

AquaWorks DBO, Inc.
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Denver, Colorado 80205

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info@aquaworksdbo.com

Ms. Randi Johnson-Hufford
Water Quality Control Division | Permits Section
Colorado Department of Public Health & Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530

October 24, 2022

RE: Conifer Metropolitan District – Total Dissolved Solids Limit Variance Request RFI Response
COX-0047392

Dear Ms. Johnson-Hufford:

On behalf of Conifer Metropolitan District, AquaWorks DBO is following up on information that the Water Quality Control Division has requested for a Variance Request.

AquaWorks DBO submitted a Variance Request on July 14, 2021, for relief from the total dissolved solids and chloride limits on behalf of the Conifer Metropolitan District. The request is currently under review by the Water Quality Control Division. On September 21, 2022, the Division requested clarification on the following items to aid with its review of the request:

1) How is the projected treatment cost(s) compared to the current debt obligation?

The current debt obligations are limited to 50 mills collected from the assessed value of the personal property and real estate. A copy of the preliminary Certificate of Value of \$5,990,115 is attached. This value places the collected tax revenues at approximately \$300,000. The amount of revenue collected under this mil-levy is significantly below the debt service requirements of the bonds. According to the CMD 2021 Year-end audited financials, unpaid, accrued interest on the District's bonds is \$12,786,575 (shown on page 1 of the Financial Statements, attached).

2) What is the plan to get out of receivership?

The strategy to get out of receivership is to create a board of directors from eligible property owners or representatives and turn the control and management of the District over to it. Unfortunately, none of the corporations owning land in the District wish to put forth eligible representatives. So, the receivership will continue until such time as eligible nominees to the Board are appointed.

3) Do you have any current or historical data for TDS, chloride, and groundwater elevation from the existing wells at the property (MW-1 through MW-6) that can be provided or in studies prior to development of CMD? In particular we are interested in the monitoring wells located along the perimeter of the CMD property. I believe there is data on one of the wells; do any of the others have data?

Samples for chloride were collected from the District's raw water wells by the operations staff after the site was developed. The following data was found for chloride in wells 2, 3 and 4 between 2010 and 2013:

Chloride Analytical Results (mg/L)

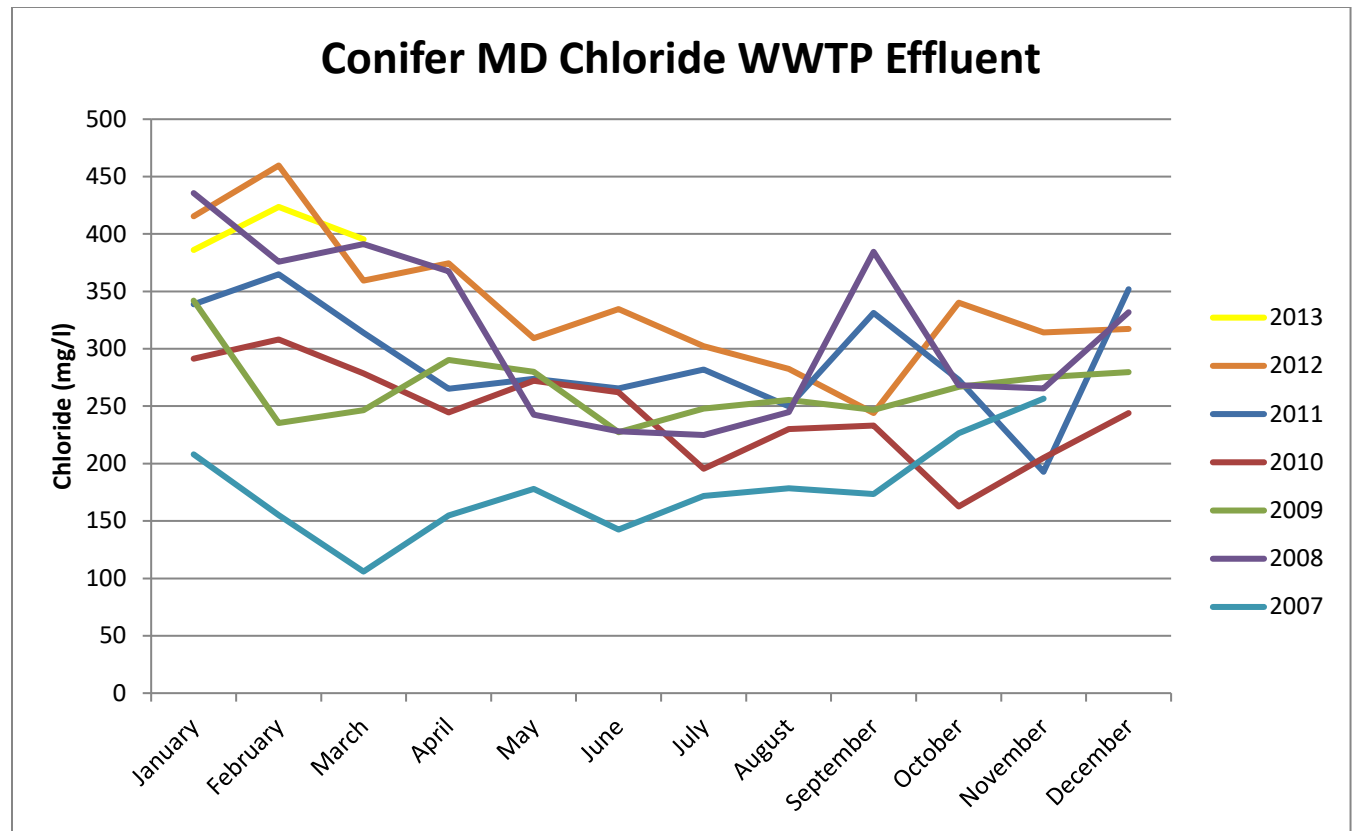
	10/18/2010	11/1/2010	12/1/2010	1/14/2011	9/13/2012	9/28/2012	10/8/2012	10/24/2012	Average
Well 2	173.3	210.6	191.3	177.5	210.5	172.7	269.8	227.1	204.10
Well 3	161.2	174.1	198.8	167.2	193.2	236.1	320.5	242.7	211.73
Well 4	101	175.4	104.4	165.8	126.8	135.7	167.8	164.1	142.63

WWTP effluent was sampled for chloride 2007 through 2013. AquaWorks has the following records for chloride in the WWTP effluent:

Chloride Analytical Results from WWTP effluent (mg/L)

Month	2007	2008	2009	2010	2011	2012	2013
January		435.63	341.95	291.43	338.70	415.42	386.06
February	208.10	375.8	235.32	308.09	364.88	459.66	423.60
March	155.16	391.25	246.59	278.57	314.07	359.38	395.44
April	105.91	367.54	290.25	244.53	265.09	374.45	
May	154.67	242.52	279.94	272.08	273.86	309.31	
June	177.95	228.09	227.30	262.00	265.53	334.68	
July	142.47	224.88	247.85	195.435	281.83	302.24	
August	171.91	244.70	255.29	230.17	249.84	282.58	
September	178.55	384.53	246.89	233.15	331.16	244.02	
October	173.44	268.36	266.76	162.62	273.04	340.15	
November	226.3	265.47	275.09	204.96	192.81	314.32	
December	256.57	331.68	279.69	243.91	351.8	317.31	
Average	177.37	313.37	266.08	243.91	291.88	337.79	401.70

The following is a graph of the chloride results from the WWTP effluent from 2007 to 2013. The concentrations of chloride are highest in January and generally lowest in late spring.



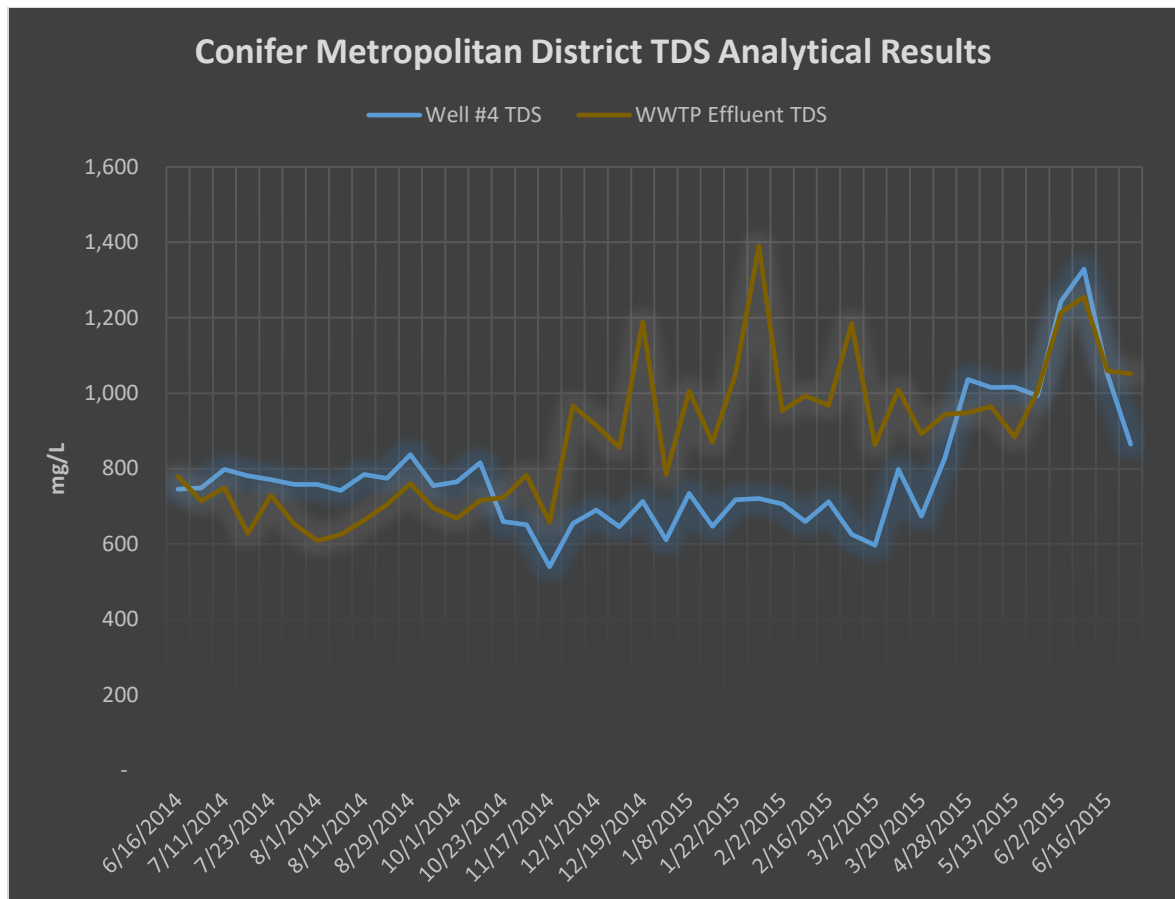
Prior to the enforcement, little sampling for TDS was conducted as it was not a regulated item. A sample from raw water well VW-2 was taken on 12/30/2005. The result for TDS was 198 mg/L. Once the TDS limit was introduced in 2014, the District began regularly sampling for TDS. The data below includes samples collected from the raw water wells #3 and #4 and the WWTP effluent.

TDS Analytical Results from WWTP effluent (mg/L)

Sample Date	Well #4 TDS (mg/L)	Well #3 TDS (mg/L)	WWTP Effluent TDS (mg/L)
6/16/2014	745		779
7/1/2014	749		714
7/11/2014	798		750
7/16/2014	781		628
7/23/2014	771		729
7/28/2014	758		653
8/1/2014	758		609
8/7/2014	742		625
8/11/2014	784		663
8/20/2014	774		705
8/29/2014	837	1,398	761

9/18/2014	755		695
10/1/2014	765		668
10/6/2014	816		716
10/23/2014	660		723
11/3/2014	651		783
11/17/2014	540		658
11/24/20014	655	1,141	966
12/1/2014	690		914
12/8/2014	646		856
12/19/2014	713	1,192	1,188
1/2/2015	611		785
1/8/2015	734		1,006
1/16/2015	647		870
1/22/2015	717		1,051
1/29/2015	721		1,390
2/2/2015	706		953
2/12/2015	660		993
2/16/2015	712		968
2/25/2015	626		1,185
3/2/2015	597		863
3/12/2015	798		1,009
3/20/2015	674		892
4/21/2015	828		944
4/28/2015	1,036		948
5/4/2015	1,015		964
5/13/2015	1,016		884
5/26/2015	993		1,006
6/2/2015	1,243		1,214
6/9/2015	1,329		1,255
6/16/2015	1,051		1,059
7/7/2015	865		1,052
Average	785	Not Applicable	883

The following is a graph of the TDS results from the raw water wells and the WWTP effluent from 2014-2015. It shows the relationship between the TDS concentration in Well #4 and the WWTP effluent over time.



The District has conducted additional TDS testing after the initial sampling in 2014 and 2015. The results are as follows:

Sample Date	WWTP Effluent TDS (mg/L)
09/15/16	1,112
09/05/19	1,112
11/04/19	1,200
12/02/19	1,251
01/02/20	1,105
04/02/20	1,387
05/04/20	1,316
08/03/20	1,336
12/02/20	1,182
01/19/21	1,030
01/19/21	1,030
05/03/21	1,041
06/02/21	1,197

09/02/21	1,108
11/02/21	1,055
12/02/21	920
01/03/22	1,180
02/03/22	1,164
03/02/22	1,091
04/04/22	943
06/02/22	1,132
07/05/22	1,270
08/02/22	1,265
09/02/22	1,156
10/03/22	1,135
Average	1,149

A) If no, would you be willing to collect current data for TDS, chloride, and groundwater elevation from the existing wells at the property?

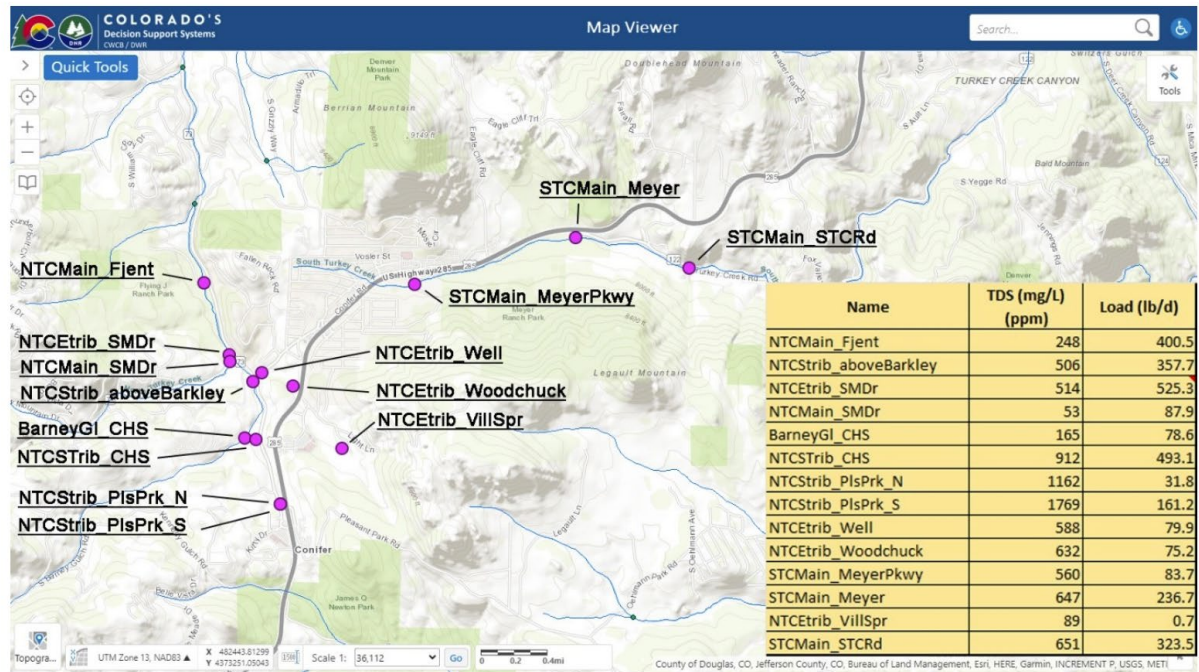
Please review the tabulation of data above to determine if the information on the file is adequate. The District is willing to continue collecting additional analytical data. However, it does not want to continue to defer the Variance Request while gathering additional information. The District has been working for eight years on addressing this issue and would like to see a resolution.

4) Do you have any groundwater data for TDS and chloride for offsite properties adjacent to the CMD?

The information about TDS concentration and loading in the figure below is posted on Conifer Area Council's website. It is noteworthy that the highest concentrations are adjacent to Highway 285. Two of the results, PlsPark-N (1,162 mg/L) and PlsPark-S (1,769 mg/L), are higher than the average Conifer MD's WWTP effluent TDS (838 mg/L) between June 2014 and July 2015. These results support the District's position that the TDS in the groundwater is primarily originating from CDOT's de-icing operations:

CAC Water Quality Monitoring

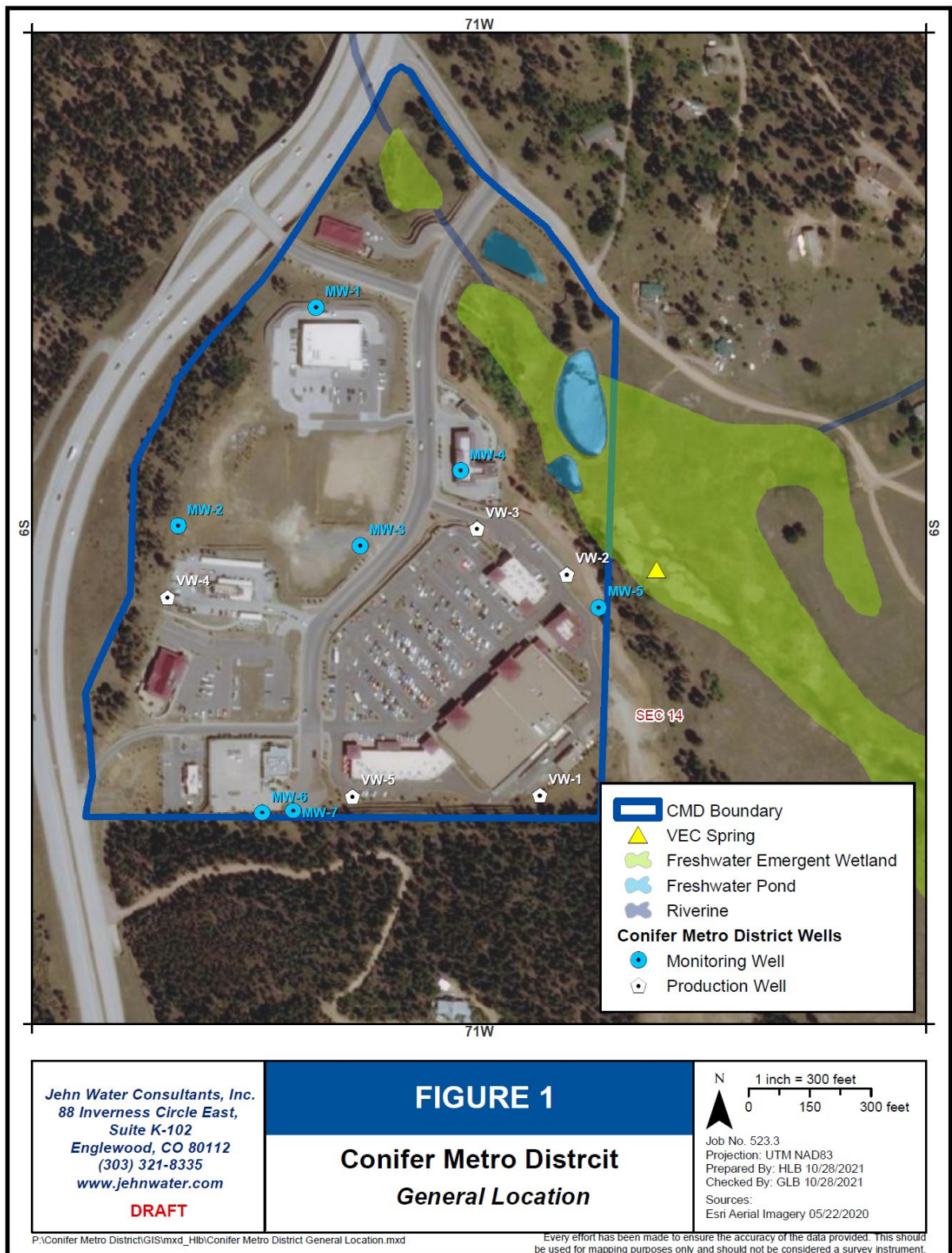
The CAC Water Resources Study/Action Team has started to monitor total dissolved solids (TDS) at various points in Conifer. Three are tap water readings (Staples, Safeway, King Soopers, Church). All other readings are locations on main streams or tributaries in open channels or culverts.



TDS readings on November 4, 2021

- 5) The variance request refers to a raw water well that was installed in 2018 with a reported TDS concentration of 417 mg/l. Where is this well located?

The image below shows the location of Well #5 (labelled as “VW-5”).



6) Can you provide boring logs and well construction details for the existing wells?

Attached are the Well Construction and Test Report for Wells #1, #2, and #5.

7) Do you have any data regarding the TDS and chloride concentrations of the water coming from the CSA area that is treated by CMD?

We have two data points for the sewage sent from CSA:

June 1, 2021: Chloride 297 mg/L & TDS 972 mg/L

July 6, 2021: Chloride 121 mg/L & TDS 642 mg/L

8) Are deicing salts applied to the parking area and roads within the CMD and CSA service areas? Or are they only applied along 285?

Yes, Safeway has been applying road salts, and CSA likely does as well. Discontinuing the use of de-icing salts is not practical due to the safety concerns for vehicles and pedestrians.

A) If deicing salts are applied within the CMD and CSA service areas, would they reach groundwater in the vicinity of the raw water wells? Would existing stormwater drains convey salts away from raw water wells?

The fate and transport of de-icing salts is dependent on surface and subsurface features of the area. There is a storm drain network, but the drains weren't designed to redirect salt away from the raw water wells. Salts would infiltrate to the groundwater through porous surface features such as grassy areas or retention basins which snow may be piled or snow melt flows to. The geology in the area of CMD, CSA, and Highway 285 is fractured granite which makes predicting subsurface flow difficult.

B) If salts are applied within the CMD and CSA service area, are there available alternatives that would be less likely to affect TDS concentrations if they reached groundwater?

AquaWorks is not aware of an alternative de-icing agent that does not consist of metal salts. However, BMPs should be followed to reduce the impact of the salts entering surface and subsurface waterways.

9) With the proposed additional residential development tying into CMD's wastewater system, has there been an analysis of the source water for that area and how it may impact the chloride and TDS discharge levels?

No – CMD does not have TDS data for the development referenced. Note that the developer of the project referred to has abandoned the project, and therefore there will not affect CMD's TDS or chloride concentrations.

10) If the variance was approved, how would CMD propose to address the chloride and TDS levels to ensure they do not get more elevated or negatively impact surrounding groundwater during the next permit term?

CMD will continue to sample the groundwater and effluent TDS. If the TDS or chloride concentrations rose to an unacceptable level, it would be possible to use a portable reverse osmosis skid to reduce the concentrations in the drinking water storage tanks. This approach would remove some TDS and chlorides from the partially closed loop. This would be an expensive activity and require hauling concentrate off-site, but would reduce the concentrations.

AquaWorks DBO notes that the road salts both in and around the District are not the only contributor to TDS. It is inconclusive if measures taken to reduce the TDS would allow the system to meet the 400 mg/L limit. TDS concentration in urine is high, with an average concentration of 7,012 mg/L (source: Marickar, Fazl. (2009). Electrical conductivity and total dissolved solids in urine. Urological research. 38. 233-5. 10.1007/s00240-009-0228-y). The CMD does not benefit from the same urine dilution as other systems, such as those serving residential, so the high percentage of urine compared to total wastewater will continue to be a problem for the District.

Please feel free to contact me directly at (303) 477-5915 with any questions.

Sincerely,

AQUAWORKS DBO, INC.



Adam Sommers, P.E.

cc. Conifer Metro District

Attachments:

Certificate of Valuation

Well Construction and Test Report for Wells #1, #2, and #5.



SCOT KERSGAARD

Assessor

August 25, 2022

CONIFER METROPOLITAN DISTRICT
WHITE BEAR ANKELE TANAKA WALDRON
2154 E COMMONS AVE 2000
CENTENNIAL CO 80122

OFFICE OF THE ASSESSOR
100 Jefferson County Parkway
Golden, CO 80419-2500
Phone: 303-271-8600
Fax: 303-271-8616
Website: <http://assessor.jeffco.us>
E-mail Address: assessor@jeffco.us

Code # 4217

CERTIFICATION OF VALUATION

The Jefferson County Assessor reports a taxable assessed valuation for your taxing entity for 2022 of:

\$5,990,115

The breakdown of the taxable valuation of your property is enclosed.

As further required by CRS 39-5-128(1), you are hereby notified to officially certify your levy to the Board of County Commissioners no later than December 15.

CRS 39-1-111(5) requires that this office transmit a notification by December 10 of any changes to valuation made after the original certification.

SCOT KERSGAARD
Jefferson County Assessor

enc

CERTIFICATION OF VALUATION BY JEFFERSON COUNTY ASSESSOR

New Tax Entity

☐ YES ☒ NO

Date: August 25, 2022

NAME OF TAX ENTITY: CONIFER METROPOLITAN DISTRICT

USE FOR STATUTORY PROPERTY TAX REVENUE LIMIT CALCULATION ("5.5%" LIMIT) ONLY

IN ACCORDANCE WITH 39-5-121(2)(a) AND 39-5-128(1), C.R.S., AND NO LATER THAN AUGUST 25, THE ASSESSOR CERTIFIES THE TOTAL VALUATION FOR ASSESSMENT FOR THE TAXABLE YEAR 2022:

1. PREVIOUS YEAR'S NET TOTAL TAXABLE ASSESSED VALUATION:	1.	\$	6,017,034
2. CURRENT YEAR'S GROSS TOTAL TAXABLE ASSESSED VALUATION: ‡	2.	\$	5,990,115
3. LESS TOTAL TIF AREA INCREMENTS, IF ANY:	3.	\$	0
4. CURRENT YEAR'S NET TOTAL TAXABLE ASSESSED VALUATION:	4.	\$	5,990,115
5. NEW CONSTRUCTION: *	5.	\$	0
6. INCREASED PRODUCTION OF PRODUCING MINE: ≈	6.	\$	0
7. ANNEXATIONS/INCLUSIONS:	7.	\$	0
8. PREVIOUSLY EXEMPT FEDERAL PROPERTY: ≈	8.	\$	0
9. NEW PRIMARY OIL OR GAS PRODUCTION FROM ANY PRODUCING OIL AND GAS LEASEHOLD OR LAND (29-1-301(1)(b), C.R.S.): Φ	9.	\$	0
10. TAXES RECEIVED LAST YEAR ON OMITTED PROPERTY AS OF AUG. 1 (29-1-301(1)(A), C.R.S.). Includes all revenue collected on valuation not previously certified:	10.	\$	0
11. TAXES ABATED AND REFUNDED AS OF AUG. 1 (29-1-301(1)(a), C.R.S.) and (39-10-114(1)(a)(I)(B), C.R.S.):	11.	\$	0

‡ This value reflects personal property exemptions IF enacted by the jurisdiction as authorized by Art. X, Sec 20(8)(b), Colo. Constitution

* New construction is defined as: Taxable real property structures and the personal property connected with the structure.

≈ Jurisdiction must submit to the Division of Local Government respective Certifications of Impact in order for the values to be treated as growth in the limit calculation; use Forms DLG 52 & 52A.

Φ Jurisdiction must apply to the Division of Local Government before the value can be treated as growth in the limit calculation; use Form DLG 52B.

USE FOR TABOR "LOCAL GROWTH" CALCULATION ONLY

IN ACCORDANCE WITH ART X, SEC.20, COLO. CONSTITUTION AND 39-5-121(2)(b), C.R.S., THE ASSESSOR CERTIFIES THE TOTAL ACTUAL VALUATION FOR THE TAXABLE YEAR 2022:

1. CURRENT YEAR'S TOTAL ACTUAL VALUE OF ALL REAL PROPERTY: ¶	1.	\$	18,596,723
ADDITIONS TO TAXABLE REAL PROPERTY			
2. CONSTRUCTION OF TAXABLE REAL PROPERTY IMPROVEMENTS:	2.	\$	0
3. ANNEXATIONS/INCLUSIONS:	3.	\$	0
4. INCREASED MINING PRODUCTION: §	4.	\$	0
5. PREVIOUSLY EXEMPT PROPERTY:	5.	\$	0
6. OIL OR GAS PRODUCTION FROM A NEW WELL:	6.	\$	0
7. TAXABLE REAL PROPERTY OMITTED FROM THE PREVIOUS YEAR'S TAX WARRANT: (If land and/or a structure is picked up as omitted property for multiple years, only the most current year's actual value can be reported as omitted property.):	7.	\$	0

DELETIONS FROM TAXABLE REAL PROPERTY

8. DESTRUCTION OF TAXABLE REAL PROPERTY IMPROVEMENTS:	8.	\$	0
9. DISCONNECTIONS/EXCLUSIONS:	9.	\$	0
10. PREVIOUSLY TAXABLE PROPERTY:	10.	\$	0

¶ This includes the actual value of all taxable real property plus the actual value of religious, private school, and charitable real property.

* Construction is defined as newly constructed taxable real property structures.

§ Includes production from new mines and increases in production of existing producing mines.

IN ACCORDANCE WITH 39-5-128(1), C.R.S., AND NO LATER THAN AUGUST 25, THE ASSESSOR CERTIFIES TO SCHOOL DISTRICTS:

1. TOTAL ACTUAL VALUE OF ALL TAXABLE PROPERTY	1.	\$	20,685,059
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IN ACCORDANCE WITH 39-5-128(1.5), C.R.S., THE ASSESSOR PROVIDES:

HB21-1312 VALUE OF EXEMPT BUSINESS PERSONAL PROPERTY (ESTIMATED): **	\$	5,892
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** The tax revenue lost due to this exempted value will be reimbursed to the tax entity by the County Treasurer in accordance with 39-3-119.5(3), C.R.S.

NOTE: ALL LEVIES MUST BE CERTIFIED TO THE COUNTY COMMISSIONERS NO LATER THAN DECEMBER 15.

04805734

FORM NO. GWS-31 10/94	WELL CONSTRUCTION AND TEST REPORT STATE OF COLORADO, OFFICE OF THE STATE ENGINEER 1313 Sherman St., Rm 818, Denver, CO 80203	For Office Use only <div style="display: flex; justify-content: space-between;"> <div> Well #1 2/23/02 </div> <div> Well #1 RECEIVER APR 22 2002 WATER RESO. STATE ENGINEER COLO </div> </div>																												
1. WELL PERMIT NUMBER <u>238750</u>																														
2. OWNER NAME(S) <u>DAVID COPFEER & BILL THOMPSON</u> Mailing Address <u>11660 ANTLER TRAIL</u> City, St. Zip <u>LITTLETON, CO 80127</u> Phone (303) <u>697-0213</u>																														
3. WELL LOCATION AS DRILLED: <u>NW 1/4 SE 1/4, Sec. 14 Twp. 6 S, Range 71 W</u> DISTANCES FROM SEC. LINES: <u>1340</u> ft. from <u>South</u> Sec. line, and <u>2170</u> ft. from <u>East</u> Sec. line. OR <small>(north or south) (east or west)</small> SUBDIVISION: <u>Highway 285 Corridor Co</u> LOT _____ BLOCK _____ FILING(UNIT) _____ STREET ADDRESS AT WELL LOCATION: _____																														
4. GROUND SURFACE ELEVATION <u>8000</u> ft. DRILLING METHOD <u>AIR HAMMER</u> DATE COMPLETED <u>2-23-02</u> TOTAL DEPTH <u>775</u> ft. DEPTH COMPLETED <u>775</u> ft.																														
5. GEOLOGIC LOG: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">Depth</th> <th>Description of Material (Type, Size, Color, Water Location)</th> </tr> </thead> <tbody> <tr><td>0-40'</td><td>TAN/GRAY GRANITE Gneiss</td></tr> <tr><td>40-61'</td><td>GRAY GRANITE Gneiss</td></tr> <tr><td>61-63'</td><td>PINK GRANITE</td></tr> <tr><td>63-95'</td><td>GRAY GRANITE</td></tr> <tr><td>95-108'</td><td>TAN/PINK GRANITE "</td></tr> <tr><td>108-182'</td><td>GRAY GRANITE "</td></tr> <tr><td>182-220'</td><td>PINK GRANITE "</td></tr> <tr><td>220-267'</td><td>GRAY/PINK GRANITE "</td></tr> <tr><td>267-275'</td><td>DARK GRAY GRANITE "</td></tr> <tr><td>275-295'</td><td>GRAY/PINK GRANITE "</td></tr> <tr><td>295-320'</td><td>GRAY/PINK GRANITE/QUARTZ "</td></tr> <tr><td>320-360'</td><td>PINK GRANITE/QUARTZ "</td></tr> <tr><td>360-775'</td><td>GRAY/PINK GRANITE/QUARTZ "</td></tr> </tbody> </table>			Depth	Description of Material (Type, Size, Color, Water Location)	0-40'	TAN/GRAY GRANITE Gneiss	40-61'	GRAY GRANITE Gneiss	61-63'	PINK GRANITE	63-95'	GRAY GRANITE	95-108'	TAN/PINK GRANITE "	108-182'	GRAY GRANITE "	182-220'	PINK GRANITE "	220-267'	GRAY/PINK GRANITE "	267-275'	DARK GRAY GRANITE "	275-295'	GRAY/PINK GRANITE "	295-320'	GRAY/PINK GRANITE/QUARTZ "	320-360'	PINK GRANITE/QUARTZ "	360-775'	GRAY/PINK GRANITE/QUARTZ "
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8. FILTER PACK: Material _____ Size _____ Interval _____		9. PACKER PLACEMENT: Type <u>RUBBER BOOT</u> Depth <u>41</u> FEET																												
10. GROUTING RECORD: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Material</th> <th>Amount</th> <th>Density</th> <th>Interval</th> <th>Placement</th> </tr> </thead> <tbody> <tr> <td><u>CEMENT</u></td> <td><u>5863</u></td> <td><u>30 gal</u></td> <td><u>9-41</u></td> <td><u>POUR</u></td> </tr> </tbody> </table>			Material	Amount	Density	Interval	Placement	<u>CEMENT</u>	<u>5863</u>	<u>30 gal</u>	<u>9-41</u>	<u>POUR</u>																		
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<u>CEMENT</u>	<u>5863</u>	<u>30 gal</u>	<u>9-41</u>	<u>POUR</u>																										
11. DISINFECTION: Type <u>HTH</u> Amt Used <u>3 1/4 cups</u>																														
12. WELL TEST DATA: <input type="checkbox"/> Check box if Test Data is submitted on Form No. GWS 39 Supplemental Well Test. TESTING METHOD <u>AIR JET</u> Static Level <u>117</u> ft. Date/Time measured <u>3-5-02 9:30 AM</u> , Production Rate <u>45 1/2</u> gpm. Pumping level <u>775</u> ft. Date/Time measured <u>3-5-02 2:30 PM</u> , Test length (hrs.) <u>4</u> Remarks <u>Well was pump tested - no pump test filed</u>																														
13. I have read the statements made herein and know the contents thereof, and that they are true to my knowledge. [Pursuant to Section 24-4-104 (13)(a) C.R.S., the making of false statements herein constitutes perjury in the second degree and is punishable as a class 1 misdemeanor.] CONTRACTOR <u>LIVING WATER SYSTEMS INC</u> Phone <u>(303) 674-4048</u> Lic. No. <u>1165</u> Mailing Address <u>P.O. BOX 469 PINE, CO 80470</u>																														
Name/Title (Please type or print) <u>ROBERT GOBLE / PRESIDENT</u>		Signature: <u>Robert Goble</u> Date: <u>3/27/02</u>																												

FORM NO.
GWS-31
10/94

WELL CONSTRUCTION AND TEST REPORT
STATE OF COLORADO, OFFICE OF THE STATE ENGINEER
1313 Sherman St., Rm 818, Denver, CO 80203

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APR 22 2002

No record of pump installation

WATER RESOURCES
STATE ENGINEER
COLORADO

04865738

1. WELL PERMIT NUMBER 238751

2. OWNER NAME(S) DAVID COPPER & BILL THOMPSON
Mailing Address 11660 ANTLER TRAIL
City, St. Zip LITTLETON, CO 80127
Phone (303) 697-0213

3. WELL LOCATION AS DRILLED: NW 1/4 SE 1/4, Sec. 14 Twp. 6 S, Range 71 W
DISTANCES FROM SEC. LINES:
1340 ft. from South Sec. line. and 2070 ft. from East Sec. line. OR
SUBDIVISION: _____ LOT _____ BLOCK _____ FILING(UNIT) _____
STREET ADDRESS AT WELL LOCATION: Highway 285 Conifer, Co.

4. GROUND SURFACE ELEVATION 8000 ft. DRILLING METHOD AIR HAMMER
DATE COMPLETED 3-5-02 TOTAL DEPTH 775 ft. DEPTH COMPLETED 775 ft.

Depth	Description of Material (Type, Size, Color, Water Location)
0-1'	TOP SOIL
1-21'	PINK GRANITE
21-90'	GRAY GRANITE
90-95'	PINK GRANITE
95-121'	GRAY GRANITE / QUARTZ
121-130'	GRAY GRANITE
130-150'	DARK GRAY GNEISS
150-290'	GRAY GRANITE
290-295'	DARK GRAY GNEISS
295-410'	GRAY / PINK GRANITE
410-455'	GRAY GRANITE
455-720'	GRAY / PINK GRANITE / QUARTZ / GNEISS
720-775'	PINK GRANITE / QUARTZ / GNEISS

6. HOLE DIAM. (in.)	From (ft)	To (ft)
<u>8 5/8</u>	<u>0</u>	<u>41</u>
<u>6 1/8</u>	<u>41</u>	<u>775</u>

7. PLAIN CASING				
OD (in)	Kind	Wall Size	From (ft)	To (ft)
<u>6 5/8</u>	<u>STEEL</u>	<u>.188</u>	<u>+1</u>	<u>41</u>
<u>4</u>	<u>PVC</u>	<u>SCH 40</u>	<u>10</u>	<u>655</u>
<u>4</u>	<u>PVC</u>	<u>SCH 40</u>	<u>755</u>	<u>775</u>
PERF. CASING: Screen Slot Size: <u>.032</u>				
<u>4</u>	<u>PVC</u>	<u>SCH 40</u>	<u>655</u>	<u>755</u>

WATER ZONES	
<u>450'</u>	<u>1 gpm</u>
<u>540'</u>	<u>19 gpm</u>

8. FILTER PACK:	9. PACKER PLACEMENT
Material _____	Type <u>RUBBER BOOT</u>
Size _____	Depth <u>41</u> FEET
Interval _____	

REMARKS: _____

10. GROUTING RECORD:				
Material	Amount	Density	Interval	Placement
<u>CEMENT SLAGS</u>	<u>30 gals</u>	<u>9-41</u>	<u>FOUR</u>	

11. DISINFECTION: Type ATH Amt. Used 3 1/4

12. WELL TEST DATA: ☐ Check box if Test Data is submitted on Form No. GWS 39 Supplemental Well Test.
TESTING METHOD AIR JET
Static Level 130 ft. Date/Time measured 3-5-02 10:00 AM Production Rate 20 gpm.
Pumping level 775 ft. Date/Time measured 3-5-02 2:30 PM Test length (hrs.) 4
Remarks _____

13. I have read the statements made herein and know the contents thereof, and that they are true to my knowledge. [Pursuant to Section 24-4-104 (13)(a) C.R.S., the making of false statements herein constitutes perjury in the second degree and is punishable as a class 1 misdemeanor.]

CONTRACTOR LIVING WATER SYSTEMS INC Phone (303) 674-4048 Lic. No. 1165
Mailing Address P.O. Box 469 Pine CO 80470

Name/Title (Please type or print) ROBERT GOBLE / PRESIDENT Signature Robert Goble Date 3/27/02

FORM NO.
GWS-31
04/2005

WELL CONSTRUCTION AND TEST REPORT

STATE OF COLORADO, OFFICE OF THE STATE ENGINEER
1313 Sherman St., Room 818, Denver, CO 80203
Phone - Info (303) 866-3587 Main (303) 866-3581
Fax (303) 866-3589 http://www.water.state.co.us

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WATER RESOURCES
STATE ENGINEER
COLO.

1. WELL PERMIT NUMBER: 65162-F

2. WELL OWNER INFORMATION

NAME OF WELL OWNER: Conifer Town Center LLC, c/o Village at Elk

MAILING ADDRESS: 10901 West Toller Drive

CITY: Littleton

STATE: CO

ZIP CODE: 80127

TELEPHONE NUMBER: (303) 904-7095

3. WELL LOCATION AS DRILLED: NW1/4, SE1/4, Sec. 14, Twp. 6 ☐ N or ☒ S, Range 71 ☐ E or ☒ W
DISTANCES FROM SEC. LINES: 1520 ft. from ☐ N or ☒ S section line and 1820 ft. from ☒ E or ☐ W section line.
SUBDIVISION: LOT BLOCK FILING (UNIT)
Owner's Well Designation: Easting: Northing:

Optional GPS Location: GPS Unit must use the following settings: Format must be UTM, Units must be meters, Datum must be NAD83, Unit must be set to true N, ☐ Zone 12 or ☐ Zone 13

STREET ADDRESS AT WELL LOCATION:

4. GROUND SURFACE ELEVATION feet

DATE COMPLETED: 5/18/07 TOTAL DEPTH 1000

DRILLING METHOD Air Percussion

feet DEPTH COMPLETED 1000 feet

5. GEOLOGIC LOG:

Depth	Type	Grain Size	Color	Water Loc.
0-250	Granite	Bedrock	grey	
250-650	Pegmatite	Bedrock	pink, whit	271
650-850	Granite/	Bedrock	grey	
850-1000	Gegmatite	Bedrock	pink, whit	960'
			h20: 1/4 gpm @ 271'	
			8 3/4 gpm 960'	

6. HOLE DIAM (in.) From (ft) To (ft)

9"	0	40
6 1/8"	40	735
6	735	1000

7. PLAIN CASING:

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
6 5/8"	Steel	188	+1	40
4"	PVC	SCH 40	10-320	340-440
4"	PVC	SCH 40	460-560	580-680
4"	PVC	SCH 40	700-800	820-920

PERFORATED CASING: Screen Slot Size (in): 0.30 & 1/4

4"	PVC	SCH 40	320-340	440-460
4"	PVC	SCH 40	560-580	680-700
4"	PVC	SCH 40	800-820	=1/4
4"	PVC	SCH 40	920-980	=.030

8. FILTER PACK:

Material
Size
Interval

9. PACKER PLACEMENT:

Type Cement Packer
Depth 39'

10. GROUTING RECORD

Material	Amount	Density	Interval	Placement
Cement	5 Bags	30 Gal	10-39	Pour

Remarks:

11. DISINFECTION: Type HTH

Amt. Used 2 Cup

12. WELL TEST DATA: ☐ Check box if Test Data is submitted on Form Number GWS 39 Supplemental Well Test.

TESTING METHOD Air Jet

Static Level 150 ft. Date/Time measured: 5/13/07 9:00am Production Rate 9 gpm.

Pumping Level 1000 ft. Date/Time measured 5/12/07 6:30pm Test Length (hrs) 4

Remarks:

13. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402-2. [The filing of a document that contains false statements is a violation of section 37-91-108(1)(e), C.R.S., and is punishable by fines up to \$5000 and/or revocation of the contracting license.]

Company Name:
Living Water Systems, Inc.

Phone:
(303)838-4558

License Number:
1165

Mailing Address: P.O. Box 469; Pine, CO 80470

Signature:

Robert Goble

Print Name and Title
Robert Goble / President

Robert Goble
President

Date

7/10/07