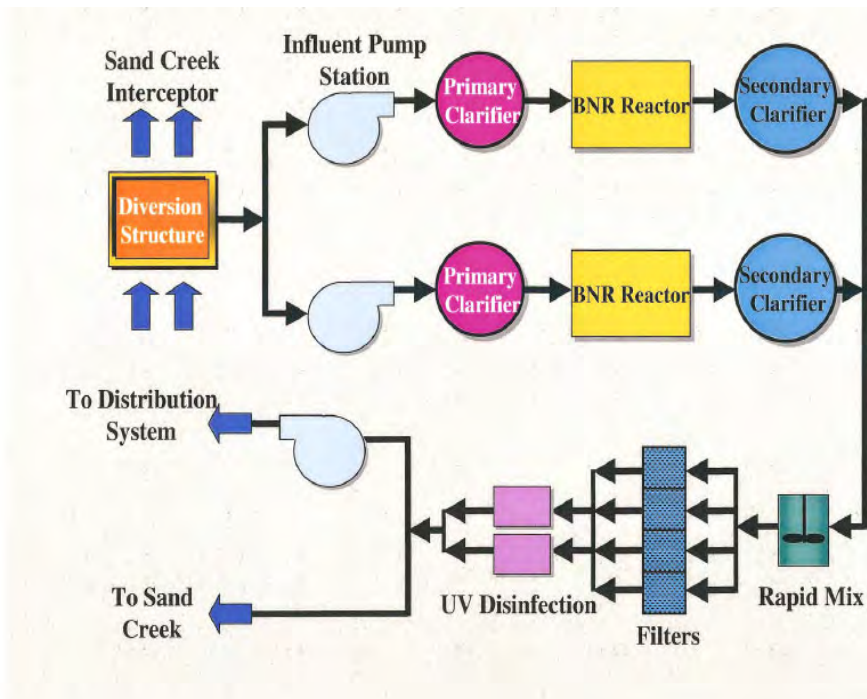
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# SCWRF...what is it?

- 5.5 million gallon per day reuse water treatment facility.
- Facility employs biological, chemical, and physical treatment processes to convert raw water to reuse water.
- Commenced operation in 1960s.
- Since commencing operations, facility has undergone multiple capacity expansions and treatment processes upgrades.



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# SCWRF...where is it located?



- The SCWRF is located at 11405 East 30<sup>th</sup> Avenue on bank of Sand Creek in northeast Aurora.

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## SCWRF....what purpose does it serve?



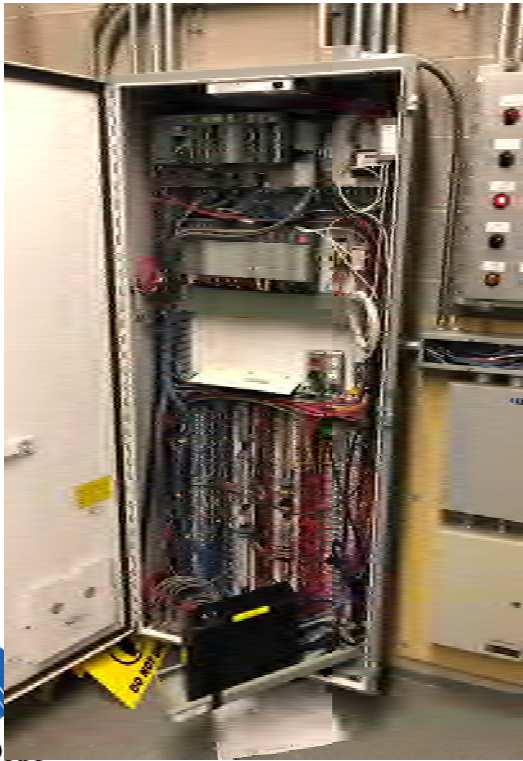
- Reuse water produced at the facility used to irrigate City golf courses, parks and landscaping.
- Using reuse water reduces the demand on the City's potable water system.

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## Project Scope



- Replace aging/obsolete electronic process control hardware (i.e., PLCs [programmable logic controllers]) used to monitor and control the facility's processes. This hardware primarily contained in 5 control cabinets located throughout the facility.
  - Replace 5 existing process control cabinets with new, updated cabinets.
  - Upgrade the existing process control programming and communication network.
  - Update the security camera and phone system.
  - Modernize the existing control room.

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# Project Challenges



- Facility must remain operational at all times to maintain biological processes and provide irrigation water to downstream users if required.
- Construction can't commence before November 2020, but must be substantially complete by end of March 2021.
- Project team must comply with all Covid-19 safety protocols and accommodate all Covid-19 related administrative delays.
- Records regarding previous facility improvements are incomplete.
- Existing process control programming and wiring is convoluted.

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# Project Delivery

- **Project Delivery Method** – Design Build  
Better suited for...
  - accommodating an aggressive project delivery schedule,
  - resolving project risk and uncertainty in real time, and
  - providing cost certainty.
- Project completed under two (2) separate phases...
  - Phase I – Design
  - Phase II – Construction
- **Design Build Team** – Carollo Engineers, Technical Systems Incorporated (TSI), McDade Woodcock, and Velocity Constructors
- **Phase I – Design**
  - September 2019 and April 2020.
  - \$0.6M contract.
- **Phase II – Construction**
  - September 2020 and June 2021 (actual construction January through March 2021).
  - \$4.2M contract.



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# The Project...Design



- Understand how the facility originally was designed, and how it subsequently has been modified.
- Understand how the facility operates.
- Determine how the facility should operate.



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## The Project...Design



- Identify Project uncertainty.
- Prepare construction related design documents (i.e., drawings and specifications).
- Develop and negotiate a guaranteed maximum price for the construction phase.



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## The Project...Construction



- Fabricate the new process control cabinets.
- Develop the new process control programming.
- Mobilize to the Project Site.



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## The Project...Construction



- Install additional conduit, conductors, and fiber required to support new control system, communications network, and phone system.



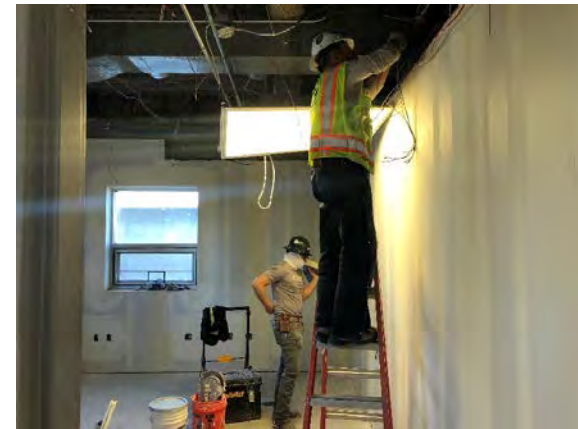
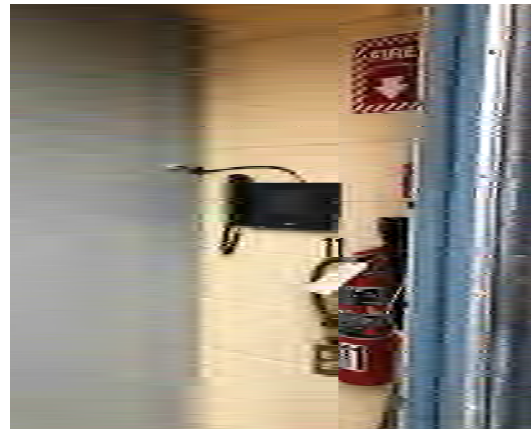
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# The Project...Construction



- Install security and phone system upgrades (i.e., additional security cameras and new video display phones).
- Modernize the control room.



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# The Project...Construction



- Replacement process control cabinets have been delivered to Project Site.
- New process control programming has been uploaded into each replacement cabinet.
- The process control cabinets are now collectively tested as a network prior to installation. This testing simulates facility operations and helps ensure replacement cabinets are functioning as intended prior to installation.
- Facility operators gain hands on experience with upgraded process control programming.

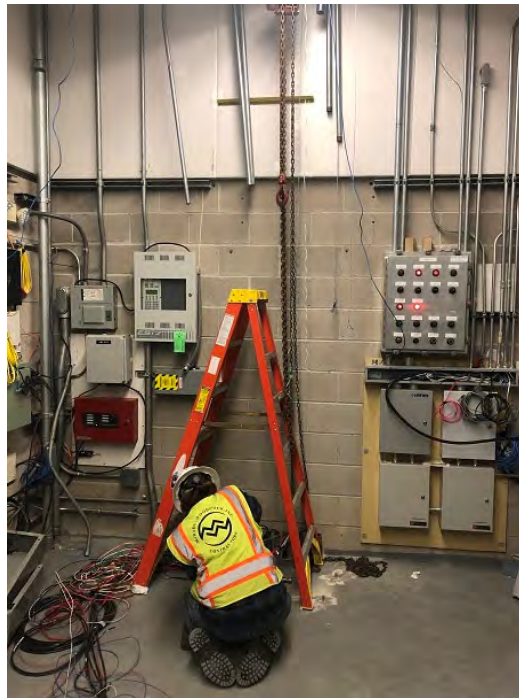


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# The Project...Construction

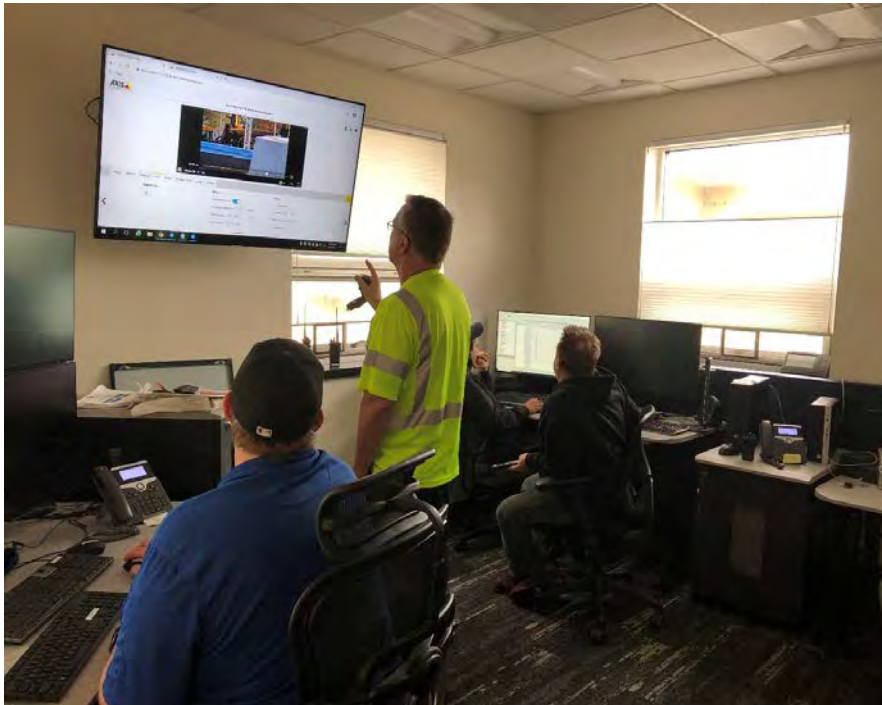
(existing process control cabinets removed, replacement cabinets installed)



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# The Project...Construction



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- As each control cabinet is replaced it is tested again, but under actual operating conditions, and from the modernized control room. Other improvements installed under the Project also are tested.
- Ultimately everything is tested as an integrated system.
- Facility operators gain further experience with the upgraded process controls
- Substantial Completion is achieved, and subsequent issues are resolved as they are identified (115 in April, 32 in May, 17 in June).

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# Achievements



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- Built, programmed, and delivered 5 new process control panels in 3 months (October – December 2020).
- Compressed a 5 month construction schedule into 3 months (January – March 2021).
- De- and re-terminated over 1,800 control wires, tested and verified over 1,200 system alarms.
- Facility operations and biological processes were not interrupted.
- Minimal time for facility operators to acclimate to new programming.
- Project realized a \$0.4M underrun.
- All this while following Covid-19 protocols.

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# Questions



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# MEMORANDUM



City of Aurora

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**To:** Citizens' Water Advisory Committee

**Through:** Marshall P. Brown, General Manager, Aurora Water  
Greg Baker, Manager of Public Relations, Aurora Water

**From:** Natalie Brower-Kirton, Environmental Education and Outreach Program Manager,  
Aurora Water

**Date:** July 26, 2021

**Subject:** Aurora Water Education and Outreach Team- Supporting the Colorado Statewide  
Water Education Action Plan

---

**Purpose:**

Aurora Water has provided water education and outreach programs for the community in many forms reaching a wide range of community members for over twenty years. Staff will present highlights of the Education team's work during the 2020-2021 school year and provide information on how we are leading water education in Colorado by supporting the Statewide Water Education Action Plan.

**Action Required:**

No action at this time is required. This presentation is purely informative in nature.

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# WATER EDUCATION IN ACTION

Aurora Water's Environmental  
Education & Outreach Program  
and the Statewide Water Education  
Action Plan

*Natalie Brower-Kirton, CMEE  
Aurora Water  
Environmental Education &  
Outreach Program Manager*

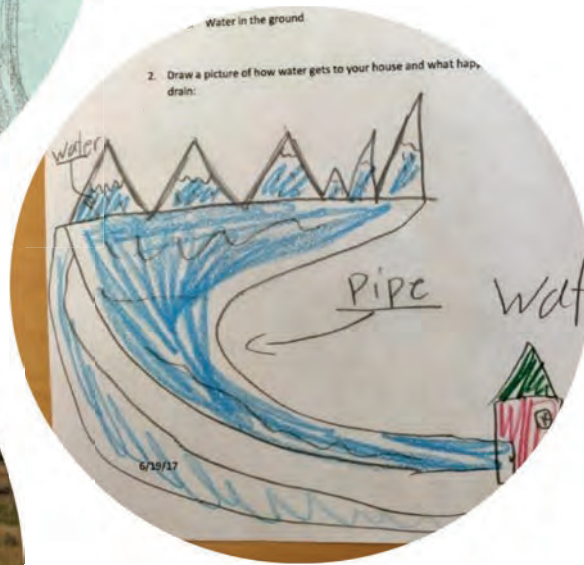


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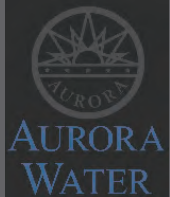
## Environmental Education and Outreach *Public Affairs*

- Increasing need
- Education that impacts behavior change
- Expanded team to broaden the scope





# Environmental Education & Outreach



# Aurora Water Environmental Education & Outreach

Driving Excellence in  
Water Education

*Providing...  
Consistent  
Creative  
and Impactful  
education and outreach  
programs that promote  
water literacy, water conservation,  
water pollution prevention and  
water stewardship  
in Aurora*



Creating an Informed  
Community



Collaborating to Create  
Behavior Change



# STATEWIDE WATER EDUCATION ACTION PLAN (SWEAP)

"Colorado's first statewide education action plan designed to support the Water Plan's goal of sustainable water by 2050."



**SCOTT WILLIAMSON**

Education Programs Manager  
Water Education Colorado



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# WHY SWEAP?

**The Colorado Water Plan and the Water Educator Network called for a common vision for water education.**

Colorado Water Plan  
Chapter 9.5: Outreach, Education and Public Engagement

"To expand outreach and education efforts that engage the public to promote well-informed community discourse and decision making regarding balanced water solutions."

*Empower Coloradans to take an active role in their communities and make informed decisions about critical water issues.*



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- A New Water Education Guide for Colorado
- Plan for reaching the “Outreach, Education and Public Engagement” goals of the Colorado Water Plan - Sustainable Water 2050
- Aurora Water  
2019-Core Collaborator in the creation of the Plan  
2020-Endorsed  
2021-Committees to evaluate and implement
- Programming that supports the plan



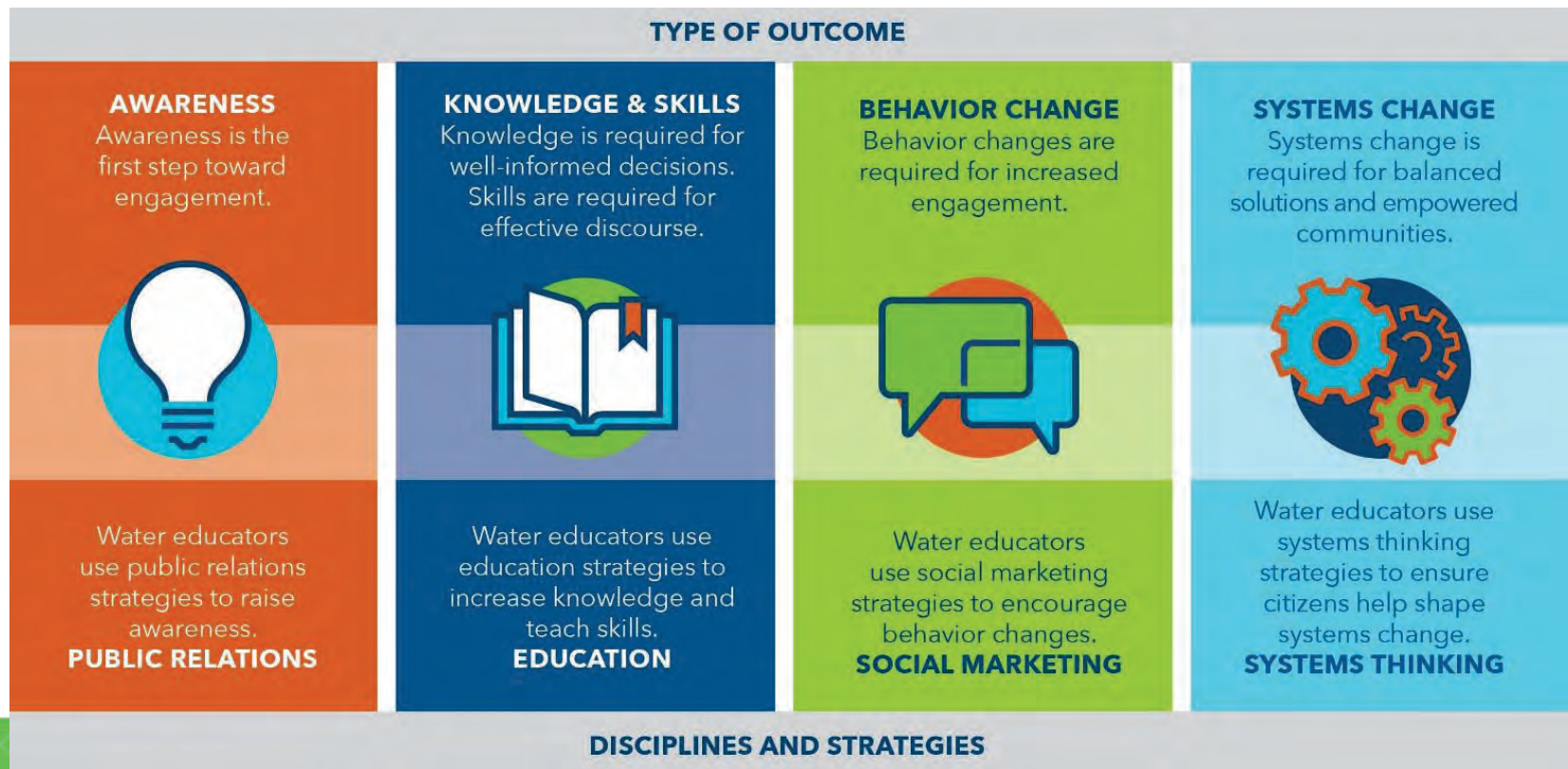
# ENDORSEMENTS

Organizations and entities that affirm the value of the SWEAP vision and framework and the importance of achieving its outcomes.



# EDUCATION CONTINUUM

Types of SWEAP outcomes and related disciplines...



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# SWEAP Outcomes



## Statewide Water Education Action Plan Outcomes

<p>1. The proportion of Coloradans in each river basin who can identify how water supports their quality of life, as well as the threats to and potential solutions for a sustainable water supply, increases.</p>	<p>2. The proportion of Coloradans in each river basin who can articulate at least three “Critical Water Concepts” increases.</p>	<p>3. The proportion of Coloradans in each river basin who report confidence in having the knowledge necessary to take an active role in water stewardship in their community increases.</p>	<p>4. The proportion of Coloradans in each river basin who report confidence in having the skills necessary to take an active role in water stewardship in their community increases.</p>	<p>5. Participation in community discourse and decision processes about water at the state, regional and local levels increases.</p>	<p>6. Voters have access to factual information that addresses potential impacts to sustainable water resources in relevant issue areas.</p>	<p>7. The proportion of Coloradans in each river basin that are demonstrating sustainable water behaviors increases.</p>	<p>8. Where relevant, local and state policies and practices are supportive of advancing statewide water literacy.</p>	<p>9. Where relevant, local and state policies, regulations, and practices demonstrate a consideration of impacts on sustainable water resources.</p>	<p>10. Water decision-making bodies are increasingly representative of the demographic make-up of the area they serve.</p>
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More details on draft metrics for each outcome can be found on the SWEAP [website](#) under “Measuring Success”.

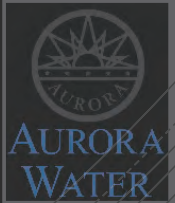


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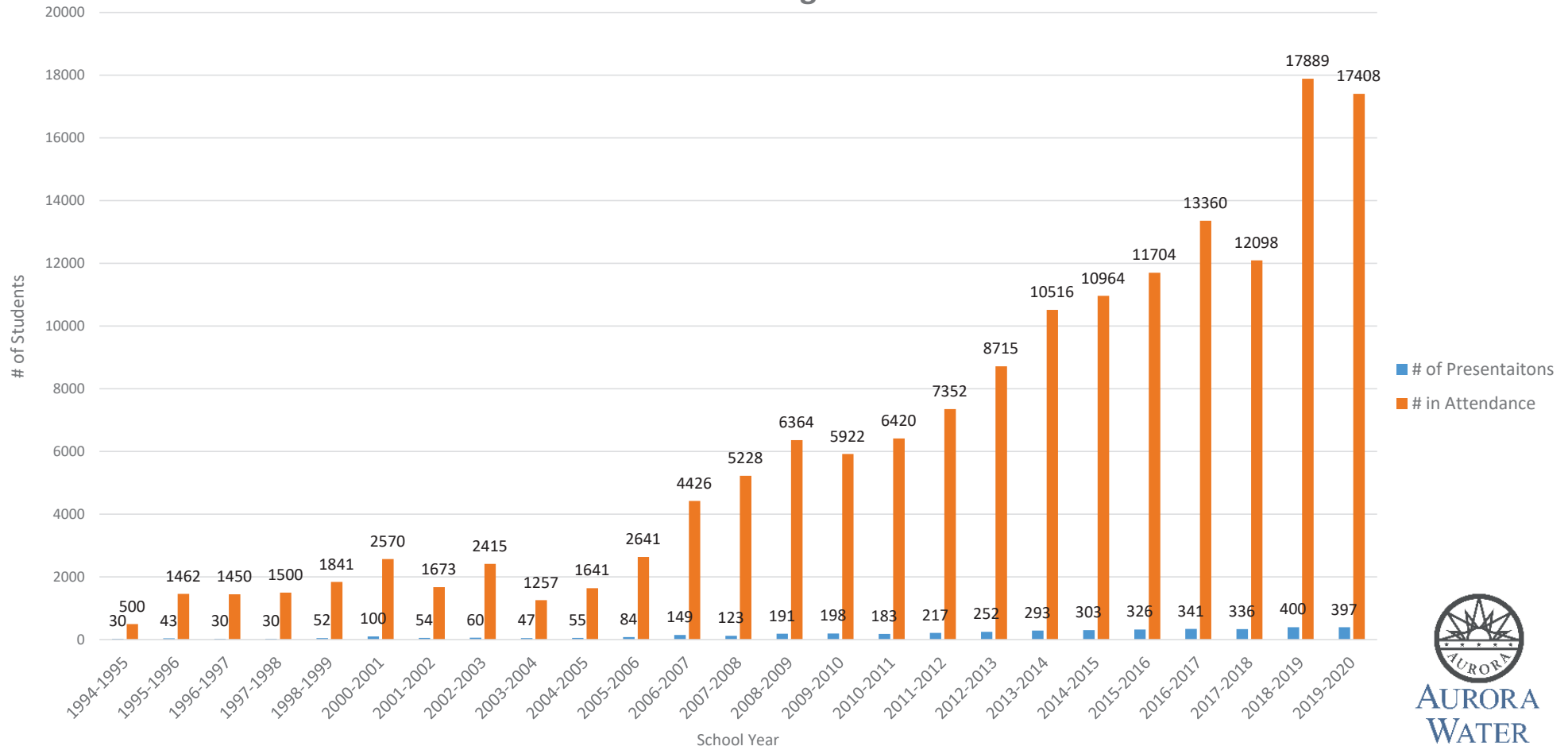
# Aurora Water

## ▼ Watershed Education in Action

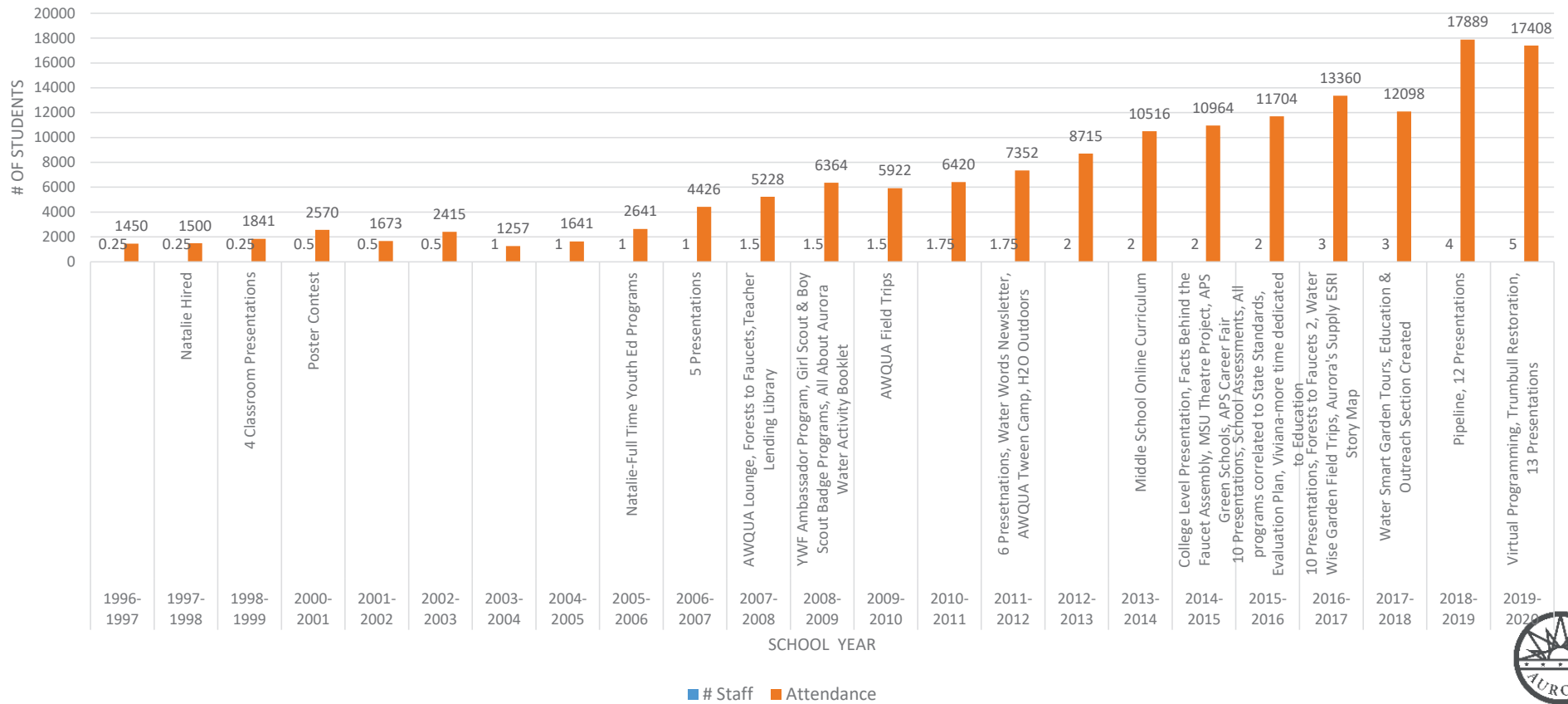
Aurora Water Environmental Education & Outreach (EE&O)	Statewide Water Education Action Plan Outcomes Alignment									
	Awareness	Critical Water Concepts	Knowledge	Skills	Participation	Voter access to information	Sustainable Water Behaviors	Water literacy policy and practice	Policies considers water	Representation
Driving Excellence in Water Education	1	2	3	4	5	6	7	8	9	10
Aurora Public Schools 5 <sup>th</sup> Grade Water Unit Classroom Presentations, School Assemblies & Field Trips MSU Theatre Project H2O Outdoors Trumbull Experimental Forest- Outdoor Watershed Classroom	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ 	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ 	✓ ✓ ✓ ✓ 	✓ ✓ ✓ ✓ 	✓ ✓ ✓ ✓ 	✓ ✓ ✓ ✓ 	✓ ✓ ✓ ✓ 
Creating and Informed Community - Collaborating to Create Behavior Change										
Outreach & Events In person and Online Conservation Courses Pipeline: Careers in Water Program Forest to Faucets Teacher Workshops Aurora Water Course (Coming Soon!)	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓



## Youth Education Programs 1994-2020



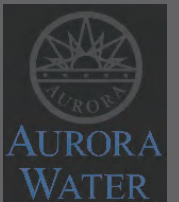
## Aurora Water Education Program History



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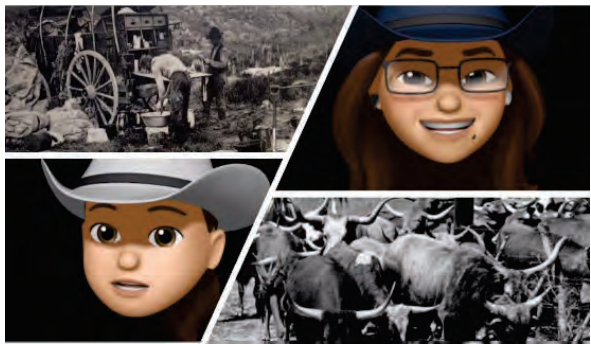
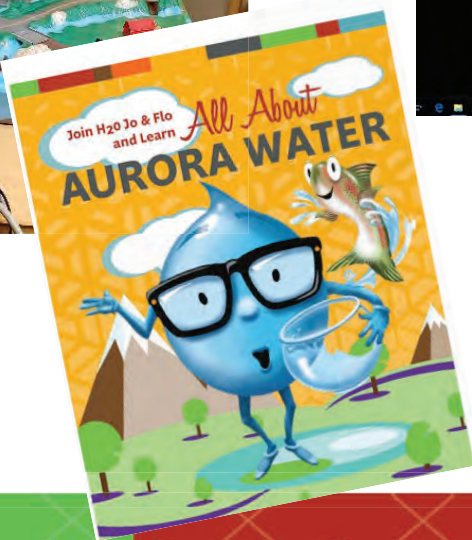
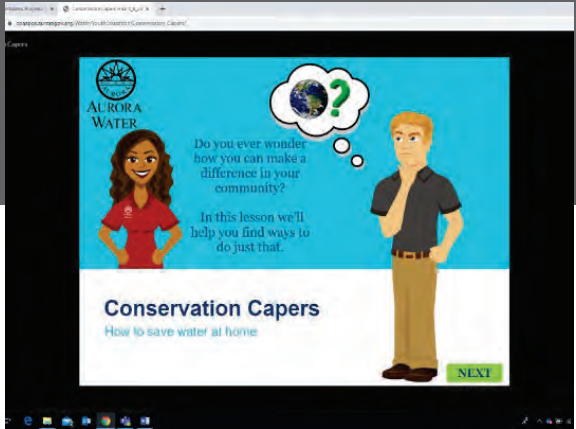


# Aurora Public Schools - 5<sup>th</sup> Grade Water Unit & Classroom Presentations



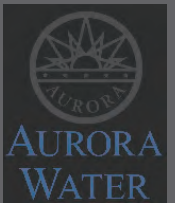


# Virtual Water Education



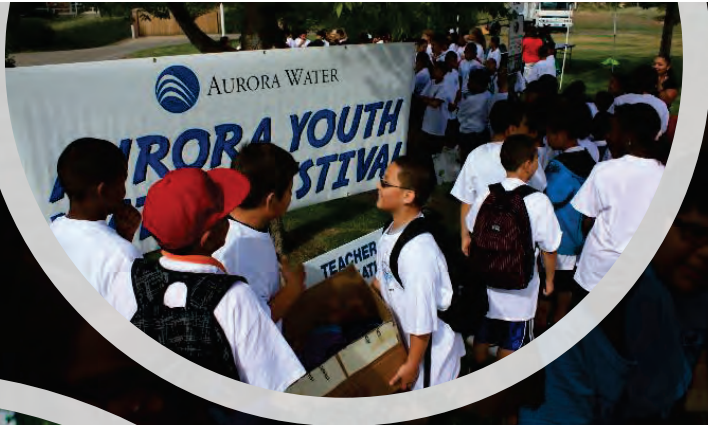
# School Assemblies



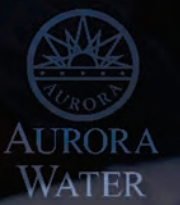


# Field Trips

Aurora Reservoir  
Aurora Water Wise Gardens

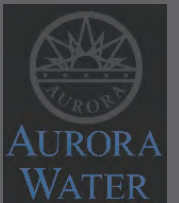


# Aurora Youth Water Festival





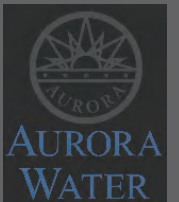
# H2O Outdoors





# Water Theatre

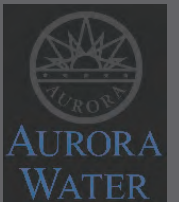
Metropolitan State University  
Denver Water  
Aurora Water





# Forests to Faucets

Teachers Exploring the South Platte Watershed





## Teacher Continuing Education

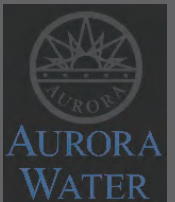
- Forests to Faucets: Aurora's Water Resources
  - 3 Day Project WET and Project Learning Tree Workshop
- Forests to Faucets 2
  - 1 Day Project Wet Workshop





# Trumbull Experimental Forest

Aurora's Outdoor Watershed Classroom





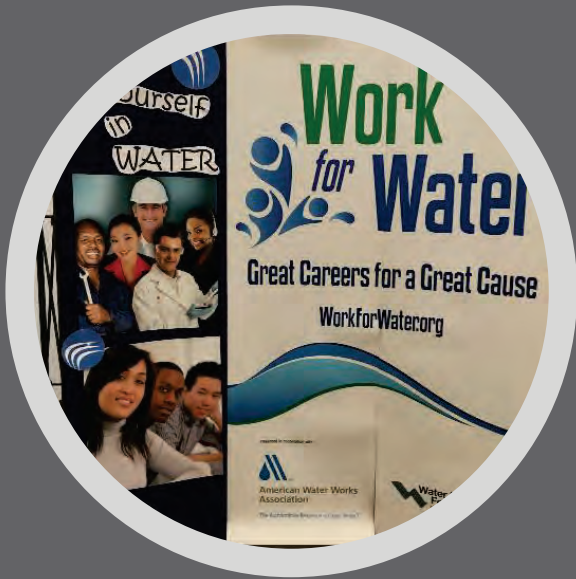
# Forest Management Fire

Prescribed burning is a forest management tool that is used to reduce the risk of wildfire by removing excess fuel and improving forest health.

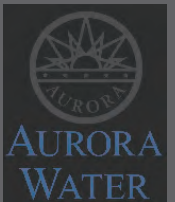


Prescribed burning is the controlled application of fire to a forest or woodland to improve its health and productivity. It is used to reduce the risk of wildfire by removing excess fuel and improving forest health. It is also used to improve the growth of certain tree species and to reduce the risk of insect infestation.





# Pipeline: Careers in Water







## WATER CONSERVATION CLASSES

**Registration is required for all classes • Call 303.739.7195 or visit [AuroraGov.org/WaterClasses](http://AuroraGov.org/WaterClasses) to register or to learn more about our classes.**  
*Increase your water efficiency. Fix your sprinkler system. Get a rebate. Learn how with Aurora Water.*

**BUILD YOUR OWN DRIP SYSTEM**  
 Water-efficient drip irrigation systems are great for gardens of all types. You'll learn how to design, construct and maintain your new system in this hands-on class.

**DISCOVER WATER-WISE PLANTS\***  
 Get to know our top recommended plants. We'll take a tour of the city's Demonstration Garden and learn about these favorite trees, shrubs, perennials and grasses.

**DIY SPRINKLERS SYSTEM\***  
 Tune up your sprinkler system for maximum efficiency and learn how to check for leaks in this hands-on class. Get to know your system components and learn how to program your clock. Yes, you can ask about your specific system.

**DIY WATER-WISE LANDSCAPE DESIGN**  
 Learn how to plan and draw your own water-wise landscape. After March 19, these parts will be combined into one class.  
 Part One: Learn basic principles of design and draw your site map.  
 Part Two: Get started on your design.

**GROW FOOD, SAVE WATER**  
 Veggies thrive on 30 percent less water than your lawn. This course covers design and implementation of a vegetable garden. The class on March 11 will include a guest speaker on composting.

**LOW-WATER TREES\***  
 Get to know the low-water, drought-tolerant trees that thrive in our climate. This class will introduce you to many species and their unique features. Learn how to properly maintain your trees year-round for optimal health.

**MAKE COMPOST, SAVE WATER**  
 Adding compost will significantly improve your soil and reduce the amount of water you use. We'll walk you through the steps.

**SEASONAL GARDEN MAINTENANCE\***  
 We'll teach you how to care for your landscape year-round in this hands-on class. You'll see demonstrations on managing trees, shrubs, perennials and grasses in the city's Demonstration Garden.

**WATER-WISE LANDSCAPE BASICS**  
 Find out how to convert your lawn into a beautiful, low-water landscape without breaking the bank.

**WATER-WISE LANDSCAPE START TO FINISH\***  
 Discover the ins and outs of converting your lawn into a low-water landscape with this hands-on class. We'll talk about turf removal, irrigation and how to choose plants. We'll also show you site layout and proper planting techniques.

\*Denotes outdoor class held rain or shine. Please dress appropriately.

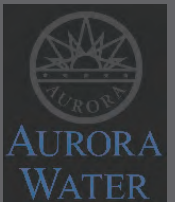
**Volunteers are always welcome in the Aurora Water-wise Garden.**  
 For information, call 303.739.7195.

**FREE DESIGN CONSULTATION SERVICE**  
 Rather than designing your own landscape, have our professional designer do it for you. To participate, take the DIY Water-wise Design class listed above. When you've finished your homework from the class, call us to schedule a design consultation.




# Creating an Informed Community

Outreach & Events  
 Classes



# Aurora Water EE&O Programs & SWEAP Outcomes



Aurora Water Environmental Education & Outreach (EE&O)	Statewide Water Education Action Plan Outcomes Alignment									
	Awareness	Critical Water Concepts	Knowledge	Skills	Participation	Voter access to information	Sustainable Water Behaviors	Water literacy policy and practice	Policies considers water	Representation
	1	2	3	4	5	6	7	8	9	10
Driving Excellence in Water Education  Aurora Public Schools 5 <sup>th</sup> Grade Water Unit Classroom Presentations, School Assemblies & Field Trips MSU Theatre Project H2O Outdoors Trumbull Experimental Forest- Outdoor Watershed Classroom	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ 	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ 	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓
Creating and Informed Community - Collaborating to Create Behavior Change										
Outreach & Events In person and Online Conservation Courses Pipeline: Careers in Water Program Forest to Faucets Teacher Workshops Aurora Water Course (Coming Soon!)	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓



# AMPLIFY COLORADO WATER EDUCATION

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## Water Educator Network - Water Education Colorado

<https://www.watereducationcolorado.org/programs-events/water-educator-network/>

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## Colorado Alliance for Environmental Education

<https://caee.org/>

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## Corelate to Standards Work with School Districts

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## National Association of Interpretation Principles

<https://www.interpnet.com/>

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## Collaborate

[AuroraGov.org/H2OEducation](https://AuroraGov.org/H2OEducation)  
[watereducation@auroragov.org](mailto:watereducation@auroragov.org)

