

WOODMOOR WATER AND SANITATION DISTRICT NO. 1

Board Meeting
Monday May 11th, 2020

A G E N D A

1. Call to Order
2. Reading of the Minutes
 - A. March 9th Regular Meeting
3. New Business
 - A. Oaths for New/Re-Elected Directors – Completed May 8 & May 9
 - B. Election of Board Officers
 - C. Consider Authorizing Banking Signatories for Newly Seated Directors and Removing Director Taylor
 - D. CWTP & TENORM Improvements Recommendations, Updates and Memos
- JVA (Josh McGibbon/Richard Hood)
 - E. Consider Execution of Resolution 20-04 : Corporate Authorization
 - F. Consider Execution of Mutual Aid and Assistance Agreement with Colorado's Water/Wastewater Response Network (CoWARN)
 - G. District Fire & Casualty Insurance – Hail Deductible Buy Back Endorsement
 - H. Jon Mills Potential Inclusion Request
 - I. COVID-19
 - Items to Consider/Actions to Ratify:
 - a. Consider Execution of Resolution 20-03; Emergency Resolution Concerning the Coronavirus
 - b. Office Availability to the Public - Discussion
 - c. Employee Work Schedule - Discussion
 - d. Employee Covid-19 Rules/Policies Enacted – Discussion/Ratification
 - e. Disconnects, waiving late fees for April & May 2020 – Discussion/Ratification
 - f. Financial Impacts/Budgetary Concerns - Discussion
4. Old Business
 - A. Consider Authorizing “Construction Manager at Risk” (a.k.a. CMAR) Alternative Project Delivery Method for South Filter Plant Improvements, CWTP Lake Pump Station and CWTP Surface Water Conversion projects
 - Q & A w/Josh McGibbon/Richard Hood)

5. Financial Report
 - A. March 2020
 - B. April 2020
6. Public Discussion
 - A. Unscheduled People
7. Joint Use Committee Report
8. Chilcott Ditch Company/Woodmoor Ranch Report
9. Manager's Report
10. Special Reports & Subjects
 - A. Engineer's Report
 - B. Attorney's Report
 - C. WIA Meeting Report
11. Executive Session pursuant to C.R.S. § 24-6-402(4): **(1)** Subsection (a) for discussions related to the purchase, acquisition, lease, transfer, or sale of any real, personal, or other property interest; **(2)** Subsection (e) to determine positions relative to matters that may be subject to negotiations, developing strategy for negotiations, and instructing negotiators, **(3)** Subsection (b) for a conference with legal counsel for the purpose of receiving legal advice on specific legal questions; all related to existing agreements and a potential agreement(s) with JUWI, Inc., Geronimo Energy, Woodmoor Lakehouse Association and **(4)** Subsection (f)(I) for matters related to personnel.
12. Consider Executing Letter of Intent With Geronimo Energy, LLC
13. Adjournment

RECORD OF PROCEEDINGS

A meeting of the Woodmoor Water and Sanitation District No. 1 (WWSD) Board of Directors was held on March 9, 2020 at the Woodmoor Water and Sanitation District No. 1 office.

PRESENT:	Director Taylor Director Wyss Director Roddam
Manager:	Jessie J. Shaffer
Asst. Manager:	Randy Gillette
Attorney:	Erin Smith
Secretary:	Marsha Howland
Visitors:	James Howald - Our Community News Richard Hood – JVA Consulting Engineers Josh McGibbon – JVA Consulting Engineers

- I. **Call to Order:** President Taylor called the meeting to order at 1:00 p.m.

- II. **Reading of the Minutes:** Copies of the February 10, 2020 meeting minutes of the Woodmoor Water and Sanitation District were provided to each Director. It was moved, duly seconded, and unanimously passed that the meeting minutes be approved.

- III. **New Business:**
 - A. Consider “Construction Manager at Risk” (aka CMAR) Alternative Project Delivery Method for South Filter Plant Improvements, CWTP Lake Pump station and CWTP Surface Water Conversion Projects – JVA Presentation (Josh McGibbon/Richard Hood): Shaffer reported that he invited Richard Hood and Josh McGibbon from JVA to talk to the Board about using CMAR for the three major projects that the Board has budgeted for 2020. Shaffer stated that the first project is improvements at the South Filter Plant to include valve replacement, replacing the chlorine generator, and improvements to the ventilation system. The other two projects involve a new pump station at Lake Woodmoor to deliver surface water to the Central Water Treatment Plant and

converting that plant to treat the surface water. Shaffer stated that the level of complexity and timing of these projects is crucial. Shaffer stated that the plants cannot be off-line during the peak season, so the plan is to start construction this fall and then stop during peak season and start-up again next fall so the improvements would be complete and on-line by peak season 2021. Shaffer reported that Hood and McGibbon stated that if the District combined the three projects to maintain the schedule needed that CMAR would be a good fit. Hood gave an overview describing the improvements at the South Filter Plant. Hood stated that some of the equipment at the South Filter Plant was installed in 2004 and now needs to be replaced. Hood reported that some of the valves are leaking which causes additional monitoring for operations. Hood reported that the disinfection system and the hypochlorite storage tank also need to be replaced. Hood stated that they are looking at different alternatives for these improvements. Hood stated that they are also looking at increasing clearwell flexibility for operations. Hood stated that when they looked at the cost of the South Filter Plant project last year, they estimated \$350,000 and now with the current cost and upgrades added to the project, the cost has been raised to approximately \$562,000. Hood stated that in order to control the cost while moving forward with the design of the project he recommends using CMAR. McGibbon reported that JVA Consultants are using the CMAR process on several projects. CMAR is an alternative delivery option. The District now uses the design-bid-build option on most projects. McGibbon reported that the objective of CMAR is to bring in the contractor at the early stages of the project design. Bringing in the general contractor as part of the team in the early design stage allows everyone to work together to provide a guaranteed maximum price for the project. McGibbon stated that the CMAR option takes away the unknowns that can happen during the bidding process. McGibbon reported that if they bring in a general contractor with CMAR and for whatever reason it does not work out, the District does have an off-ramp to change contractors. McGibbon stated that CMAR is an open book process, which helps to eliminate unknowns. Smith stated that the CMAR delivery system is an acceptable process for Special Districts. McGibbon reported that the other two District projects that are budgeted for 2020 are also good candidates for CMAR. McGibbon stated that they could advertise for a CMAR contractor in June 2020 and tackle the three projects together. McGibbon asked the Board to research the CMAR process and consider if this project delivery method would work for the District. Shaffer reported that McGibbon and Hood would be back next month with more on the projects and can answer any questions the Board might have on the CMAR process. Shaffer stated that the cost of the South Filter Plant is double what was budgeted, but if they combined the three projects the cost might even out. The Board thanked Hood and McGibbon for their presentation.

Motion: Upon motion by Director Roddam, and seconded by Director Wyss, the Board unanimously voted to excuse Directors Bush and Hanson from the Board Meeting.

IV. Old Business:

A. Consider Executing NMCI NEPA Participation agreement with Colorado Springs Utilities (CSU): Shaffer asked the Board to review the National Environmental Policy Act (NEPA) for the Northern Monument Creek Interceptor Project (NMCI) that he included in their Board packets. Shaffer stated that the agreement maps out what the participant's responsibilities are for the NMCI project. Shaffer stated that CSU will be conducting several analyses and will file all the documents required to complete this project. They will also supply their findings to the Federal Government and EPA, which will result in a Record of Decision. Shaffer reported that CSU will pay for the cost of the NEPA project only to the extent of permitting, engineering, and analysis. CSU will track and cost which will be deferred back to the final participants at the end of the NEPA process. The participants are committing to staff time and minimal consultant time in order to get information, maps, and data that CSU needs to incorporate in their analysis. Shaffer reported that the NEPA process can take up to three years to complete. Shaffer stated that Roni Sperling reviewed this agreement for the District. Shaffer asked the Board to consider executing this agreement.

Motion: Upon motion by Director Wyss, and seconded by Director Roddam, the Board unanimously voted to execute the NMCI NEPA Participation Agreement with Colorado Springs Utilities and authorized President Taylor to sign the agreement.

V. **Financial Report:** Director Wyss stated that he has reviewed the financial statements and did not have any changes.

VI. **Public Discussion:** James Howald asked the Board if the District is having any similar issues with the high radium content in the water that the Town of Monument is having. Shaffer stated that he does not fully understand the issues that the Town of Monument is having, but the District is in compliance with all the State, Federal and EPA requirements for drinking water.

VII. **Joint Use Committee Report:** None.

VIII. **Chilcott Ditch Company / The Ranch Report:** None.

IX. Manager's Report: Shaffer reviewed the manager's report dated March 9, 2020, a copy of which is attached hereto.

A. Collaborative Organizations / Opportunities:

- i. PPRWA: Shaffer reported that the PPRWA chose to take a formal position of opposition on a Senate bill as it is written. The bill is written to fund the State Water Plan by accessing a fee on everybody who gets a water bill from a water provider. Shaffer stated that the fee would be collected by the water provider and 97% of that fee would be paid to the State.

B. Operations

- i. Water Report: Shaffer reported that the unaccounted water for February 2020 was at 12%. Gillette reported that there was a day difference between production and customer meter reading which is causing the higher unaccounted water percentage.

C. District Construction/Planning Projects:

- i. Well 21 Site Work: Shaffer reported that staff issued a substantial completion certificate to the contractor for the Well 21 site work.
- ii. Well 21 Transmission Pipeline: Shaffer states that the contractor has completed the pilot hole for the directional drilling and is currently back-reaming the hole. Shaffer stated that so far this project is very successful. Shaffer reported that an engineer from Lithos who is part of a non-profit organization that is educating and promoting directional drilling approached him about conducting an educational seminar regarding directional drilling. The seminar is taking place tomorrow at 9 a.m. at the Barn.

D. WWSD Subdivision/Development Status Update: None.

E. **Other Topics:** None.

X. **Special Reports & Subjects:**

A. Engineer's Report: None.

B. Attorney's Report: Smith reported that the District was given approval to cancel the election. Smith stated that Directors Bush, Wyss and Roddam were reelected and William Clewe was elected to fill the final open seat.

C. WIA: None.

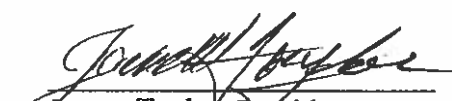
XI. **Executive Session:**

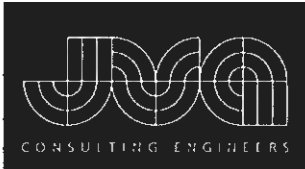
It was moved, duly seconded, and unanimously approved that the Board move into Executive Session pursuant to: C.R.S. Section 24-6-402: (1) Subsection (a) for discussions related to the purchase, acquisition, lease, transfer, or sale of any real, personal, or other property interest; and (2) Subsection (e) to determine positions relative to matters that may be subject to negotiations, developing strategy for negotiations, and instructing negotiators; and (3) Subsection (b) for a conference with legal counsel for the purpose of receiving legal advice on specific legal questions; all related to a potential agreements with JUWI, Inc., Geronimo Energy, and AES Distributed Energy. Session commenced at 3:07 p.m. The Board returned to Regular Session at 4:22 p.m.

XII. **Adjournment:** There being no other business to come before the Board, it was moved and duly seconded that the meeting be adjourned. The motion passed unanimously and the meeting adjourned at 4:23 p.m.

Record of March 9, 2020 Board Meeting

Respectfully Submitted,


James Taylor, President



www.jvajva.com

- Boulder
1319 Spruce Street
Boulder, CO 80302
303.444.1951
- Fort Collins
213 Linden Street
Suite 200
Fort Collins, CO 80524
970.225.9099
- Winter Park
PO Box 1860
47 Cooper Creek Way
Suite 328
Winter Park, CO 80482
970.722.7677
- Glenwood Springs
817 Colorado Avenue
Suite 301
Glenwood Springs, CO
81601
970.404.3100
- Denver
1512 Larimer Street
Suite 710
Denver, CO 80202
303.444.1951

T E C H N I C A L M E M O

TO:	<u>Mr. Jessie Shaffer, P.E.</u>	DATE:	<u>May 6, 2020</u>
FIRM:	<u>Woodmoor Water and Sanitation District No. 1</u>	JOB NO.:	<u>1051.3e</u>
ADDRESS:	<u>1845 Woodmoor Drive</u>	PROJECT:	<u>TENORM Evaluation</u>
	<u>Monument, CO 80132</u>	SUBJECT:	<u>Preliminary Evaluation Memo – Update</u>

The Woodmoor Water and Sanitation District No. 1 (WWSD, District) owns and operates a non-transient, community water system (PWSID No. CO0121950) that serves the Woodmoor communities in unincorporated El Paso County, east of Monument, Colorado. The District’s raw water sources include both surface water and groundwater. The South Water Treatment Plant (SWTP) treats combined raw water from Lake Woodmoor, Monument Creek, and various groundwater wells. The Central Water Treatment Plant (CWTP) treats raw water from groundwater wells only. Treated water from both plants feeds into the potable distribution system. Water from a few groundwater wells can be chlorinated and pumped directly into the distribution system. A schematic of the raw water system is provided in Appendix A.

The District operates groundwater wells in the Denver Basin which includes the Dawson, Denver, and Arapahoe Aquifers. The groundwater wells that provide raw water to the treatment plants include; Wells 2, 3, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, and 20. Well 21 recently received conditional approval from CDPHE in April of 2019 and is being constructed.

Radionuclide tests were performed for Well 21 after well completion on November 28, 2018. The sample results show a combined radium level of 6.6 pCi/L, which exceeds the maximum contaminant level (MCL) of 5.0 pCi/L established by the Colorado Primary Drinking Water Regulations (CPDWR). Although the MCL is established for finished water, this exceedance warranted further radionuclide testing of additional source water wells in the system. All of which show elevated levels of radium. These radium levels present a concern not only for meeting drinking water standards, but also in relation to the pending Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) regulations as it relates to CWTP’s waste stream. The pending TENORM regulations will be further discussed in later sections. Due to the CPDWR, Well 21 was conditionally approved by the Colorado Department of Public Health and Environment (CDPHE), requiring additional data and raw water blending solutions to ensure the radium levels in the finished water produced by the CWTP remain below the established MCL.

The purpose of this memorandum is to evaluate potential blending and treatment solutions for CWTP to mitigate the elevated radium levels in the finished water and discuss the potential effects and requirements established by the pending TENORM regulations for the waste stream and residuals produced by both CWTP and SWTP.

RAW WATER QUALITY DATA

Radionuclide sampling for each groundwater well feeding the CWTP was conducted in May of 2019. As shown in Table 1, Well 7 is the only well with combined radium results less than the MCL of 5 pCi/L. Table 1 also includes radionuclide results from 2016 for comparison. Although the radionuclide levels in every well have increased in the three year



timeframe, that does not necessarily conclude that radium levels will continue to increase. Radionuclide concentrations in groundwater can vary seasonally and over the life of the well but more significantly based on well production.

Table 1: Radionuclide Test Results

Parameter	Units	Well 7		Well 15		Well 16		Well 18		Well 21 ¹	Combined RAW	Entry Point 017
		2016	2019	2016	2019	2016	2019	2017	2019	2019	2019	2019
Gross Alpha	pCi/L	2.7	1.7	3.3	4.2	2.9	3.9	3.9	3.2	6.8	2.4	1.4
Gross Beta	pCi/L	1.9	<3.8	4.6	7.1	6.0	10.0	-	7.0	9.9	5.7	4.5
Radium-226	pCi/L	0.8	0.7	1.3	2.2	1.5	2.2	1.0	1.6	1.6	1.5	0.9
Radium-228	pCi/L	1.2	3.8	3.1	4.5	3.3	4.4	4.2	4.4	5.0	4.7	3.1
Combined Radium	pCi/L	2.0	4.5	4.4	6.7	4.8	6.6	5.2	6.0	6.6	6.2 ²	4.0
Uranium	µg/L	-	0.6	-	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	1.4

¹Well 21 tests results from November 28, 2018

²Combined Radium result for Combined RAW does not include flow from Well 21

MITIGATION ALTERNATIVES TO COMPLY WITH CPDWR

Three alternatives to comply with the 5 pCi/L MCL are groundwater blending, groundwater and surface water blending, and treatment. The goal of the blending scenarios is for the raw water radium concentration to be below the MCL prior to entering CWTP, so treatment to remove radium would not be required. The treatment alternative accounts for the radium removal that occurs through the existing treatment processes. These alternatives are evaluated and discussed further in this section.

GROUNDWATER BLENDING

The first alternative includes blending water from the existing groundwater wells with Well 21. As shown in Table 2, flow percentages for each contributing well were calculated from 2019 average production flow rates. Well 15 has the highest radium concentration and the second highest percentage of the total flow, while Well 7 has the lowest radium concentration and the lowest percentage of total flow. These results provide challenges in mitigating radium levels with groundwater blending alone. Groundwater blending would be more feasible using the radium concentrations from 2016, however, calculations were based on 2019 data to best represent the current status.

Table 2: Groundwater Well Flow Rates and Radium Concentrations

Location	Average Flow (gpm)	Combined Radium (pCi/L)	Percent of Total Flow
Well 7	60	4.5	7.3
Well 15	188	6.7	23
Well 16	170	6.6	20.8
Well 18	150	6.0	18.3
Well 21	250 ¹	6.6	30.6
CWTP Combined Influent	818	6.36	100

¹250 gpm is based on Well 21 established pump design criteria

ADVANTAGES AND DISADVANTAGES

Well 7 is the only well containing radium levels less than the MCL, and therefore, the only potential solution is to increase the percentage of flow from Well 7 and decrease flow from all other wells. The 60 gpm from Well 7 would



need to account for majority of the raw water flow for the blending scenario to be successful, which would result in extremely low total flows into CWTP.

In addition, this alternative is challenging due to the unpredictable variations of radium concentrations in the wells. As previously stated, a blending scenario using radium data from 2016 would be a more feasible option, but it does not provide the most reliable or consistent results. The variations of the radium concentrations would prove difficult in determining appropriate blending calculations in real time, as test results take a minimum of 30 days for complete analysis. Routine testing would be required and flow rates adjusted so the concentration into the plant remains below 5 pCi/L. This would require extensive flow monitoring on every source feeding CWTP, which would be costly and result in a large amount of time and effort for both monitoring and reporting. However, if results take 30 days to receive, the delay in adjusting flow rates may result in finished water with radium concentrations above the MCL between test results.

GROUNDWATER AND SURFACE WATER BLENDING

The second alternative includes blending the existing groundwater wells with surface water prior to CWTP. Table 3 shows the calculated percentages needed from surface water, including flow from Well 21. A minimum of 22 percent of the total flow as surface water would be needed to decrease the radium levels at CWTP to be below the MCL. Results were calculated based on current well percentage contributions to the total.

Table 3: Surface water blending scenarios, including Well 21

Surface Water Percentage of Total Flow	Existing Wells Percentage of Total Flow	Radium to CWTP (pCi/L)
0	100	6.36
5.8	94.2	5.99
10.9	89.1	5.67
15.5	84.5	5.37
19.6	80.4	5.11
21.6	78.4	4.99

ADVANTAGES AND DISADVANTAGES

Blending the existing groundwater wells with surface water seems to be a more feasible option as the percentage contribution from surface water is relatively low. In addition, source water supply would be less limiting on the production rates of the plant than the groundwater only blending scenario. However, this option is not currently feasible for the year 2020 as the CWTP is not equipped to treat surface water. The District plans to convert CWTP to a surface water treatment plant by 2021. In addition, the success of this alternative is contingent on having sufficient surface water to maintain the minimum ratio of surface water to groundwater to comply with the 5 pCi/L MCL. Similar to the groundwater blending scenario, blending with surface water would also require extensive routine testing and flow monitoring to adjust the blending scenarios depending on the water quality variations.

TREATMENT

The third alternative includes treating water to remove radium at CWTP, which is already occurring with the existing treatment processes. The CWTP treatment process consists of preoxidation, an adsorption clarifier, and mixed media filtration with the addition of polymer. Chlorine is added prior to the clarifier for disinfection and contact time is achieved through clearwell. The CWTP is equipped to specifically remove iron and manganese, which is achieved with the addition of the permanganate and the adsorption clarifier. The permanganate oxidizes the iron and manganese in



the water to precipitate it out. Concurrently, the radium in the water adsorbs onto the iron and manganese oxides being formed and is removed through the backwash waste stream.

Currently this process is effective in treating the radium levels in the source water to meet the MCL. As shown in Table 4, the entry point to distribution (EP 17) had a combined radium of 4.0 pCi/L for May of 2019, when the raw groundwater radium ranged from 4.5-6.7 pCi/L. Historical test results, indicate combined raw radium levels have ranged between approximately 2 and 6.7 pCi/L while finished radium has ranged between 0.8 pCi/L and 4 pCi/L, demonstrating that CWTP has historically met the finished water MCL of 5 pCi/L.

Table 4: Radionuclide Test Results from May 30, 2019

Parameter	Units	Combined RAW	EP 017
Gross Alpha	pCi/L	2.4	1.4
Gross Beta	pCi/L	5.7	4.5
Radium-226	pCi/L	1.5	0.9
Radium-228	pCi/L	4.7	3.1
Combined Radium	pCi/L	6.2 ²	4.0

¹North outfall test results from October 2, 2019

²Combined Radium result for Combined RAW does not include flow from Well 21

ADVANTAGES AND DISADVANTAGES

This option is advantageous because it provides the most consistent and accurate solution to removing radium from the raw water. This would not alter operation of the raw water sources and would allow for adjustment corresponding to seasonal changes and raw water quality changes throughout the year. However, the WTP is limited on how much radium can be removed with the existing processes. If the raw radium levels continue to increase, additional treatment options may need to be evaluated. Informing CDPHE that radium is removed through the existing treatment processes provides the District with the most flexibility for operating raw water sources.

TENORM REGULATIONS

In addition to meeting a combined radium MCL for the finished water, CWTP and SWTP will soon need to meet a radium limit for residuals created in the backwash waste. The Colorado State Legislature passed Senate Bill 18-245 in June of 2018 which allowed CDPHE to create a regulation to provide guidelines and establish procedures for the safe management of TENORM, for final approval in November of 2020. The draft regulation was published on May 4, 2020. Table 5 summarizes the additional upcoming milestones in 2020 for the proposed regulation process.

Table 5: Implementation Schedule for TENORM Regulation

Milestone	Date
Draft regulation published – open 60 day comment period	May 4, 2020
Stakeholder Meetings	May to June, 2020
Close of Comment Period	June 15, 2020
Revised draft regulation published – open 30 day comment period	July 1, 2020
Final Stakeholder Meeting held in Denver	Mid July, 2020
Close of Comment Period	August 1, 2020
Board of Health Rulemaking Hearing	November 18, 2020

Under the new draft TENORM regulations, criteria was established on disposal policy, reporting, testing, registration, and general guidance for the control and release of TENORM. Any producer of materials containing TENORM is considered exempt if the TENORM concentrations fall below the limits established in the regulation, which includes a



maximum concentration of 5 pCi/g for radium 226 and 5 pCi/g for radium 228. Any facility that is not exempt, must make a TENORM determination to evaluate whether that material is subject to the applicable requirements established in the regulation. TENORM determination includes characterization of the materials through sampling plans and analysis. If the facility's determination concludes that it is not exempt, they must register with CDPHE. Registrants can fall under three separate categories; generator, beneficial reuse, or a disposal facility, of which the registration procedures and guidelines vary.

Water treatment plants that have waste streams containing radium 226 or radium 228 levels exceeding 5 pCi/g, would register as generators. The water treatment plant would register with CDPHE once initially and annually as long as it still falls under the category of not exempt, each time with a corresponding fee. Initial registration would be required within 90 days of any activity involving TENORM, such as, generation, possession, or disposal. The registration process would require: a description of the process that generates TENORM; an analysis of TENORM volumes and concentrations present; description of routine or non-routine maintenance that involves handling of TENORM; and records of any spills or releases that occurred in the prior year. As a registrant, CDPHE would require trainings for any employees whose assigned activities may involve exposure to radioactive material. In addition, CDPHE may incorporate additional requirements and conditions with respect to registrant's receipt, possession, use, transfer, or disposal of radioactive material as it deems appropriate or necessary to minimize danger or exposure to public health, safety, or property, and to prevent loss or theft of the material.

A requirement for a registrant is to dispose of TENORM in accordance with the regulation. After production of TENORM, a water plant can store materials that contain between 5 to 500 pCi/g each in dry weight of Ra-226 and Ra-228 prior to disposal. Once ready for disposal, the registrant must dispose of TENORM at a commercial waste facility or other disposal facility registered with CDPHE or authorized to receive such material. A water treatment plant can also send their waste streams into the sanitary sewer if the receiving wastewater treatment facility (WWTF) has capacity to handle the radium levels and has given authorized approval. If the stored TENORM has a dry weight in excess of 50 pCi/g and contains greater than 10-percent solids, there are additional requirements to ensure minimal contact of the material. In this case, all handling will be required to be performed by a licensed provider, indoor air radon monitoring will be required if the materials are being stored in an occupied workspace, and radiation dose rate surveys will need to be conducted.

The final aspect to registering as a TENORM generator includes the record keeping. The facility must maintain records of receipt, transfer and disposal of TENORM as long as the material is possessed and for three years following and must be available to CDPHE for inspection during work hours. These records include date of transport, identity of registrant and transporter, location of pickup site, type and volume of wastes, name and location of recipient or disposal site, and training records of each employee currently employed and the previous three years. In addition, all analytical data, lab reports, volume of materials, waste profiles, and indoor radon monitoring will be required for record keeping.

CONSIDERATIONS

There are currently limited options for the District to avoid becoming a TENORM registrant. Laboratory analyses were performed for a backwash sample from CWTP on April 3, 2020. The results of that analysis were 47.8 pCi/g for Ra-226 and 55.5 pCi/g for Ra-228. From these results it is likely that CWTP will be required to register through CDPHE. However, further testing is required to better determine how the radium levels vary and fluctuate throughout the year and with different plant flows.

Registering would require the District follow the requirements established by the regulation for a registered WTP generator, as discussed above. The District would need to develop a residuals management plan, which would identify



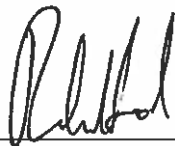
all residuals generated at CWTP and SWTP by the treatment processes, outline intermediate processing and handling of residuals, and specify ultimate disposal methods. The CWTP could continue to discharge its backwash waste to sanitary sewer with approval from the WWTF.

If the District registers as a generator, there is potential to terminate registration in the future. A registrant can be terminated and no longer have to follow regulation guidelines through determination of CDPHE. This evaluation would include ensuring that the TENORM is no longer being generated above the exempt level, TENORM material has been properly disposed of, reasonable effort has been made to eliminate residual radioactive contamination, and CDPHE approved controls have been implemented to limit public doses, if applicable. If the generator is confident that these apply and would no longer be required to register, they may provide written notification to CDPHE and CDPHE would then conduct the evaluation to determine if termination is applicable.

CONCLUSION AND NEXT STEPS

Overall, converting the CWTP to a surface water treatment plant would be beneficial in mitigating radium levels in the combined source water and the residuals, and it could help mitigate other high parameters such as iron and manganese. Informing CDPHE that radium is being removed through the existing treatment processes offers more operational flexibility than blending raw water to maintain a combined raw water concentration below the MCL.

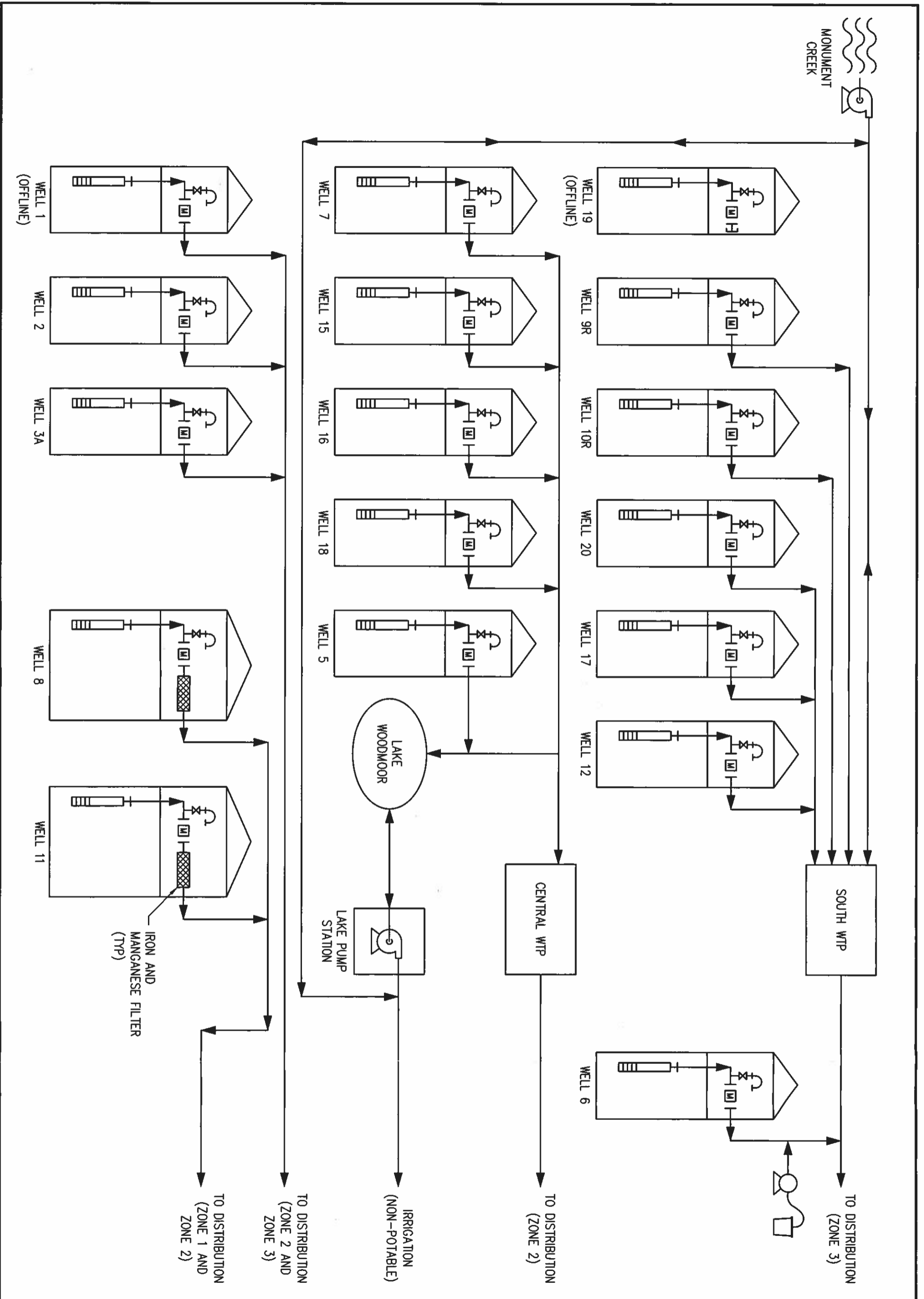
The CWTP will likely be required to register with CDPHE as a TENORM generator. However, further radionuclide testing for the backwash waste and residuals is recommended to better understand the overall radionuclide levels in the residuals sent to the WWTF. JVA will work with the District to collect and evaluate more residual samples at CWTP.

Signed: 
Richard Hood, P.E.

Copies to:
Randy Gillette, WWSD
Ariel Hacker, WWSD
Gary Potter, WWSD
Josh McGibbon, JVA
Kelsey Traxinger, JVA

Attachments:
Raw Water Flow Schematic

ATTACHMENT – RAW WATER FLOW SCHEMATIC



RAW WATER FLOW SCHEMATIC
WOODMOOR WSD
FEBRUARY 2020



JVA, Inc.
 1512 Larimer Street, Suite 710
 Denver, CO 80202
 303.444.1951
 www.jva|va.com
 Boulder • Fort Collins • Winter Park
 Glenwood Springs • Denver



www.jvajva.com

Boulder
1319 Spruce Street
Boulder, CO 80302
303.444.1951

Fort Collins
213 Linden Street
Suite 200
Fort Collins, CO 80524
970.225.9099

Winter Park
PO Box 1860
47 Cooper Creek Way
Suite 328
Winter Park, CO 80482
970.722.7677

Glenwood Springs
817 Colorado Avenue
Suite 301
Glenwood Springs, CO
81601
970.404.3100

Denver
1512 Larimer Street
Suite 710
Denver, CO 80202
303.444.1951

T E C H N I C A L M E M O

TO:	<u>Mr. Jessie Shaffer, P.E.</u>	DATE:	<u>May 5, 2020</u>
FIRM:	<u>Woodmoor Water and Sanitation District No. 1</u>	JOB NO.:	<u>1051.5e</u>
ADDRESS:	<u>1845 Woodmoor Drive</u> <u>Monument, CO 80132</u>	PROJECT:	<u>Central Water Treatment Plant Improvements</u>
		SUBJECT:	<u>Preliminary Design Memo</u>

The Woodmoor Water and Sanitation District No. 1 (District) owns and operates a non-transient, community water system (PWSID No. CO0121950) that serves communities in unincorporated El Paso County, east of Monument, Colorado. The District's existing water system consists of 23 groundwater wells, a surface water diversion structure, a surface water/groundwater diversion structure, three abandoned wells, two centralized water treatment plants, individual treatment systems for Wells 8 and 11, raw water storage, a surface water exchange system, two booster pumping stations and three potable water storage tanks.

The Central Water Treatment Plant (CWTP) consists of a treatment area, a chemical storage and feed room, a chlorine storage room, a blower/compressor room, an office with laboratory, and a maintenance area/equipment garage. The CWTP is equipped with three Microfloc® Trident® filters, each with a capacity of approximately 0.576 million gallons per day (MGD). The current total capacity is 1.728 MGD and firm capacity is 1.152 MGD. Disinfection is accomplished using chlorine gas. A process flow diagram, identifying key components at the CWTP, is presented in Figure 1.

This memorandum summarizes the preliminary design considerations for proposed improvements at the CWTP. The improvements include the following:

- Pretreatment System Improvements
 - o Install raw water flow equalization and piping
 - o Optimize iron and manganese removal
- Treatment Unit Improvements
 - o Add filter to waste
 - o Add air scour to filters
 - o Replace media and header lateral underdrains
 - o Install a combined filter effluent turbidimeter
- Disinfection
 - o Verify disinfection for surface water
- Chemical Feed and Storage
 - o Add chemical storage and feed systems to treat surface water
 - o Replace the existing gaseous chlorine system with an onsite chlorine generator
 - o Install improvements for H-Occupancy code compliance

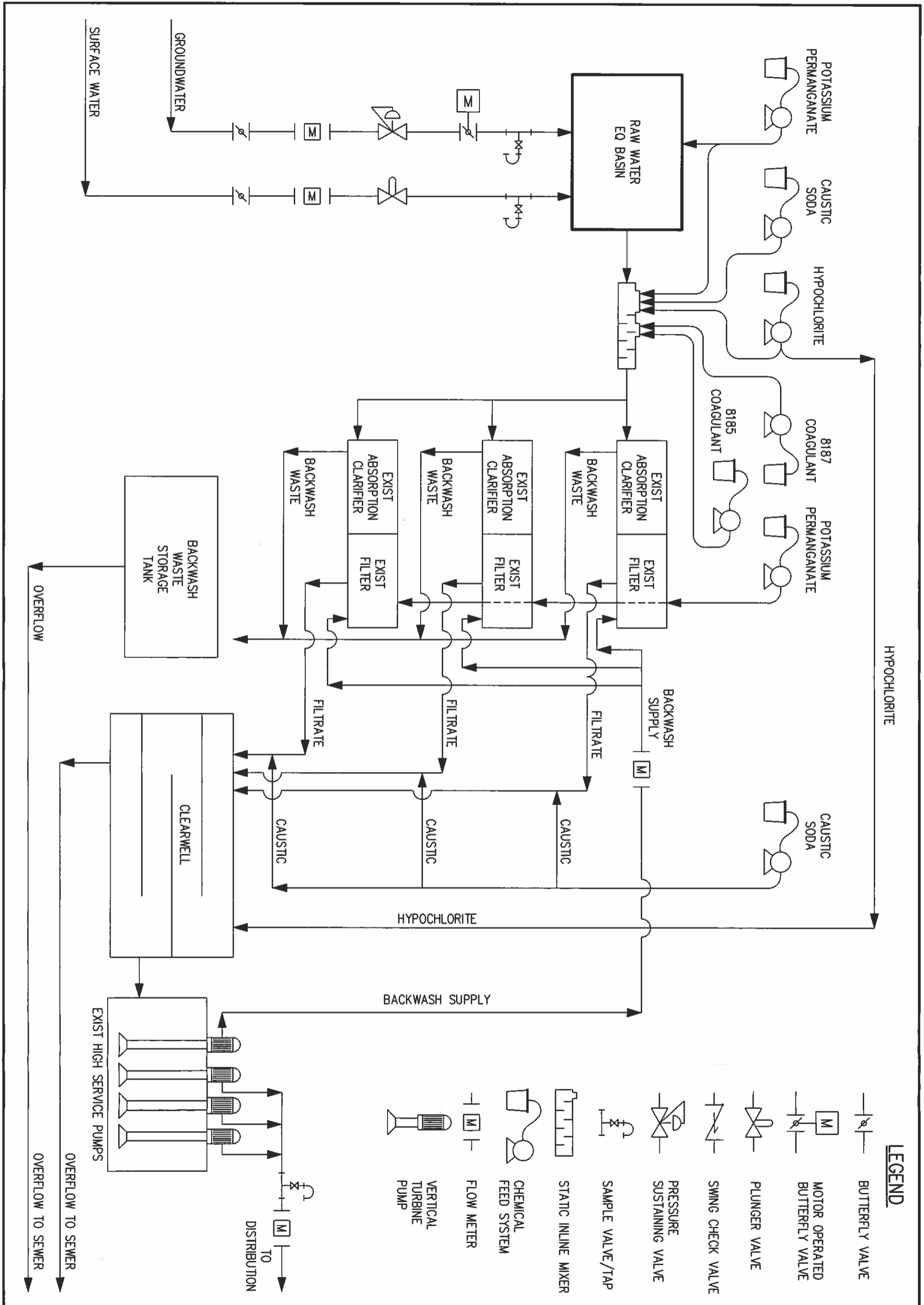


FIGURE 1 - PROCESS FLOW DIAGRAM
WOODMOOR WSD CENTRAL WTP
APRIL 2020



PROJECT PURPOSE AND NEED

The District desires to utilize the CWTP for treatment of both groundwater and surface water. The CWTP is currently designed and approved by the Colorado Department of Public Health and Environment (CDPHE) for treatment of groundwater. Additional improvements will be necessary to meet the minimum regulatory requirements for surface water treatment.

EXISTING TREATMENT PROCESSES

Water enters the CWTP through a 10-inch raw waterline, then flows through a static mixer where chlorine, potassium permanganate, and caustic soda are injected. The flow is then split between the three packaged treatment units, which each consists of an adsorption clarifier and a mixed media filter. Coagulant can be injected immediately prior to each packaged treatment unit. In each unit, water flows up through the adsorption clarifier, then down through the mixed media filter. Potassium permanganate is currently dosed into the top of each mixed media filter; coagulant can also be dosed in this location if desired. The filtrate from each packaged treatment unit is injected with caustic soda before combining in the clearwell for disinfection. Chlorine is injected into the clearwell using a diffuser located on the floor of the clearwell. High service pumps then send the finished water into the distribution system.

Each of the packaged treatment units is configured for automatic adsorption and filtration media flush and backwash cycles. During the adsorption media flush, both air scour and raw water is introduced to expand the media for washing and wasting. During the filter backwash cycle, flow is reversed, and chlorinated water is pumped up through the mixed media filter by backwash pumps located in the clearwell. Both cleaning cycles discharge to the waste storage tank.

PROPOSED IMPROVEMENTS

The District plans to implement raw water equalization (EQ) and blending to optimize pretreatment, install ancillary equipment to comply with direct filtration, convert to the same disinfection method as the South Water Treatment Plant (SWTP), and optimize the chemical feed and storage systems. Improvements will be designed to comply with CDPHE Water Quality Control Division Policy 5: State of Colorado Design Criteria for Potable Water Systems (Design Criteria). To convert the CWTP from a groundwater treatment plant to a surface water treatment plant, the District must first optimize pretreatment.

PRETREATMENT SYSTEM IMPROVEMENTS

The District plans to install a raw water EQ tank to blend groundwater and surface water upstream of the CWTP. The raw water EQ tank allows for the two sources to completely mix, providing consistent water quality to the downstream treatment processes. Instrumentation and valving will be installed to monitor or control flow from each source. Sample taps will be installed for compliance testing.

The District uses potassium permanganate to oxidize iron and manganese. The oxidized iron and manganese precipitates and is removed through the clarification and filtration processes in the treatment units. The Design Criteria requires 30 minutes of contact time. To comply with the required contact time at 1.728 MGD, the minimum volume of the raw water EQ tank will be 36,000 gallons. The potassium permanganate feed system is evaluated with other chemicals later in this memo.



To accomplish the above goals, three alternative pretreatment configurations were evaluated along with the advantages and disadvantages. The three alternatives are summarized below.

1. Below-Grade Pretreatment at CWTP:
 - Construct a below-grade raw water EQ tank at the CWTP
 - Expand the existing CWTP building to house pumps, valving, and ancillary equipment
 - Utilize transfer pumps to overcome system head
2. Below-Grade Pretreatment at Deer Creek Road:
 - Construct a below-grade raw water EQ tank at Deer Creek Road
 - Construct a new building on top of the tank to house valving and ancillary equipment
 - Utilize gravity to feed the treatment units
3. Above-Grade Pretreatment at CWTP:
 - Construct an above-grade raw water EQ tank at the CWTP
 - Install valving and ancillary equipment within the existing CWTP footprint
 - Utilize gravity to feed the treatment units

Each pretreatment alternative includes various upgrades to the existing CWTP that are required for H-occupancy code compliance and that allow for increased chemical storage capacities. The upgrades required for H-occupancy code compliance are discussed later in the *Chemical Feed and Storage Improvements* section of the report. Each of the pretreatment alternatives is described in further detail in the following section. A hydraulic profile of each pretreatment alternative is presented in Appendix A. An Opinion of Probable Cost (OPC) was developed for each pretreatment alternative and is provided in Appendix B.

PRETREATMENT ALTERNATIVE 1: BELOW-GRADE PRETREATMENT AT CWTP

The first pretreatment alternative is to match the existing configuration at the SWTP. This alternative would involve constructing a below-grade raw water EQ tank and expanding the existing CWTP building to house pumps, equipment, piping, and valves. The pumps would transfer water from the raw water EQ tank to the packaged treatment units.

Based on 30 minutes of contact time at the maximum buildout flow rate of the CWTP, the volumetric design basis for the raw water EQ tank is 36,000 gallons. Approximately 4,800 cubic feet is required to achieve this volume of storage. The existing clearwell at the CWTP has a water level 8-feet deep, so this will be used as the design basis for the depth of the raw water EQ tank. A below-grade tank with a useable volume 20-feet wide, 40-feet long, and 8-feet deep would provide sufficient chemical contact time for pretreatment. Additional volume could be provided if the District required further operating flexibility.

A 20-foot by 40-foot raw water EQ tank and pretreatment system would be attached to the existing CWTP, as shown in Figure 2. There is clear space to the north of the existing CWTP building that has a flat grade conducive to a building expansion. The building expansion would house the groundwater and surface water control valves, transfer pumps, and ancillary equipment.

The existing groundwater transmission line enters the east side of the CWTP building; this line could easily be routed to the new raw water EQ tank with little disruption to operations. A new surface water transmission line would be installed down the driveway from Deer Creek Road to the raw water EQ tank.



Pumps would transfer water from the raw water EQ tank to the treatment units. The design flow rate for each transfer pump would be controlled by the operator for a set treatment flow rate. Based on the treatment capacity of each packaged treatment unit (400 gpm) the calculated horsepower of each transfer pump is 10 HP. The pumps would operate in a duty/duty/standby configuration. This triplex pumping configuration would have a firm capacity of 800 gpm.

The total cost for Pretreatment Alternative No. 1 is approximately \$2.73M, which includes the upgrades required for H-occupancy code compliance. An OPC is provided for reference in Appendix B.

PRETREATMENT ALTERNATIVE 1 ADVANTAGES AND DISADVANTAGES

This alternative has the following advantages:

- Familiar operating configuration
- Existing maintenance area is preserved

This alternative has the following disadvantages:

- Highest cost
- Pretreatment building location may block snowplow access
- Higher operation and maintenance costs due to transfer pumps
- Sitework is challenging due to excavation adjacent to existing clearwell and waste tank

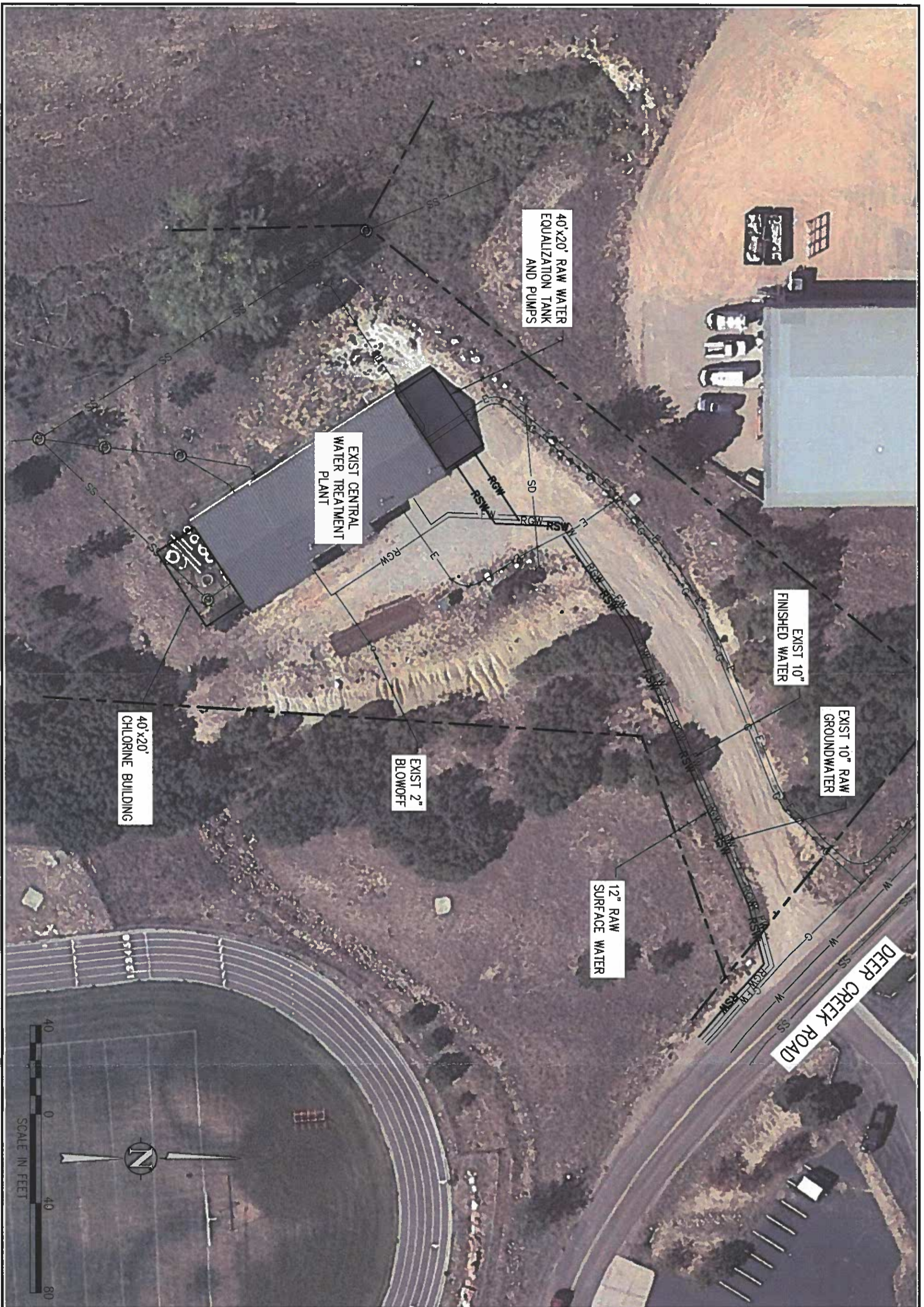


FIGURE 2 - PRETREATMENT ALTERNATIVE NO. 1
WOODMOOR WSD CENTRAL WTP
APRIL 2020



PRETREATMENT ALTERNATIVE 2: BELOW-GRADE PRETREATMENT AT DEER CREEK ROAD

The second pretreatment alternative is to install a pretreatment system at Deer Creek Road. This alternative would involve constructing a below-grade raw water EQ tank and a pretreatment building at the top of the hill near Deer Creek Road, allowing for gravity flow to the CWTP.

A raw water EQ tank and pretreatment system could be constructed near the entrance to the driveway for the CWTP, southwest of the intersection with Deer Creek Road, as shown in Figure 3. This portion of land is owned by both the District and Lewis-Palmer School District 38. The District has a good working relationship with Lewis-Palmer School District 38 and could partner with the adjacent Lewis-Palmer Middle School to provide raw water for irrigation use in return for utilizing the shared parcel of land.

Aerial satellite imagery shows approximately 7,500 square feet of clear space at the proposed site. A below-grade raw water EQ tank approximately 25-feet wide and 30-feet long would provide enough contact time for pretreatment. A building with the same footprint could be constructed above the raw water EQ tank for piping, valves, and chemical feed systems.

Based on the 1993 CWTP As-Built Drawings (As-Built), the elevation difference between existing grade of the proposed EQ tank location and the existing packaged treatment units is approximately 16.8 feet. Constructing the EQ tank partially above grade would provide sufficient pressure to overcome the frictional headloss in the pipeline to the treatment units. Minor improvements to raw water valves and piping would reduce frictional headloss and lower the height of the tank. The final height of the tank will be confirmed during detailed design but is not anticipated to be greater than 15-feet above grade. A site survey will be needed to confirm elevations.

The raw water EQ tank inlet piping would tie-in to the existing groundwater transmission line on Deer Creek Road. The new surface water transmission line would be routed to the raw water EQ tank. Water from the raw water EQ tank could flow by gravity and connect to the existing groundwater transmission line to the CWTP.

The total cost for Pretreatment Alternative No. 2 is approximately \$2.57M, which includes the upgrades required for H-occupancy code compliance. An OPC is provided for reference in Appendix B.

PRETREATMENT ALTERNATIVE 2 ADVANTAGES AND DISADVANTAGES

This alternative has the following advantages:

- Existing maintenance area is preserved
- Less site disturbance due to least site piping
- Lower operations and maintenance due to gravity flow
- Opportunity for collaboration with local school district

This alternative has the following disadvantages:

- Pretreatment building is not attached to the CWTP
- Pretreatment building partially on school property may require easements

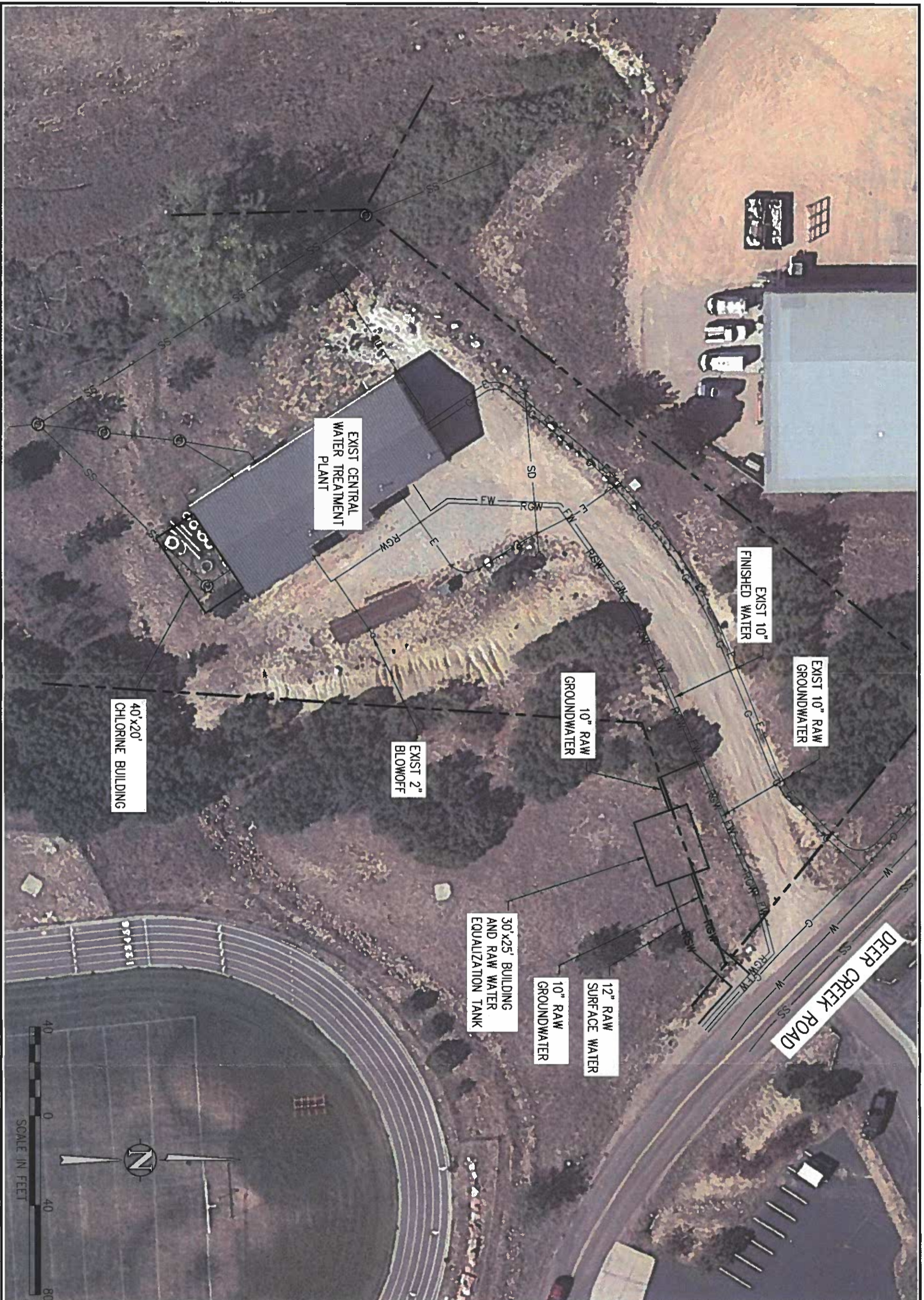


FIGURE 3 - PRETREATMENT ALTERNATIVE NO. 2
WOODMOOR WSD CENTRAL WTP
APRIL 2020



JVA, Inc.
1512 Larimer Street, Suite 710
Denver, CO 80202
303.444.1951
www.jvajva.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver



PRETREATMENT ALTERNATIVE 3: ABOVE-GRADE PRETREATMENT AT CWTP

The third pretreatment alternative is to install an above-grade pretreatment system at the CWTP. This alternative would involve constructing an above-grade raw water EQ tank north of the existing CWTP building, as shown in Figure 4. The groundwater and surface water transmission mains would be routed to the existing maintenance area on the north end of the CWTP. Pretreatment equipment, piping, and valves would be located in the existing maintenance area. This alternative would utilize gravity to supply water to the treatment units.

The raw water EQ tank must be tall enough to provide sufficient static head to overcome the frictional headloss of the treatment system. Based on the As-Builts, the minimum water level in the raw water EQ tank for gravity flow to the CWTP is 7140.8 feet. A 14-foot diameter tank would provide enough contact time for pretreatment. Based on a minimum water level of 7140.8 feet, a 2-foot operating depth, and an assumed 2-feet of freeboard between the high-water level and top of tank, the raw water EQ tank would be approximately 28-feet tall.

The total cost for Pretreatment Alternative No. 3 is approximately \$2.20M, which includes the upgrades required for H-occupancy code compliance. An OPC is provided for reference in Appendix B.

PRETREATMENT ALTERNATIVE 3 ADVANTAGES AND DISADVANTAGES

This alternative has the following advantages:

- Lowest cost
- Lower operations and maintenance due to gravity flow

This alternative has the following disadvantages:

- Raw water EQ tank location blocks snowplow access
- Operational constraints due to high minimum water level in raw water EQ tank
- Existing maintenance area must be used for pretreatment equipment, piping, and valves

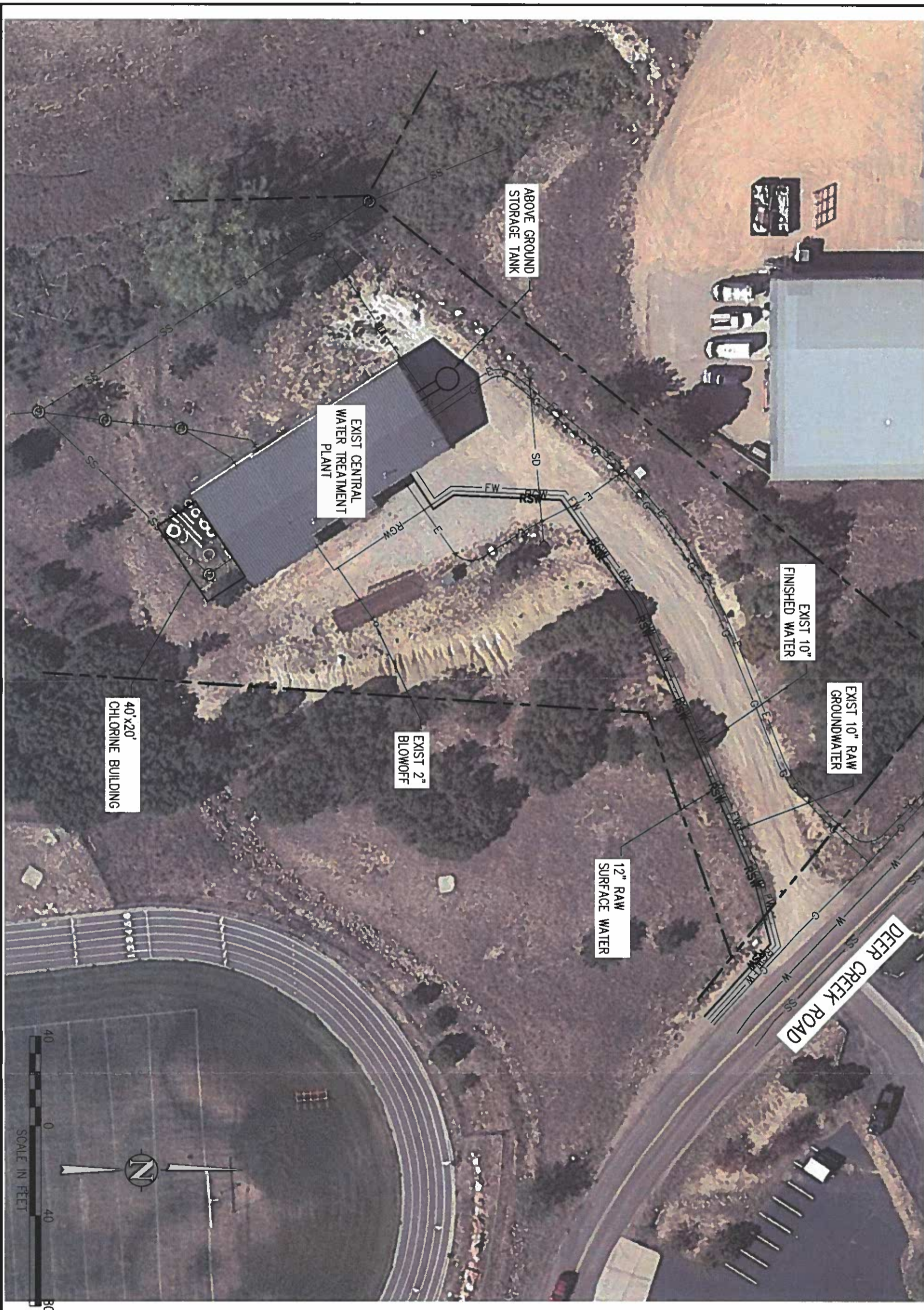


FIGURE 4 - PRETREATMENT ALTERNATIVE NO. 3
WOODMOOR WSD CENTRAL WTP
APRIL 2020



JVA, Inc.
1512 Larimer Street, Suite 710
Denver, CO 80202
303.444.1951
www.jvajva.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver



TREATMENT UNIT IMPROVEMENTS

Various improvements to the existing filters are described in the following section. Goble Sampson Associates provided a quote for WesTech to rehabilitate the existing Trident® packaged treatment units, which is provided for reference in Appendix C. The budget price to rehabilitate all three packaged treatment units (including the addition of air scour and filter to waste), change out the filter media, replace the underdrains, sandblast and recoat each packaged treatment unit, and upgrade the control panel is approximately \$320,000, which does not include installation or construction. These costs are included in each of the pretreatment OPCs, which are provided for reference in Appendix B.

FILTER TO WASTE

The existing Trident® filters are not currently equipped with filter to waste piping. Under the current operating configuration, after the filters complete the backwash cycle the filters are immediately placed into service, resulting in a short turbidity spike. The addition of filter to waste piping will allow the District to send this first slug of filter water to the waste storage tank following each backwash cycle, improving overall finished water quality. The proposal from WesTech includes a 6-inch filter to waste connection with a modulating control valve for each of the three filters.

AIR SCOUR

The existing Trident® filters are not currently equipped with an air scour system. Under the current operating configuration, the filters media is cleaned during the backwash cycle using a revolving surface wash system. The addition of an air scour system will allow the District to achieve more effective backwash results while also conserving water during each backwash cycle.

The proposal from WesTech includes an air scour grid (4-inch schedule 40 PVC header with slotted laterals on 8-inch centers), a flanged tank connection, a check valve, and a pneumatic control valve for each of the three filters. A new blower would be installed for air scour. The blower would be rated for 140 standard cubic feet per minute (scfm) at 4.1 PSG with a 7.5 HP motor. The blower includes an air intake filter with dirty filter indicator, a pressure safety relief valve, a check valve, and a blower pressure indicator.

FILTER MEDIA AND UNDERDRAINS

Replacement of the clarifier and filter media is recommended to convert the units to surface water treatment. The proposal includes adsorption clarifier media for each adsorption clarifier. The proposal includes anthracite, silica sand, and garnet for the three mixed media filters. The proposal currently indicates installation of header lateral underdrains and air scour grids for each treatment unit. This improvement has since been upgraded to include installation of multiblock underdrains which eliminates the need for an air scour grid or gravel support and allows for greater bed expansion during backwash for more effective cleaning cycles. The capital cost to upgrade to the multiblock underdrains is approximately \$6,000 with additional labor required for installation, but the benefits realized from a more effective air scour process justify the price when compared to the total cost of treatment unit improvements.



DISINFECTION SYSTEM IMPROVEMENTS

Since the CWTP currently only treats groundwater, the disinfection system does not need to meet Giardia inactivation requirements. This section evaluates the existing clearwell to verify sufficient volume to achieve Giardia inactivation as required by Regulation 11 for surface water treatment. The existing treatment process is direct filtration and is given a 2-log credit for Giardia inactivation. A total of 3-log inactivation must be achieved. The remaining 1-log Giardia inactivation is accomplished through contact time (CT) with chlorine. Factors affecting Giardia inactivation include CT, water pH, water temperature, and chlorine residual.

EXISTING CT EVALUATION

The Record of Approved Waterworks (RAW) issued by CDPHE on February 25, 2020 lists a minimum chlorine residual of 1.7 mg/L with a pH no greater than 8.6 and a temperature of no less than 13 degrees Celsius to demonstrate adequate disinfection at SWTP. For consistent operations and conservative design parameters, the criteria used for CT calculations at the CWTP are a pH of 8.6, a temperature of 13 degrees Celsius, and a baffling factor of 0.6. Full CT calculations are provided for reference in Appendix D.

The existing clearwell at the CWTP has a capacity of approximately 107,000 gallons. The Disinfection Outreach Verification Effort (DOVE) inspection by CDPHE at the SWTP resulted in a clearwell baffling factor reduction to 0.6. The baffling factor relates to the total clearwell volume that can be used for the CT calculation. With a baffling factor of 0.6, 60 percent of the volume, or 64,200 gallons, is used to calculate the CT required to inactivate Giardia.

Disinfection was calculated based on a chlorine residual of 2.0 mg/L and 1.7 mg/L and flow of 1,200 gpm. With a chlorine residual of 2.0 mg/L, the minimum depth in the clearwell would be approximately 4.8 feet. At the minimum chlorine residual of 1.7 mg/L, the minimum depth in the clearwell would be approximately 5.6 feet. The total water depth in the clearwell is 8 feet. These scenarios reflect worst case conditions for temperature, pH, and CWTP flow, so additional operating volume could be obtained by continuously monitoring and calculating CT. During the winter months, when the CWTP treats only groundwater and is not required to disinfect for Giardia, there is sufficient volume to achieve the required 4-log virus inactivation.

CHEMICAL FEED AND STORAGE IMPROVEMENTS

Chemical dosing at the CWTP was estimated based on historical usage at the CWTP and existing usage at the SWTP since both plants will use the same surface water and chemicals. To ensure that the chemical pumps are sized sufficiently for peak demand, the design basis for each chemical dosing pump was determined based on the maximum dosing rate at the total flowrate of the CWTP. Chemical storage is recommended for a minimum 30-day supply during peak demand. The total chemical storage for a peak summer month was estimated as the demand for 30 days at 80 percent of the CWTP's total buildout capacity.



A summary of the anticipated peak demand and the minimum storage recommended at CWTP is presented for each chemical in Table 1. Chemical feed and storage calculations are provided for reference in Appendix E.

Table 1: Chemical Feed and Storage Summary

Chemical	Peak Demand	Chemical Feed	Minimum Storage	Chemical Tank*
Potassium Permanganate	2.8 gal/hr	New duplex pumps rated for 3 gph	210 gallons (3 days)	One new 230-gallon solution tank
8185 Coagulant	2.2 gal/hr	New duplex pumps rated for 3 gph	1,300 gallons (30 days)	Three new 475-gallon storage tanks
8187 Coagulant	0.2 gal/hr	New duplex pumps rated for 0.5 gph	130 gallons (30 days)	One new 325-gallon storage tank
Caustic Soda	0.2 gal/hr	New duplex pumps rated for 0.5 gph	120 gallons (30 days in winter)	Two existing 1,000-gallon storage tanks
Sodium Hypochlorite	30.3 gal/hr	New duplex pumps rated for 35 gph	2,200 gallons (3 days)	Two new 1,250-gallon storage tanks

*Recommended chemical tank quantities and sizes are sizes available from recommended manufacturers

Each of the chemicals planned for the CWTP are described in further detail below.

POTASSIUM PERMANGANATE FEED AND STORAGE

Potassium permanganate is a strong oxidant used to oxidize iron and manganese. Potassium permanganate is currently stored and fed at the CWTP using a 225-gallon fiberglass reinforced plastic (FRP) solution tank and a chemical feed pump rated for 5 gph. The solution is batched by operations staff into a 2 percent solution. The As-built lists a design dose range of 0-0.8 mg/L. Potassium permanganate is currently dosed at the inlet to the CWTP and in the mixed media filters.

Operations staff currently target a 0.95 gph dosing rate at the SWTP which results in an approximately 0.51 mg/L strength solution. Peak demand for potassium permanganate occurs during the summer months. To meet peak demand at the maximum summer flow rate of 1.73 MGD and the maximum target dose of 0.8 mg/L, the CWTP would require a chemical metering pump rated for at least 2.8 gph. Two new chemical feed pumps rated for 3 gph each are recommended for redundancy. While the existing chemical feed pump has sufficient capacity to dose potassium permanganate at the CWTP, it will be repurposed as a shelf-spares due to its age and condition.

Dry potassium permanganate is delivered to the District in 55-lb pails and is mixed with house water by operations staff in the existing 225-gallon solution tank to a 2-percent solution. A solution tank with at least 3-days storage is recommended to accommodate a long weekend of unsupervised water treatment. At the maximum target dose of 0.8 mg/L, the minimum recommended storage capacity for the potassium permanganate solution tank at the CWTP is approximately 210 gallons. The existing potassium permanganate solution tank is therefore sufficiently sized to accommodate peak demand. However, due to the age and condition of the existing tank, a new tank will be installed. Approximately 277 pounds of dry potassium permanganate will be needed during the peak month, resulting in storage for approximately six 55-lb pails, or one 330-lb drum.

ULTRION 8185 PRIMARY COAGULANT FEED AND STORAGE

Ultron 8185 is a coagulant that is used to coagulate colloidal solids in the raw water prior to clarification. The CWTP is currently equipped with a 250-gallon bulk FRP solution tank and a chemical feed pump rated for 75 gpd (3.125 gph). Coagulant can be dosed prior to the adsorption clarifiers and in the mixed media filters to help coagulate organics and inorganics into large enough particles to be removed by clarification and filtration.



Operations staff currently target a 0.90 gph dosing rate at the SWTP which results in an approximately 2.98 mg/L strength solution. Peak demand for Ultrion 8185 occurs during the summer months. To estimate peak demand at the CWTP, a target dose of 3.75 mg/L was selected. To meet peak demand at the maximum flow rate of 1.73 MGD and the target dose of 3.75 mg/L, the CWTP would require a chemical metering pump rated for at least 2.2 gph. For sufficient redundancy, the CWTP should be supplied with a duplex chemical metering pump skid rated for 3.0 gph.

Chemical storage is recommended for a minimum 30-day supply during peak demand. The total chemical storage for a peak summer month was estimated as the demand for 30 days at 80 percent of the CWTP's total buildout capacity. To meet peak demand at the target dose of 3.75 mg/L, the CWTP would require at least 1,300 gallons of storage.

ULTRION 8187 SECONDARY COAGULANT FEED AND STORAGE

Ultrion 8187 is a coagulant similar to Ultrion 8185. Ultrion 8187 is currently used at the SWTP to supplement the effects of Ultrion 8185; operations staff noted that Ultrion 8185 performs as a primary coagulant much more effectively when it is combined with Ultrion 8187. The dosing rate for Ultrion 8187 is therefore expected to be lower than that of Ultrion 8185.

Operations staff currently target a 0.10 gph dosing rate at the SWTP which results in an approximately 1.07 mg/L dosing rate. Peak demand for Ultrion 8187 occurs during the summer months when the source is surface water. To estimate peak demand at the CWTP, a target dose of 1.25 mg/L was selected. To meet peak demand at the maximum summer flow rate of 1.73 MGD and the target dose of 1.25 mg/L, the CWTP would require a chemical metering pump rated for at least 0.22 gph. For sufficient redundancy, the CWTP should be supplied with a duplex chemical metering pump system rated for 0.50 gph. While the existing chemical feed pump has sufficient capacity to dose coagulant at the CWTP, it will be repurposed as a shelf-spare due to its age and condition.

Chemical storage is recommended for a minimum 30-day supply during peak demand. The total chemical storage for a peak summer month was estimated as the demand for 30 days at 80 percent of the CWTP's total capacity. To meet peak demand at the target dose of 1.25 mg/L, the CWTP would require at least 130 gallons of storage.

CAUSTIC SODA FEED AND STORAGE

Caustic soda is the common name for sodium hydroxide, which is used to adjust pH. Caustic soda is currently stored and dosed at the CWTP. As-builts list one metering pump rated for 0.4 gph at 50 percent solution, with a target dose range of 0-4 mg/L. Currently, the District uses two chemical metering pumps in duty/standby configuration and uses 25 percent solution. Caustic soda is currently dosed following the filters prior to the clearwell.

Operations staff currently target a 15 mL/min dosing rate at the SWTP which results in an approximately 4.22 mg/L dosing rate for 25 percent solution. Peak demand for caustic soda occurs during the winter when the source is groundwater. To meet peak demand at the maximum winter flow rate of 0.39 MGD and the maximum target dose of 4.00 mg/L, the CWTP would require a chemical metering pump rated for at least 0.20 gph. Two chemical feed pumps are recommended for redundancy.

Chemical storage is recommended for a minimum 30-day supply during peak demand. The total chemical storage for a peak summer month was estimated as the demand for 30 days at 80 percent of the CWTP's total buildout capacity. To meet peak demand at the target dose of 4.00 mg/L, the CWTP would require at least 120 gallons of storage for 25 percent solution. The District plans to reuse the two existing 1,000-gallon caustic soda storage tanks, which is sufficient storage for approximately 17-months of caustic soda supply at the peak month demand of 120 gallons.



SODIUM HYPOCHLORITE FEED AND STORAGE

The CWTP utilizes chlorine gas for preoxidation and disinfection, with a target dose range of 0-5 mg/L. Chlorine gas presents a health safety hazard to operations staff and will be replaced with an onsite sodium hypochlorite generation system. Sodium hypochlorite is a strong oxidant used for oxidation of organic matter and disinfection. Sodium hypochlorite is currently used at the SWTP.

The maximum chlorine residual currently maintained at the SWTP is 2.25 mg/L. The latest DOVE inspection indicated approximately 1.0 mg/L of chlorine demand in the distribution system. Therefore, the design dose used for CT calculations at the CWTP is 3.25 mg/L. Peak demand for sodium hypochlorite occurs during the summer months. To meet peak demand at the maximum summer flow rate of 1.73 MGD and the maximum target dose of 3.25 mg/L, the CWTP would require a chemical metering pump rated for at least 30.3 gph. For sufficient redundancy, the CWTP should be supplied with a duplex chemical metering pump skid rated for 35 gph.

The District anticipates installing the PSI Microclor® MC-60 On-Site Hypochlorite Generation System at the CWTP. At the maximum summer flow rate of 1.73 MGD and the design dose of 3.25 mg/L, the CWTP would require approximately 46.9 lbs of FAC per day. The MC-60 unit is capable of producing up to 60 pounds of free available chlorine (FAC) each day, which is sufficient to satisfy peak demand. This hypochlorite generation unit is the same manufacturer planned for the SWTP; both units have interchangeable components which only requires one set of spare parts and allows for more consistent operations between the two treatment plants. The system consists of a skid-mounted hypochlorite generation unit with a transformer and control panel, a hydrogen dilution blower, and a dual tank water softener for a total cost of approximately \$112,000 (which includes a 20 percent markup for installation). These costs are incorporated in each of the pretreatment alternative OPCs, which are provided for reference in Appendix B. A proposal for the MC-60 unit is provided for reference in Appendix F.

Chemical storage is typically recommended for a minimum 30-day supply during peak demand; however, since sodium hypochlorite will be produced onsite, at least 3-days of storage is recommended to accommodate a long weekend of unsupervised water treatment. At the design dose of 3.25 mg/L, the minimum recommended storage capacity for sodium hypochlorite storage at the CWTP is approximately 2,500 gallons.

CHEMICAL STORAGE CONSIDERATIONS FOR H-OCCUPANCY

The Pikes Peak Regional Building Department (PPRBD) must review and approve the structural design improvements prior to issuing a building permit. The PPRBD currently uses the 2015 International Building Code (IBC) as the standard for structural code compliance. Buildings that contain a sufficient volume of hazardous materials posing a physical or health hazard are classified by the 2015 IBC as a high-hazard occupancy (H-occupancy) space due to the increased dangers and complications related to fire safety and the relative hazards involved.

According to the 2015 IBC, caustic soda and sodium hypochlorite meet the definition of corrosive materials. The maximum allowable storage quantity for corrosives is 500 liquid gallons per control area. The 2015 IBC also states that "maximum allowable quantities shall increase by 100 percent in buildings equipped throughout with an approved automatic sprinkler system." Corrosive storage greater than 1,000-gallons per control area will result in an H-4 occupancy classification. Required code improvements to satisfy H-4 occupancy standards include an emergency power generator with automatic transfer switch (ATS); an automatic fire detection system; an automatic fire sprinkler system throughout the CWTP; additional emergency alarms; 3-hour fire-resistance rated fire walls, fire doors, and fire window assemblies; liquid-tight and noncombustible floors in storage areas; and a constant-flow emergency mechanical ventilation system.



The District requested pricing for two chemical storage alternatives. The first alternative is to install an automatic fire sprinkler system throughout the entire CWTP to accommodate 1,000-gallons of storage for both caustic soda and sodium hypochlorite. The second alternative is to undergo all required code improvements to satisfy the H-4 occupancy classification requirements, which would accommodate additional storage for both caustic soda and sodium hypochlorite. The two alternatives are summarized below and discussed further in the following sections.

- Alternative 1: 1,000-gallon storage option with automatic fire sprinklers
 - Add fire sprinklers throughout the CWTP to increase allowable storage capacity
 - One 1,000-gallon caustic soda storage tank located in the caustic soda room
 - Add double door to install existing storage tank
 - Modify conflicting electrical and HVAC equipment
 - One 1,000-gallon sodium hypochlorite storage tank located in the maintenance area
 - Install two redundant chlorine generation units
 - Plug floor drains
 - Coat floor for corrosion control
- Alternative 2: 2,500-gallon storage option with H-occupancy improvements
 - Improvements required for H-occupancy classifications:
 - Install fire sprinklers throughout the CWTP
 - Provide backup power generator with automatic transfer switch
 - Upgrade walls, doors, and ceilings for 3-hour fire rating
 - Install constant-flow emergency HVAC exhaust system
 - Coat floors for liquid-tight, noncombustible construction
 - Two 1,000-gallon caustic soda storage tanks located in the caustic soda room
 - Add double door to install existing storage tanks
 - Modify conflicting electrical and HVAC equipment
 - Expand caustic soda room southwest to utilize the spare hallway in the chemical feed area
 - Two 1,250-gallon sodium hypochlorite storage tanks located in the maintenance area
 - Install one chlorine generation unit
 - Plug floor drains
 - Remove double door between maintenance area and treatment area

The estimated cost savings to only install sprinklers is approximately \$30,000. Based on the operations benefits of having additional storage capacity to address equipment failures, the District would prefer to upgrade the sodium hypochlorite and caustic rooms to comply with H-occupancy.

CHEMICAL STORAGE CONSIDERATIONS FOR CHEMICAL COMPATIBILITY

The Environmental Protection Agency (EPA) published a reference document, *Incompatible Chemicals Storage*, which provides guidance on chemical compatibility and best practices for chemical storage at a water treatment plant. The EPA recommends storing chemicals from different incompatibility groups in separate areas.

Ultrion 8185 and Ultrion 8187 can be stored in the same area. Since a larger volume of coagulant storage is required than is currently available, the space currently used for potassium permanganate solution makeup and feed could be repurposed for coagulant storage and feed. This area would provide sufficient space for three 475-gallon storage tanks and one duplex chemical feed pump skid for Ultrion 8185 and one 325-gallon storage tank and one duplex chemical feed pump skid for Ultrion 8187. The existing containment curb between the coagulant and potassium permanganate areas could remain in place to provide separation between the two coagulants.



Potassium permanganate should be stored separately from the other chemicals. The pretreatment building could house the potassium permanganate solution makeup, feed, and storage equipment. The pretreatment building has sufficient space for a new 230-gallon solution tank and provides a convenient centralized location for the potassium permanganate system. Additional bulk storage of dry potassium permanganate tablets and pails could be provided at the CWTP if needed.

The existing caustic soda storage and feed system is currently located on the east side of the chemical feed area. There are two approximately 1,000-gallon caustic soda storage tanks in the northeast corner of the chemical feed area that are in good condition and could continue to be used for caustic soda storage. Since caustic soda is not chemically compatible with the coagulants in the chemical feed area, the caustic soda system could be relocated to the existing chlorine room. The existing door to the chlorine room is only 3-feet wide, so a double door would be installed to accommodate the 1,000-gallon storage tanks; there is conflicting electrical and HVAC equipment that will have to be moved to install the double door.

There are two alternatives to house the sodium hypochlorite generation, storage, and feed equipment. The first alternative is to expand the existing building. The second alternative is to repurpose the existing maintenance area on the north side of the CWTP for sodium hypochlorite generation, storage, and feed. A plan view showing the layout of chemical storage and feed equipment for the existing chemical feed area and the building expansion for sodium hypochlorite is presented in Figure 5. An alternative plan view showing the existing maintenance area with a layout of chemical generation, storage, and feed equipment for sodium hypochlorite is presented in Figure 6.

HYPOCHLORITE ALTERNATIVE 1: BUILDING EXPANSION

A building expansion is the first alternative to house the sodium hypochlorite room. A 20-foot by 40-foot building expansion would provide sufficient space to house the sodium hypochlorite generation, storage, and feed equipment, as shown in Figure 5. The hypochlorite building expansion would contain two 1,500-gallon storage tanks within a secondary containment area on the southwest side of the room. The northeast side of the room is planned for salt storage and the brine tank adjacent to a coiling overhead door on the northeast wall. A new loading dock could be installed along on the northeast wall of the room to facilitate salt delivery. The new hypochlorite room could be connected to the existing CWTP by installing a door from the existing chemical feed area through the southeast wall of the CWTP into the hypochlorite room.

This alternative would upgrade the CWTP for H-occupancy code compliance to allow for increased caustic soda and sodium hypochlorite storage capacities. The following improvements would be conducted for H-occupancy code compliance:

- Install backup power generator with ATS for emergency systems
- Install fire sprinklers throughout the CWTP and hypochlorite building expansion
- Install fire detection systems in the caustic soda room and hypochlorite building
- Install constant-flow emergency HVAC exhaust systems in the caustic soda room and hypochlorite building
- Upgrade walls, ceilings, and doors of the caustic soda room and hypochlorite building for 3-hour fire rating
- Coat the caustic soda room and hypochlorite building floors for liquid-tight, noncombustible construction

The District would prefer to save costs by avoiding a building expansion for hypochlorite. The District could realize approximately \$240,000 in cost savings by repurposing the maintenance area instead and has subsequently eliminated this alternative from consideration.

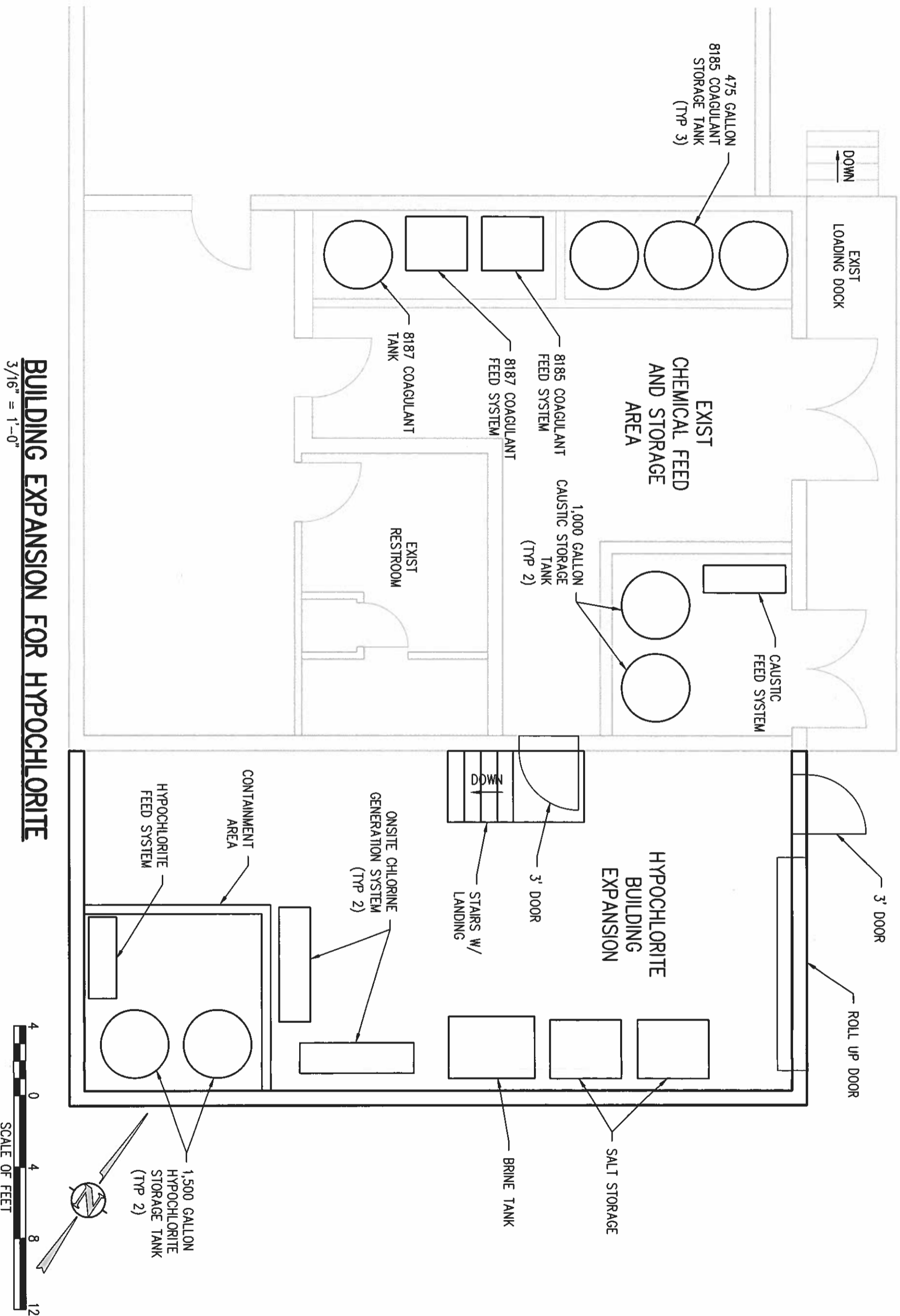


FIGURE 5 - HYPOCHLORITE ALTERNATIVE NO. 1
 WOODMOOR WSD CENTRAL WTP
 APRIL 2020



JVA, Inc.
 1512 Larimer Street, Suite 710
 Denver, CO 80202
 303.444.1951
 www.jvajva.com
 Boulder • Fort Collins • Winter Park
 Glenwood Springs • Denver



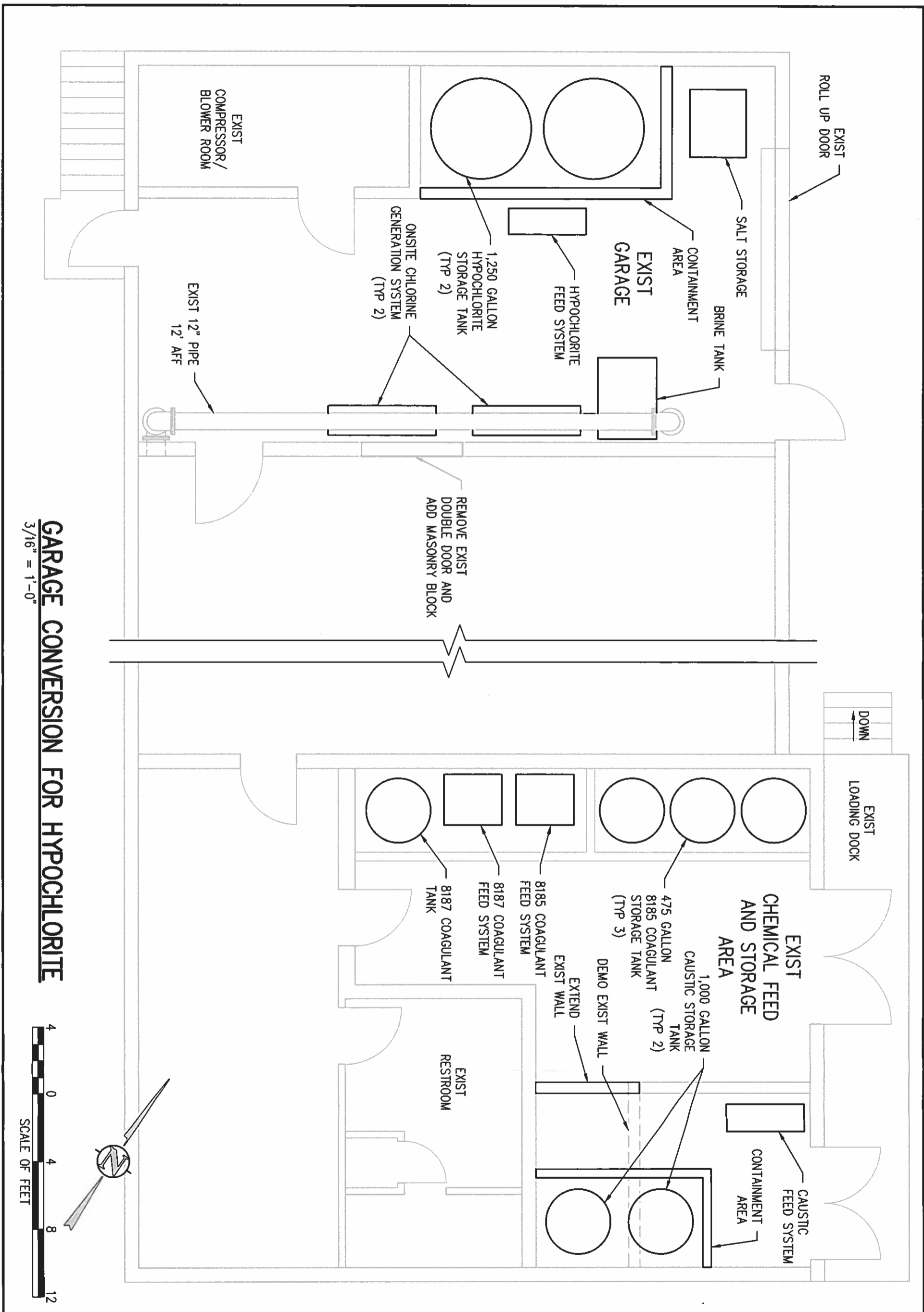
HYPPOCHLORITE ALTERNATIVE 2: REPURPOSE MAINTENANCE AREA

The second alternative for the sodium hypochlorite generation, storage, and feed equipment is to repurpose the existing maintenance area on the north end of the CWTP, as shown in Figure 6. This space is approximately 700 square feet, not including the blower/compressor room. The maintenance area could contain two 1,250-gallon sodium hypochlorite storage tanks, the hypochlorite feed system, and salt storage along the north wall of the room between the blower/compressor room and the coiling overhead door. The brine tank could be located in the room adjacent to the sodium hypochlorite generation system(s) beneath the finished water discharge pipe. A single sodium hypochlorite generation unit could be installed since 2,500-gallons amounts to three days of storage to complete maintenance or repairs on the unit.

One benefit of repurposing this space is that the maintenance area is already equipped with a coiling overhead door and a monorail beam to facilitate salt delivery and handling. The drawback of repurposing this space is that the District loses a maintenance area and may need to construct an additional garage to house maintenance equipment. However, constructing a new standalone maintenance garage would be less expensive than expanding the existing CWTP building for a new sodium hypochlorite room. Furthermore, the District may be able to provide a maintenance area in the new pretreatment building near Deer Creek Road, if this pretreatment alternative is selected.

This alternative would upgrade the CWTP for H-occupancy code compliance to allow for increased caustic soda and sodium hypochlorite storage capacities. The following improvements would be conducted for H-occupancy code compliance:

- Install backup power generator with ATS for emergency systems
- Install fire sprinklers throughout the CWTP
- Install fire detection systems in the caustic soda room and maintenance area
- Install constant-flow emergency HVAC exhaust systems in the caustic soda room and maintenance area
- Upgrade walls, ceilings, and doors of the caustic soda room and maintenance area for 3-hour fire rating
- Coat the caustic soda room and maintenance area floors for liquid-tight, noncombustible construction



GARAGE CONVERSION FOR HYPOCHLORITE
 3/16" = 1'-0"

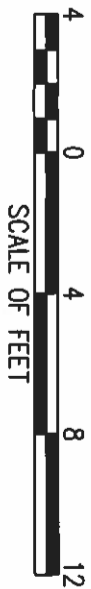


FIGURE 6 - HYPOCHLORITE ALTERNATIVE NO. 2
WOODMOOR WSD CENTRAL WTP
APRIL 2020



ADDITIONAL IMPROVEMENTS

For surface water treatment filters, CDPHE requires turbidity monitoring of individual filter effluent (IFE) and the combined filter effluent (CFE) from all treatment filters. The sample point for CFE is required to be as close as possible to the point where the filtrate from each unit mixes. Compliance turbidimeters will be installed.

The existing flow meter is a McCrometer brand propeller style meter that has reached the end of useful life. The existing flow meter will be replaced with a magnetic flow meter. The preferred location for the new finished water flow meter is in the vertical pipe next to the door to the treatment room which would have full pipe flow through the meter for the most accurate flow measurement possible.

RECOMMENDATION AND NEXT STEPS

Pretreatment Alternative No. 1 is the highest priced pretreatment option available and would result in increased operations and maintenance efforts for the transfer pumps. While Pretreatment Alternative No. 3 is the cheapest pretreatment option available, the increased operations and maintenance required for the tall water storage tank is a concern. Pretreatment Alternative No. 2 is recommended at this time since it can supply raw water to the treatment units via gravity, has the least operations and maintenance requirements, and meets the remainder of the District's needs.

A building expansion for sodium hypochlorite is not recommended at this time. Repurposing the existing maintenance area is recommended to reduce costs and use the space within the existing building. Funds that would have been used for a building expansion could instead be allocated to construct a new maintenance garage at the pretreatment building near Deer Creek Road. Converting the new sodium hypochlorite room and the new caustic room to H-occupancy is recommended to comply with building code regulations.

The next steps anticipated to implement the recommended improvements are outlined below in Table 2.

Table 2: Anticipated Implementation Schedule


Task	Anticipated Date
Select Alternatives	Complete
30 Percent Design Drawings	June 5, 2020
Draft Drinking Water Design Submittal	August 7, 2020
Submit Drinking Water Design to CDPHE	August 19, 2020



A Drinking Water Design Submittal will need to be submitted to and approved by CDPHE to convert the CWTP to a surface water treatment plant. The Drinking Water Design Submittal consists of the below items:

1. Basis of Design Report (BDR) including:
 - a. Service area information including existing and future population estimates and per capita consumption
 - b. Analysis of water quality data
 - c. Identification of contamination sources
 - d. Hydraulic Profile
 - e. Process flow diagram
 - f. Capacity evaluation and design calculations
 - g. Monitoring and sampling evaluation
 - h. Geotech Report (required for building expansion)
 - i. Residuals Plan
 - j. Impacts to corrosivity
 - k. Preliminary plan of operation
2. Application for Construction Approval Form
3. 60 percent plans and technical specifications
4. Implementation plan and schedule
5. NSF 61 certifications
6. Opinion of probable cost

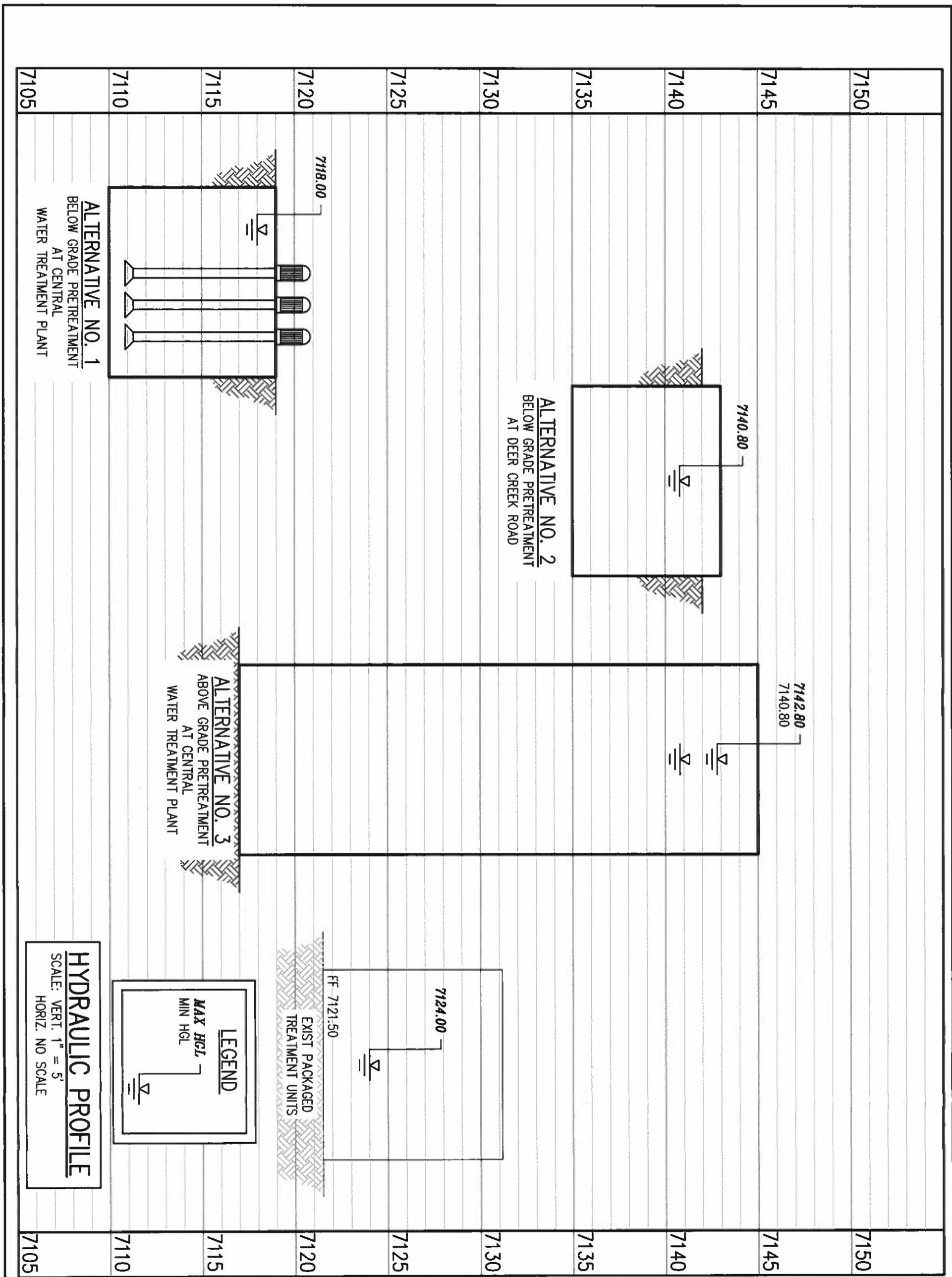
JVA intends to deliver a draft Drinking Water Design Submittal to the District for review on August 7, 2020 and submit to CDPHE on August 19, 2020. CDPHE approval is anticipated within 2-3 months.

Signed: 
Richard Hood, P.E.

Copies to:
Randy Gillette, WWSD
Ariel Hacker, WWSD
Gary Potter, WWSD
Josh McGibbon, JVA
Peter Hassinger, JVA



APPENDIX A – PRETREATMENT ALTERNATIVES HYDRAULIC PROFILE



**APPENDIX A - PRETREATMENT ALTERNATIVES
HYDRAULIC PROFILE
WOODMOOR WSD CENTRAL WTP
MAY 2020**



JVA, Inc.
1512 Larimer Street, Suite 710
Denver, CO 80202
303.444.1951
www.jvajva.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver



APPENDIX B – OPINIONS OF PROBABLE COST



Job Name: WWSD CWTP Improvements
 Job Number: 1051.5e
 Date: 4/30/2020
 By: PMH/RAH

**OPINION OF PROBABLE COST
 FOR
 WWSD CENTRAL WATER TREATMENT PLANT IMPROVEMENTS
 PRETREATMENT ALTERNATIVE NO. 1
 BELOW-GRADE PRETREATMENT AT CWTP**

Description	Quantity	Units	Unit Cost	Total Cost
Division 02 - Sitework				
Erosion and Sedimentation Control	1	LS	\$3,000	\$3,000
Sitework and Excavation	1	LS	\$25,000	\$25,000
Dewatering	1	LS	\$20,000	\$20,000
Relocate Existing Site Piping	1	LS	\$40,000	\$40,000
10" PVC C900	30	LF	\$200	\$6,000
12" PVC C900	285	LF	\$150	\$42,800
Driveway Repair	1	LS	\$5,000	\$5,000
Remove Exist Doors, Frames, and Walls at CWTP	1	LS	\$3,600	\$3,600
Sitework Subtotal				\$145,400
Division 03 - Concrete				
20' x 40' Below-Grade Raw Water Equalization Tank	110	CY	\$1,200	\$132,000
Secondary Containment Curbs	35	LF	\$50	\$1,800
Concrete Subtotal				\$133,800
Division 04 - Masonry				
20' x 40' Pretreatment Building Expansion north of CWTP	800	SF	\$200	\$160,000
8-inch Masonry Block for expanded Caustic Soda Room	94	SF	\$15	\$1,500
10-inch Masonry Block for Maintenance Area	64	SF	\$18	\$1,200
Masonry Subtotal				\$162,700
Division 05 - Metals				
3-Hr Fire-Rated Ceiling over expanded Caustic Soda Room	206	SF	\$15	\$3,100
3-Hr Fire-Rated Ceiling over Maintenance Area	960	SF	\$15	\$14,400
Metals Subtotal				\$17,500
Division 08 - Doors and Windows				
3-Hr Fire-Rated Single Metal Door with Hardware	4	EA	\$2,000	\$8,000
3-Hr Fire-Rated Double Metal Door with Hardware	1	EA	\$3,550	\$3,600
Doors and Windows Subtotal				\$11,600



Job Name: WWSD CWTP Improvements
 Job Number: 1051.5e
 Date: 4/30/2020
 By: PMH/RAH

**OPINION OF PROBABLE COST
 FOR
 WWSD CENTRAL WATER TREATMENT PLANT IMPROVEMENTS
 PRETREATMENT ALTERNATIVE NO. 1
 BELOW-GRADE PRETREATMENT AT CWTP**

Description	Quantity	Units	Unit Cost	Total Cost
Division 09 - Painting				
Building, Pipe, and Valve Coatings	1	LS	\$15,000	\$15,000
Sandblast and Recoat Existing Packaged Treatment Units	3	EA	\$40,000	\$120,000
Caustic Soda Room Floor Coating	206	SF	\$12	\$2,500
Maintenance Area Floor Coating	960	SF	\$12	\$11,600
Paint New Masonry Block	316	SF	\$8	\$2,400
Paint New Metal Doors	252	SF	\$8	\$1,900
Painting Subtotal				\$153,400
Division 11 - Equipment				
Triplex Raw Water Transfer Pumps	1	LS	\$80,000	\$80,000
Packaged Treatment Unit Improvements	1	LS	\$366,000	\$366,000
Onsite Chlorine Generation - Microclor® MC-60	1	LS	\$112,080	\$112,100
1,250 Gallon Sodium Hypochlorite Storage Tank	2	EA	\$10,000	\$20,000
Chemical Systems (Storage, Tubing, Fittings, and Injection)	1	LS	\$40,000	\$40,000
Equipment Subtotal				\$618,100
Division 15 - Mechanical				
PCV for Groundwater Pipeline	1	EA	\$15,000	\$15,000
BFV for Groundwater Pipeline with Electric Actuator	1	EA	\$8,000	\$8,000
FCV for Surface Water Pipeline	1	EA	\$28,000	\$28,000
Process Piping, Valves, Fittings, and Appurtenances	1	LS	\$75,000	\$75,000
Fire Suppression and Control System with Emergency Alarms	1	LS	\$40,000	\$40,000
HVAC Improvements	1	LS	\$25,000	\$25,000
Mechanical Subtotal				\$191,000
Division 16 - Electrical				
Electrical	1	LS	\$100,000	\$100,000
Flow Meter (Groundwater & Surface Water)	3	EA	\$12,000	\$36,000
Instrumentation and Controls	1	LS	\$150,000	\$150,000
Transfer Pump VFDs	3	EA	\$15,000	\$45,000
Generator and ATS (Sized for Emergency Systems Only)	1	EA	\$60,000	\$60,000
Electrical Subtotal				\$391,000

Subtotal	\$1,824,500
Contingency (20%)	\$365,000
General Conditions (8%)	\$146,000
Contractor's OH&P (12%)	\$263,000
Construction Total	\$2,599,000
Bidding and Construction Administration (5%)	\$130,000
Project Total	\$2,729,000



Job Name: WWSD CWTP Improvements
 Job Number: 1051.5e
 Date: 4/30/2020
 By: PMH/RAH

**OPINION OF PROBABLE COST
 FOR
 WWSD CENTRAL WATER TREATMENT PLANT IMPROVEMENTS
 PRETREATMENT ALTERNATIVE NO. 2
 BELOW-GRADE PRETREATMENT AT DEER CREEK ROAD**

Description	Quantity	Units	Unit Cost	Total Cost
Division 02 - Sitework				
Erosion and Sedimentation Control	1	LS	\$3,000	\$3,000
Sitework and Excavation	1	LS	\$25,000	\$25,000
Dewatering	1	LS	\$20,000	\$20,000
Relocate Existing Site Piping	1	LS	\$25,000	\$25,000
10" PVC C900	130	LF	\$150	\$19,500
12" PVC C900	50	LF	\$200	\$10,000
Remove Exist Doors, Frames, and Walls at CWTP	1	LS	\$3,600	\$3,600
Sitework Subtotal				\$106,100
Division 03 - Concrete				
25' x 35' Below-Grade Raw Water Equalization Tank	115	CY	\$1,200	\$138,000
Secondary Containment Curbs	35	LF	\$50	\$1,800
Concrete Subtotal				\$139,800
Division 04 - Masonry				
25' x 35' Pretreatment Building at Deer Creek Road	875	SF	\$200	\$175,000
8-inch Masonry Block for expanded Caustic Soda Room	94	SF	\$15	\$1,500
10-inch Masonry Block for Maintenance Area	64	SF	\$18	\$1,200
Masonry Subtotal				\$177,700
Division 05 - Metals				
3-Hr Fire-Rated Ceiling over expanded Caustic Soda Room	206	SF	\$15	\$3,100
3-Hr Fire-Rated Ceiling over Maintenance Area	960	SF	\$15	\$14,400
Metals Subtotal				\$17,500
Division 08 - Doors and Windows				
3-Hr Fire-Rated Single Metal Door with Hardware	4	EA	\$2,000	\$8,000
3-Hr Fire-Rated Double Metal Door with Hardware	1	EA	\$3,550	\$3,600
Doors and Windows Subtotal				\$11,600



Job Name: WWSD CWTP Improvements
 Job Number: 1051.5e
 Date: 4/30/2020
 By: PMH/RAH

**OPINION OF PROBABLE COST
 FOR
 WWSD CENTRAL WATER TREATMENT PLANT IMPROVEMENTS
 PRETREATMENT ALTERNATIVE NO. 2
 BELOW-GRADE PRETREATMENT AT DEER CREEK ROAD**

Description	Quantity	Units	Unit Cost	Total Cost
Division 09 - Painting				
Building, Pipe, and Valve Coatings	1	LS	\$15,000	\$15,000
Sandblast and Recoat Existing Packaged Treatment Units	3	EA	\$40,000	\$120,000
Caustic Soda Room Floor Coating	208	SF	\$12	\$2,500
Maintenance Area Floor Coating	960	SF	\$12	\$11,600
Paint New Masonry Block	316	SF	\$8	\$2,400
Paint New Metal Doors	252	SF	\$8	\$1,900
Painting Subtotal				\$153,400
Division 11 - Equipment				
Packaged Treatment Unit Improvements	1	LS	\$366,000	\$366,000
Onsite Chlorine Generation - Microclor® MC-60	1	LS	\$112,080	\$112,100
1,250 Gallon Sodium Hypochlorite Storage Tank	2	EA	\$10,000	\$20,000
Chemical Systems (Storage, Tubing, Fittings, and Injection)	1	LS	\$40,000	\$40,000
Equipment Subtotal				\$538,100
Division 15 - Mechanical				
PCV for Groundwater Pipeline	1	EA	\$15,000	\$15,000
BFV for Groundwater Pipeline with Electric Actuator	1	EA	\$8,000	\$8,000
FCV for Surface Water Pipeline	1	EA	\$28,000	\$28,000
Process Piping, Valves, Fittings, and Appurtenances	1	LS	\$60,000	\$60,000
Fire Suppression and Control System with Emergency Alarms	1	LS	\$40,000	\$40,000
HVAC Improvements	1	LS	\$25,000	\$25,000
Mechanical Subtotal				\$176,000
Division 16 - Electrical				
Electrical	1	LS	\$150,000	\$150,000
Flow Meter (Groundwater & Surface Water)	3	EA	\$12,000	\$36,000
Instrumentation and Controls	1	LS	\$150,000	\$150,000
Generator and ATS (Sized for Emergency Systems Only)	1	EA	\$60,000	\$60,000
Electrical Subtotal				\$396,000

Subtotal	\$1,716,200
Contingency (20%)	\$343,000
General Conditions (8%)	\$137,000
Contractor's OH&P (12%)	\$247,000
Construction Total	\$2,443,000
Bidding and Construction Administration (5%)	\$122,000
Project Total	\$2,565,000



Job Name: WWSD CWTP Improvements
 Job Number: 1051.5e
 Date: 4/30/2020
 By: PMH/RAH

**OPINION OF PROBABLE COST
 FOR
 WWSD CENTRAL WATER TREATMENT PLANT IMPROVEMENTS
 PRETREATMENT ALTERNATIVE NO. 3
 ABOVE-GRADE PRETREATMENT AT CWTP**

Description	Quantity	Units	Unit Cost	Total Cost
Division 02 - Sitework				
Erosion and Sedimentation Control	1	LS	\$3,000	\$3,000
Sitework and Excavation	1	LS	\$15,000	\$15,000
Dewatering	1	LS	\$20,000	\$20,000
Relocate Existing Site Piping	1	LS	\$25,000	\$25,000
10" PVC C900	130	LF	\$150	\$19,500
12" PVC C900	50	LF	\$200	\$10,000
Raw Water EQ Tank (14-ft diameter, 35-ft tall)	1	LS	\$100,000	\$100,000
Remove Exist Doors, Frames, and Walls at CWTP	1	LS	\$3,600	\$3,600
Sitework Subtotal				\$196,100
Division 03 - Concrete				
Foundation for Above-Grade Raw Water Equalization Tank	30	CY	\$847	\$25,500
Secondary Containment Curbs	35	LF	\$50	\$1,800
Concrete Subtotal				\$27,300
Division 04 - Masonry				
8-inch Masonry Block for expanded Caustic Soda Room	94	SF	\$15	\$1,500
10-inch Masonry Block for Maintenance Area	64	SF	\$18	\$1,200
Masonry Subtotal				\$2,700
Division 05 - Metals				
3-Hr Fire-Rated Ceiling over expanded Caustic Soda Room	208	SF	\$15	\$3,100
3-Hr Fire-Rated Ceiling over Maintenance Area	960	SF	\$15	\$14,400
Metals Subtotal				\$17,500
Division 08 - Doors and Windows				
3-Hr Fire-Rated Single Metal Door with Hardware	4	EA	\$2,000	\$8,000
3-Hr Fire-Rated Double Metal Door with Hardware	1	EA	\$3,550	\$3,600
Doors and Windows Subtotal				\$11,600



Job Name: WWSD CWTP Improvements
 Job Number: 1051.5e
 Date: 4/30/2020
 By: PMH/RAH

**OPINION OF PROBABLE COST
 FOR
 WWSD CENTRAL WATER TREATMENT PLANT IMPROVEMENTS
 PRETREATMENT ALTERNATIVE NO. 3
 ABOVE-GRADE PRETREATMENT AT CWTP**

Description	Quantity	Units	Unit Cost	Total Cost
Division 09 - Painting				
Building, Pipe, and Valve Coatings	1	LS	\$15,000	\$15,000
Sandblast and Recoat Existing Packaged Treatment Units	3	EA	\$40,000	\$120,000
Caustic Soda Room Floor Coating	206	SF	\$12	\$2,500
Maintenance Area Floor Coating	960	SF	\$12	\$11,600
Paint New Masonry Block	316	SF	\$8	\$2,400
Paint New Metal Doors	252	SF	\$8	\$1,900
Painting Subtotal				\$153,400
Division 11 - Equipment				
Packaged Treatment Unit Improvements	1	LS	\$366,000	\$366,000
Onsite Chlorine Generation - Microclor® MC-60	1	LS	\$112,080	\$112,100
1,250 Gallon Sodium Hypochlorite Storage Tank	2	EA	\$10,000	\$20,000
Chemical Systems (Storage, Tubing, Fittings, and Injection)	1	LS	\$40,000	\$40,000
Equipment Subtotal				\$538,100
Division 15 - Mechanical				
PCV for Groundwater Pipeline	1	EA	\$15,000	\$15,000
BFV for Groundwater Pipeline with Electric Actuator	1	EA	\$8,000	\$8,000
FCV for Surface Water Pipeline	1	EA	\$28,000	\$28,000
Process Piping, Valves, Fittings, and Appurtenances	1	LS	\$60,000	\$60,000
Fire Suppression and Control System with Emergency Alarms	1	LS	\$40,000	\$40,000
HVAC Improvements	1	LS	\$25,000	\$25,000
Mechanical Subtotal				\$176,000
Division 16 - Electrical				
Electrical	1	LS	\$100,000	\$100,000
Flow Meter (Groundwater & Surface Water)	3	EA	\$12,000	\$36,000
Instrumentation and Controls	1	LS	\$150,000	\$150,000
Generator and ATS (Sized for Emergency Systems Only)	1	EA	\$60,000	\$60,000
Electrical Subtotal				\$346,000

Subtotal	\$1,468,700
Contingency (20%)	\$294,000
General Conditions (8%)	\$117,000
Contractor's OH&P (12%)	\$212,000
Construction Total	\$2,092,000
Bidding and Construction Administration (5%)	\$105,000
Project Total	\$2,197,000

**RESOLUTION OF
THE BOARD OF DIRECTORS OF THE
WOODMOOR WATER AND SANITATION DISTRICT NO. 1
GRANTING CORPORATE AUTHORIZATION
RESOLUTION NO. 20-04**

At a regular meeting of the Board of Directors of the Woodmoor Water and Sanitation District No. 1, El Paso County, Colorado, at 1:00 P.M., on Monday, May 11, 2020, pursuant to emergency meeting procedures, at which a quorum participated remotely through electronic means, the following resolution was adopted:

WHEREAS, the Woodmoor Water and Sanitation District No. 1 (the "District") was organized as a special district pursuant to an Order of the District Court in and for the County of El Paso, Colorado, dated August 5, 1964 and is located within El Paso County; and

WHEREAS, the Board of Directors of the District (collectively referred to as the "Board" or individually as "Director(s)") has a duty to perform certain obligations in order to assure the efficient operation of the District; and

WHEREAS, pursuant to Section 32-1-1001(1)(d)(I), C.R.S., the District may enter into contracts and agreements affecting the affairs of the District; and

WHEREAS, the District has accounts on deposit with Integrity Bank and Trust, which bank has requested the Board adopt an updated corporate authorization resolution.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE WOODMOOR WATER AND SANITATION DISTRICT NO. 1 AS FOLLOWS:

1. The Board directs management to cooperate with Integrity Bank and Trust and prepare an accurate form of Corporate Authorization Resolution, which shall be attached hereto and made a part hereof.
2. The President and Treasurer of the Board, along with the District Manager and District Accountant are hereby authorized to sign the Corporate Authorization Resolution.

ADOPTED AND APPROVED THIS 11TH DAY OF MAY, 2020.

WOODMOOR WATER AND SANITATION DISTRICT NO. 1

_____, President

ATTEST:

_____, Secretary

CERTIFICATION

I, _____, Secretary of the Board of the Woodmoor Water and Sanitation District No. 1, do hereby certify that the annexed and foregoing Resolution is a true copy from the records of the proceedings of the Board of said District, on file with the District.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the District, at the County of El Paso, Colorado, this 11th day of May, 2020.

_____, Secretary

Colorado's Water/Wastewater Agency Response Network (CoWARN) Mutual Aid and Assistance Agreement

This Agreement is made and entered into by public and private Water and Wastewater Utilities that have, by executing this Agreement, manifested their intent to participate in Colorado's Water/Wastewater Agency Response Network (CoWARN).

This Agreement is authorized under Sections 24-32-2113 and 24-110-101, et seq., of the Colorado Revised Statutes.

ARTICLE I. PURPOSE

Recognizing that emergencies may require assistance in the form of personnel, equipment, and supplies from outside the area of impact, the signatory utilities established CoWARN. Through CoWARN, Members coordinate response activities and share resources during emergencies. This Agreement sets forth the procedures and standards for the administration of CoWARN.

ARTICLE II. DEFINITIONS

- A. Emergency—A natural or manmade event that is, or is likely to be, beyond the control of the services, personnel, equipment, and facilities of a Member. A shortage of untreated (raw) water, a decline in well yields, or inadequate capacity for treatment or delivery of treated water is not an Emergency.
- B. Member—Any public or private Water or Wastewater Utility that manifests intent to participate in CoWARN by executing this Agreement.
- C. Authorized Official—An employee of a Member that is authorized by the Member's governing board or management to request assistance or offer assistance under this Agreement.
- D. Requesting Member—A Member who requests assistance under CoWARN.
- E. Responding Member—A Member that responds to a request for assistance under CoWARN.
- F. Period of Assistance—A specified period of time when a Responding Member assists a Requesting Member. The period commences when personnel, equipment, or supplies depart from a Responding Member's facility and ends when the resources return to their facility (portal to portal). All protections identified in the Agreement apply during this period. The specified Period of Assistance may occur during response to or recovery from an Emergency, as previously defined.
- G. National Incident Management System (NIMS)—A national, standardized approach to incident management and response that sets uniform processes and procedures for emergency response operations. <http://www.fema.gov/emergency/nims/index.shtm>

ARTICLE III. ADMINISTRATION

CoWARN shall be administered through Regional Committees and a Statewide Committee. The purpose of a Regional Committee is to provide local coordination of CoWARN before, during, and after an Emergency. The Statewide Committee will establish the regions pursuant to its Bylaws. Each Regional Committee, under the

leadership of an elected Chairperson, shall meet at least annually to address CoWARN issues and to review Emergency preparedness and response procedures. The Chairperson of each Regional Committee represents his/her Regional Committee's interests on the Statewide Committee. In addition to representing the interests of the Members, the Statewide Committee includes representatives from the Colorado Department of Public Health and Environment, the Rocky Mountain Section of the American Water Works Association, the Rocky Mountain Water Environment Association, the Colorado Rural Water Association, the Rural Community Assistance Partnership, and the Colorado Department of Local Affairs Division of Emergency Management. Pursuant to its Bylaws, the Statewide Committee may vote to include representatives from additional organizations. Under the leadership of the Chairperson, the Statewide Committee members shall plan and coordinate Emergency planning and response activities for CoWARN.

ARTICLE IV.
REQUESTS FOR ASSISTANCE

- A. *Member Contacts:* Upon execution of this Agreement, Members shall identify an Authorized Official and alternates, provide contact information including 24-hour access, and maintain resource information made available by the Member for mutual aid and assistance response. The Regional Committee Chairperson shall maintain a list of all Members in the respective region and their contact information. The Statewide Committee Chairperson shall maintain a master list of all Members of CoWARN and their contact information, which shall be available to Members at www.cowarn.org.
- B. *Requests for Assistance:* In the event of an Emergency, a Member's Authorized Official may request mutual aid and assistance from participating Members. Requests for assistance can be made orally or in writing. When made orally, the request for personnel, equipment, and supplies shall be prepared in writing as soon as practicable. Requests for assistance shall be directed to the Authorized Officials of the participating Members. The Requesting Member shall provide the participating Members with the following information:
1. a general description of the damage sustained;
 2. the part of the water/wastewater system for which assistance is needed;
 3. the amount and type of personnel, equipment, materials, and supplies needed and a reasonable estimate of the length of time they will be needed;
 4. the present weather conditions and the forecast for the next twenty-four (24) hours;
 5. a specific time and place for a representative of the Requesting Member to meet the personnel and equipment of the Responding Member(s); and
 6. the identification of work conditions and special constraints, such as availability of fuel supplies, lodging/meal support, medical facilities, security, communications, etc.
- C. *Response to a Request for Assistance:* After a Member receives a request for assistance, the Authorized Official evaluates whether resources are available to respond to the request for assistance. Following the evaluation, the Authorized Official shall inform, as soon as possible, the Requesting Member whether it has the resources to respond. If a Member is willing and able to provide assistance, the Member shall provide the Requesting Member with the following information:
1. a complete description of the personnel, equipment and materials to be furnished to the Requesting Member;
 2. the estimated length of time the personnel, equipment and materials will be available;
 3. the work experience and ability of the personnel and the capability of the equipment to be furnished;

4. the name of the person or persons to be designated as supervisory personnel; and
5. the estimated time when the assistance provided will arrive at the location designated by the Authorized Official of the Requesting Member.

D. *Discretion of Responding Member's Authorized Official:* Execution of this Agreement does not create any duty to respond to a request for assistance. When a Member receives a request for assistance, the Authorized Official shall have absolute discretion as to the availability of resources. An Authorized Official's decisions on the availability of resources shall be final.

ARTICLE V.

RESPONDING MEMBER PERSONNEL AND EQUIPMENT

- A. *National Incident Management System (NIMS):* When providing assistance under this Agreement, the Requesting Member and Responding Member shall be organized and shall function under NIMS.
- B. *Control:* The personnel and equipment of the Responding Member shall remain, at all times, under the direct supervision and control of the designated supervisory personnel of the Responding Member. In instances where only equipment is provided by the Responding Member, the ownership of said equipment shall remain with the Responding Member, and said equipment shall be returned to the Responding Member immediately upon request. Representatives of the Requesting Member shall suggest work assignments and schedules for the personnel of the Responding Member; however, the designated supervisory personnel of the Responding Member shall have the exclusive responsibility and authority for assigning work and establishing work schedules for the personnel of the Responding Member. The designated supervisory personnel shall maintain daily personnel time records and a log of equipment hours, be responsible for the operation and maintenance of the equipment furnished by the Responding Member, and report work progress to the Requesting Member.
- C. *Food and Shelter:* The Requesting Member shall supply reasonable food and shelter for Responding Member personnel during the Period of Assistance. If the Requesting Member fails to provide food and shelter for Responding Member personnel, the Responding Member's designated supervisor is authorized to secure the resources necessary to meet the needs of its personnel. The cost for such resources must not exceed the state per diem rates for that area. The Requesting Member remains responsible for reimbursing the Responding Member for all costs associated with providing food and shelter, if the Requesting Member does not provide such resources.
- D. *Communication:* The Requesting Member shall provide Responding Member personnel with radio equipment as available, or radio frequency information, in order to facilitate communications with local responders and utility personnel.
- E. *Status:* Unless otherwise provided by law, the Responding Member's officers and employees retain the same privileges, immunities, rights, duties, and benefits as provided in their respective jurisdictions.
- F. *Licenses and Permits:* To the extent permitted by law, Responding Member personnel who hold licenses, certificates, or permits evidencing professional, mechanical, or other skills shall be allowed to carry out activities and tasks relevant and related to their respective credentials during the specified Period of Assistance.

- G. *Right to Withdraw:* The Responding Member's Authorized Official retains the right to withdraw some or all of its resources at any time. Notice of intention to withdraw must be communicated to the Requesting Member's Authorized Official as soon as possible.

ARTICLE VI.
COST REIMBURSEMENT

Unless otherwise mutually agreed in whole or in part, the Requesting Member shall reimburse the Responding Member for each of the following categories of costs incurred while providing aid and assistance during the specified Period of Assistance.

- A. *Personnel:* Responding Member personnel are to be paid for work completed during a specified Period of Assistance according to the terms provided in their employment contracts or other conditions of employment. The Responding Member designated supervisor(s) must keep accurate records of work performed by personnel during the specified Period of Assistance. Requesting Member reimbursement to the Responding Member must consider all personnel costs, including salaries or hourly wages, costs for fringe benefits, and indirect costs.
- B. *Equipment:* The Responding Member shall be reimbursed for the use of its equipment during the Period of Assistance according to the Schedule of Equipment Rates established and published by the Federal Emergency Management Agency (FEMA), <http://www.fema.gov/xls/government/grant/pa/eqsch.xls>. Rates for equipment not referenced on the FEMA Schedule of Equipment Rates shall be developed based on actual recovery of costs.
- C. *Materials and Supplies:* The Requesting Member must reimburse the Responding Member in kind or at actual replacement cost, plus handling charges, for use of expendable or non-returnable supplies. The Responding Member must not charge direct fees or rental charges to the Requesting Member for other supplies and reusable items that are returned to the Responding Member in a clean, damage-free condition. Reusable supplies that are returned to the Responding Member with damage must be treated as expendable supplies for purposes of cost reimbursement.
- D. *Payment Period:* The Responding Member must provide an itemized bill to the Requesting Member for all expenses it incurred as a result of providing assistance under this Agreement. The Responding Member must send the itemized bill not later than ninety (90) days following the end of the Period of Assistance. The Requesting Member must pay the bill in full on or before the forty-fifth (45th) day following the billing date. Unpaid bills become delinquent on the forty-sixth (46th) day following the billing date, and, once delinquent, the bill accrues interest at the bank prime loan rate, as reported in the Federal Reserve Statistical Release H.15, <http://www.federalreserve.gov/releases/H15/update/>, for the date the request is made, plus two percent (2%) per annum, computed on an actual days/actual days basis.

ARTICLE VII.
LIABILITY, INSURANCE, AND IMMUNITY

Notwithstanding Articles V and VI, each Member shall bear the risk of its own actions, as it does with its day-to-day operations, and determine for itself what kinds of insurance, and in what amounts, it should carry. Nothing contained herein will constitute a waiver by any Member of the provisions of the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq.

**ARTICLE VIII.
SIGNATORIES**

In the event of a claim, demand, action, or proceeding of whatever kind or nature arising out of a specified Period of Assistance, those Members who receive and provide assistance shall be totally responsible for any liability, damages, or costs. Those Members whose involvement in the subject transaction or occurrence is limited to execution of this Agreement shall have no liability or responsibility whatsoever for any such claim, action, demand, or other proceeding.

**ARTICLE IX.
NOTICE**

A Member that becomes aware of a claim or suit that in any way, directly or indirectly, contingently or otherwise, affects or might affect other Members of this Agreement shall provide prompt and timely notice to the Members that may be affected by the suit or claim. Each Member reserves the right to participate in the defense of such claims or suits as necessary to protect its own interests.

**ARTICLE X.
EFFECTIVE DATE AND TERM**

This Agreement shall be effective after the Member executes the Agreement and the applicable Regional Committee Chairperson receives the Agreement. This Agreement shall continue in force and remain binding on each and every Member until December 31st of 2027. This Agreement may be renewed for a period of twenty years upon the signature of those Members who wish to participate. Any Member may terminate its participation in this Agreement pursuant to Article XI.

**ARTICLE XI.
WITHDRAWAL**

A Member may withdraw from CoWARN by providing written notice of its intent to withdraw to the applicable Regional Committee Chairperson. Withdrawal takes effect sixty (60) days after the Regional Committee Chairperson receives notice. A withdrawing Member also shall provide copies of the notice of withdrawal to the Statewide Chairperson and all Regional Members. Withdrawal of participation in CoWARN by a Member shall not affect the continued operation of this Agreement between and among the remaining Members.

**ARTICLE XII.
MODIFICATION**

No provision of this Agreement may be modified, altered, or rescinded by individual Members. Modifications to this Agreement may be due to programmatic operational changes to support the Agreement. Modifications require a simple majority vote of Members within each region and a unanimous agreement among the regions. The Statewide Committee Chairperson must provide written notice to all Members of approved modifications to this Agreement. Approved modifications take effect sixty (60) days after the date upon which notice is sent to the Members.

**ARTICLE XIII.
PRIOR AGREEMENTS**

This Agreement supersedes all prior agreements between Members to the extent that such prior agreements are inconsistent with this Agreement.

**ARTICLE XIV.
PROHIBITION ON THIRD PARTIES AND ASSIGNMENT OF RIGHTS/DUTIES**

This Agreement is for the sole benefit of the Members, and no person or entity must have any rights under this Agreement as a third-party beneficiary. Assignments of benefits and delegations of duties created by this Agreement are prohibited and must be without effect.

Now, therefore, in consideration of the covenants and obligations set forth in this Agreement, the Water or Wastewater Utility listed here manifests its intent to be a Member of CoWARN by executing this Agreement on this _____ day of _____ 20__.

Water/Wastewater Utility: _____

By: _____

Title: _____

Authorized Officials:

Name: _____ Phone: _____

Name: _____ Phone: _____

Name: _____ Phone: _____

Name: _____ Phone: _____

24-hour contact: _____ Phone: _____



DISTRICT BOUNDARY

POTENTIAL INCLUSION



**RESOLUTION NO. 2020-03
WOODMOOR WATER AND SANITATION DISTRICT No. 1**

**AN EMERGENCY RESOLUTION CONCERNING THE CORONA VIRUS
(COVID – 19) PUBLIC HEALTH EMERGENCY, DECLARING A LOCAL
DISASTER, AND SETTING FORTH PROCEDURES FOR HOLDING BOARD
MEETINGS AS VIRTUAL MEETINGS**

WHEREAS, the Woodmoor Water and Sanitation District No. 1 (“District”) is a political subdivision possessing all powers granted to special districts by Title 32 of the Colorado Revised Statutes, including the power to make and publish resolutions to provide for the safety of the District and the inhabitants thereof; and

WHEREAS, the World Health Organization has declared the coronavirus (COVID-19) to be a worldwide pandemic; and

WHEREAS, on March 10, 2020 Jared Polis, the Governor of the State of Colorado, declared a statewide state of emergency in response to coronavirus (COVID-19); and

WHEREAS, the Board of Directors of the Woodmoor Water and Sanitation District No. 1 (“Board”) confirms that protecting public health is the Board’s top priority; and

WHEREAS, the Board is empowered by Section 24-33.5-709, C.R.S., to declare a local disaster to the extent permitted by law to and through the date the Board declares the disaster over; and

WHEREAS, Section 32-1-903(1), C.R.S., provides that a special district board “shall meet regularly at a time and in a place to be designated by the board”; and

WHEREAS, the Board further finds and determines that the adoption of this resolution is proper under Section 32-1-903(1), C.R.S., and other applicable law; and

WHEREAS, given the current circumstances and pursuant to C.R.S. § 32-1-903(1), it is hereby declared that a local disaster exists and that this resolution is necessary for the immediate preservation of the public health, safety, prosperity, security, and general welfare.

**NOW THEREFORE BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE WOODMOOR WATER AND SANITATION DISTRICT NO. 1, THAT:**

Section 1:

Virtual Meetings.

- (a) In the event the Board is unable to conduct its regular meetings at its regular meeting location, because meeting in-person would not be prudent due to a local disaster or other unforeseen circumstances affecting the District, meetings may be conducted by telephone, electronically, or by other means of communication so as to provide maximum participation, but only for meetings during which no quasi-judicial matters will be heard.
- (b) Meetings of the Board by telephone, electronically, or other means may be held subject to the following conditions:
 - (1) The Board determines that meeting in person would not be prudent because of a local disaster or other unforeseen circumstances affecting the District;
 - (2) All members of the Board can hear one another or otherwise communicate with one another and can hear or read all discussion, comment, and testimony in a manner designed to provide maximum notice and participation;
 - (3) Members of the public can hear or read all discussion, testimony and votes, in a manner designed to provide maximum notice and participation;
 - (4) At least one member of the Board is present at the regular meeting location, unless not feasible due to the local disaster or other unforeseen circumstances;
 - (5) All votes are conducted by roll call; and
 - (6) Minutes of the meeting are taken and promptly recorded, and such records are open to public inspection.
- (c) In the event the Board will conduct a virtual meeting pursuant to this resolution, the Board Secretary shall provide public notice of the following:
 - a. The declaration of a local disaster;
 - b. That a meeting of the Board will be conducted by telephone, electronically, or other means;
 - c. The right of the public to monitor the meeting by telephone, electronically, or other means; and

d. The means by which the public can monitor the meeting by telephone, electronically, or other means.

(d) The Board shall initiate the meeting by telephone, electronically, or other means not more than ten (10) minutes prior to the scheduled time of the meeting. Upon disconnection during a meeting, the Board Secretary shall make one attempt to re-initiate the connection.

Section 2.

Conflict With Other Resolutions: If any provision of this resolution conflicts with any other resolution, or any provision of any Board procedures or Rules of Order, this resolution shall control.

Section 3.

General Power Finding. The Board hereby finds, determines and declares that this resolution is necessary and proper to promote the health, safety, prosperity, security, and general welfare of the Woodmoor Water and Sanitation District No. 1 and the inhabitants thereof.

Section 4.

Authority. The Board of Directors of the Woodmoor Water and Sanitation District No. 1 hereby finds, determines and declares that it has the power to adopt this resolution pursuant to the provisions of Section 32-1-903(1), C.R.S., and the powers possessed by Title 32 Special Districts in Colorado.

Section 5.

Local Disaster Declaration. The Board of Directors of the Woodmoor Water and Sanitation District No. 1 hereby finds, determines and declares that a local disaster exists and that this resolution is necessary for the immediate preservation of public health, safety, prosperity, security, and general welfare for the reasons enumerated in the introductory paragraphs of this resolution, which are incorporated into this Section 5 by reference. The Board further determines that the adoption of this resolution as an emergency resolution is in the best interest of the citizens of the Woodmoor Water and Sanitation District No. 1.

Section 6.

Effect of Local Disaster Declaration. The effect of this declaration of local disaster shall be to activate the response and recovery aspects of any and all applicable local and interjurisdictional disaster emergency plans and to authorize the furnishing of aid and assistance under such plans.

Section 7.

If any provision of this resolution or the application of it to any person or circumstance is held invalid by a court of competent jurisdiction, such invalidity shall not affect other provisions or applications of this resolution which can be given effect without the invalid provisions or applications. The provisions of this resolution are expressly declared to be severable.

APPROVED AND ADOPTED this _____ day of _____, 2020.

Board President

ATTEST:

Board Secretary

APPROVED AS TO FORM:

Erin M. Smith
District Attorney

COVID-19 RULES/POLICIES ENACTED

- **Social Distancing/Masks/Hygiene Practices**
- **Protocols for Employee Exposure to Covid-19**
- **Cleaning & Disinfection Practices AFTER an COVID Positive Diagnosis**

Social Distancing/Masks/Personal Hygiene Practices While at Work

1. **Group Density** – No meetings with greater than 10 people. For a meeting of 2 or more people see items 2 and 3 below.
2. **Separation** - Maintain 6 foot separation between you and your co-workers and others to the extent practical. Where duties/tasks won't permit 6 feet or more of separation, wear masks (see item 3 below)
3. **Masks** –
 - a. **When out in the Public** - Wear masks when out in the public (i.e. going to the store, supply house, post office, etc.)
 - b. **When Inside or in Close Proximity** - When separation distances are impractical, employees need to wear face masks. This includes employees working in all areas and facilities of the District. Some examples include:
 - i. When riding in the same vehicle
 - ii. When working side by side such as in a trench, vault or building
 - iii. When in someone's office reviewing plans/tasks or receiving information or direction
 - iv. During team/operator meetings (if 6 foot can't be maintained)
 - v. Incidental close proximity occurrences such as passing someone in the hallway should be limited as much as practical (example: step aside and allow someone to pass)
4. **Gloves** – Wear vinyl or latex gloves when touching potentially contaminated items. Examples include handling or opening the mail, boxes or large packages that have not been sanitized.
5. **Common Areas** – Avoid congregating in close proximity in common areas. The lunch room has been sectioned off to provide 6 foot of separation for those taking their break or eating lunch. Avoid simultaneous use of common amenities (example: 2 people using the kitchen sink at the same time, 2 people using the microwaves simultaneously, standing next to one another in the lunchroom while waiting to use the refrigerator/sink/microwave, etc.)
6. **Sanitizing Packages** – Sanitize (i.e. spray down with Lysol) all packages delivered prior to bringing them into the office/District facilities.
7. **Hand Washing/Hand Sanitizing** – Wash your hands often with soap and water. Use hand sanitizer often (especially after touching commonly used surfaces such as the coffee pot, the refrigerator handle, etc.)
8. **Cough/Sneeze** – Cover your mouth with a tissue, your arm or other covering when you cough or sneeze. Please don't cough or sneeze onto surfaces or other people.

Cleaning Practices While at Work

1. **Lunch Room** – Clean AND disinfect **after lunch daily**. This includes tables, countertops, sink, refrigerator handles, coffee pot, etc.
 - a. If surfaces are dirty, clean them first. Use detergent or soap and water prior to disinfection.
 - b. Then, use disinfectant.

2. **Common Facilities** - Clean AND disinfect **at conclusion of each shift**. This includes tables, doorknobs, light switches, countertops, handles, desks, phones, copier, keyboards, toilets, faucets, sinks, etc.
 - a. If surfaces are dirty, clean them first. Use detergent or soap and water prior to disinfection.
 - b. Then, use disinfectant.

Steps to follow should a WWSD employee be exposed or exhibit symptoms of Coronavirus:

Exposure:

The degree of exposure is somewhat subjective, so supervisor discretion is advised. When in doubt, it's best to err on the side of caution and send the employee home. The CDC has presented some examples of what work practices/jobs would be categorized in the various risk levels:

Very High Exposure Risk - Very high exposure risk jobs are those with high potential for exposure to known or suspected sources of COVID-19 during specific medical, postmortem, or laboratory procedures. Workers in this category include:

- Healthcare workers (e.g., doctors, nurses, dentists, paramedics, emergency medical technicians) performing aerosol-generating procedures (e.g., intubation, cough induction procedures, bronchoscopies, some dental procedures and exams, or invasive specimen collection) on known or suspected COVID-19 patients.
- Healthcare or laboratory personnel collecting or handling specimens from known or suspected COVID-19 patients (e.g., manipulating cultures from known or suspected COVID-19 patients).
- Morgue workers performing autopsies, which generally involve aerosol-generating procedures, on the bodies of people who are known to have, or suspected of having, COVID-19 at the time of their death.

High Exposure Risk- High exposure risk jobs are those with high potential for exposure to known or suspected sources of COVID-19. Workers in this category include:

- Healthcare delivery and support staff (e.g., doctors, nurses, and other hospital staff who must enter patients' rooms) exposed to known or suspected COVID-19 patients. (Note: when such workers perform aerosol-generating procedures, their exposure risk level becomes very high.)
- Medical transport workers (e.g., ambulance vehicle operators) moving known or suspected COVID-19 patients in enclosed vehicles.
- Mortuary workers involved in preparing (e.g., for burial or cremation) the bodies of people who are known to have, or suspected of having, COVID-19 at the time of their death.

Medium Exposure Risk - Medium exposure risk jobs include those that require frequent and/or close contact with (i.e., within 6 feet of) people who may be infected

with SARS-CoV-2, but who are not known or suspected COVID-19 patients. In areas without ongoing community transmission, workers in this risk group may have frequent contact with travelers who may return from international locations with widespread COVID-19 transmission. In areas where there is ongoing community transmission, workers in this category may have contact with the general public (e.g., schools, high-population-density work environments, some high-volume retail settings).

Lower Exposure Risk (Caution) - Lower exposure risk (caution) jobs are those that do not require contact with people known to be, or suspected of being, infected with SARS-CoV-2 nor frequent close contact with (i.e., within 6 feet of) the general public.

For most duties and tasks of WWSD employees, the risks associated with those tasks fall generally in the lower exposure category with the potential for medium exposure risks when interacting with others outside of the organization.

For planned activities that may carry a medium exposure risk, the employee will need to wear an N95 (or greater protective mask) and latex/nitrile gloves when performing interaction with individuals outside of the organization. An example would be entering a customer's home where the customer exhibits symptoms. For necessary customer service calls, the customer must be screened via phone prior to the service appointment being booked. Screening questions consist of the following:

Have you been recently tested for coronavirus and has that test come back positive?

Have you been in close proximity with anyone known or suspected to have the coronavirus?

Do you (or anyone in your home) have any symptoms (fever, cough, shortness of breath)?

Depending upon the answers to the screening questions, a heightened level of PPE may be required to perform the service call, or depending upon the criticality of the service call, the service may be deferred to a later time.

For inadvertent exposure:

Inadvertent exposure at work is unlikely however not impossible. Should a worker be inadvertently be exposed:

- To a high or higher risk exposure - The employee should be sent home and the supervisor should arrange for the employee to be tested
- To a medium risk exposure - The employee should be required to wear a facemask and gloves, maintain 6 foot of separation from other employees while

at work and self-monitor for symptoms. Should symptoms arise, the employee must be sent home immediately and the supervisor arrange for the employee to be tested.

- To a low risk exposure – self monitor for symptoms.

Should employees get sick:

- **Separate sick employees:**
 - Employees who appear to have [symptoms](#) (i.e., fever, cough, or shortness of breath) upon arrival at work or who become sick during the day should immediately be separated from other employees, customers, and visitors and sent home immediately.
- Supervisors will arrange for workers to get tested for the virus. (see attached)
- If an employee is confirmed to have COVID-19 infection, supervisors should inform fellow employees of their possible exposure to COVID-19 in the workplace but maintain confidentiality as required by the Americans with Disabilities Act (ADA). The fellow employees should then self-monitor for [symptoms](#) (i.e., fever, cough, or shortness of breath).

Return to work by employees confirmed to have Covid-19:

- **For Persons with COVID-19 Under Home Isolation:**

The decision to discontinue home isolation should be made in the context of local circumstances. Options now include both 1) a time-since-illness-onset and time-since-recovery (non-test-based) strategy, and 2) a test-based strategy.
- **Time-since-illness-onset and time-since-recovery strategy (non-test-based strategy)**

Persons with COVID-19 who have symptoms and were directed to care for themselves at home by healthcare professionals may

discontinue home isolation and may return to work under the following conditions:

- At least 3 days (72 hours) have passed *since recovery* defined as resolution of fever without the use of fever-reducing medications **and** improvement in respiratory symptoms (e.g., cough, shortness of breath); **and**,
- At least 7 days have passed *since symptoms first appeared*.

To Be Shared Widely with all Healthcare workers and First Responders

COVID-19 Testing will be offered to First Responders and Healthcare Workers starting tomorrow, March 31, 2020.

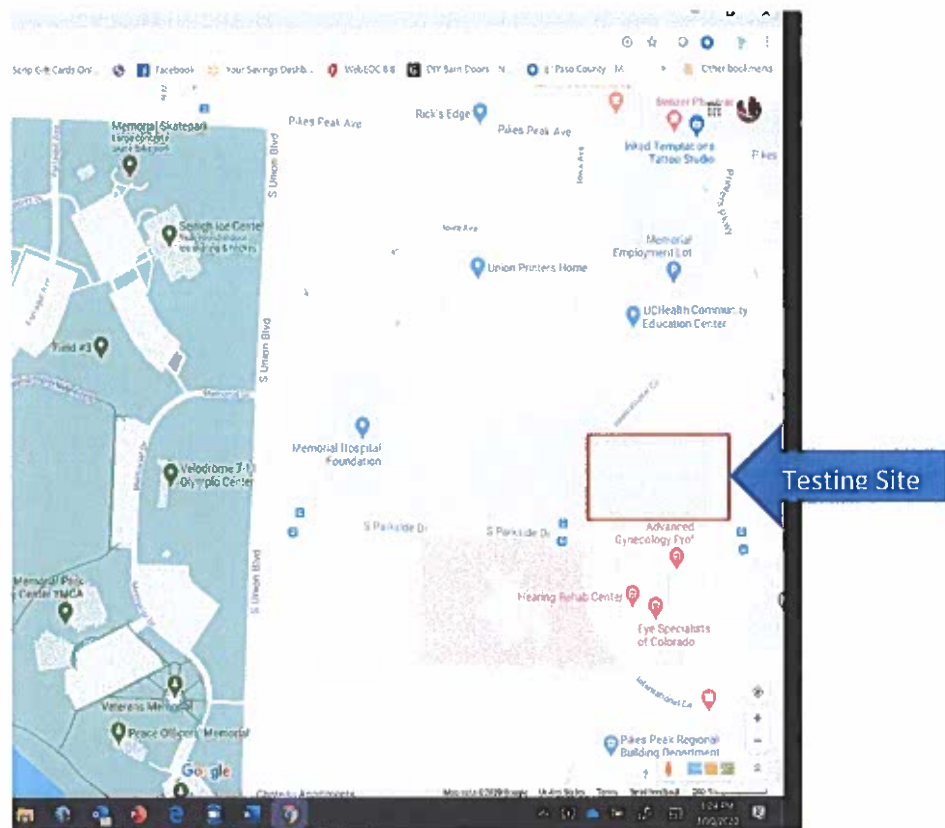
Testing will be open from 0900-1700 Monday-Friday

The testing site is located in the very back parking lot of 175 S. Union Blvd at the Corner of S. Parkside and S. Union Blvd.

No Doctors note or prescription is required, but some symptoms, even mild must be reported.

Must present identification that delineates an affiliation as a healthcare worker or first responder. The definitions are very broad, please call if you are not sure you qualify.

719-439-3775 Lisa Powell





COLORADO

Division of Environmental
Health & Sustainability

Department of Public Health & Environment

March 17, 2020

CDPHE Environmental Cleaning Guidance for COVID-19 Households AND Regulated Facilities

Households, workplaces, vehicles

The Colorado Department of Public Health and Environment is providing the following recommendations to routinely clean and disinfect commonly touched surfaces to control the spread of the virus that causes COVID-19. The following guidance is based on [Interim Recommendations for US Households with Suspected/Confirmed Coronavirus Disease 2019](#) as well as [Interim Recommendations for US Community Facilities with Suspected/Confirmed Coronavirus Disease 2019](#).

Based on what is currently known about the virus, spread from person-to-person happens most frequently among close contacts (within about 6 feet). This type of transmission occurs via respiratory droplets. Transmission of COVID-19 to persons from surfaces contaminated with the virus has not been documented. Current evidence suggests that COVID-19 may remain viable for hours to days on surfaces made from a variety of materials. Cleaning of visibly dirty and high touch surfaces followed by disinfection is a best practice measure for prevention of COVID-19 and other viral respiratory illnesses in households and community settings.

- **Cleaning** refers to the removal of germs, dirt, and impurities from surfaces. Cleaning does not kill germs, but by removing them, it lowers their numbers and the risk of spreading infection.
- **Disinfecting** refers to using chemicals to kill germs on surfaces. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface *after* cleaning, it can further lower the risk of spreading infection.

How to Clean and Disinfect Surfaces

- **Cleaning and disinfection after persons suspected/confirmed to have COVID-19 have been in the facility**
 - It is recommended to close off areas used by the ill persons and wait as long as practical before beginning cleaning and disinfection to minimize potential for exposure to respiratory droplets. Open outside doors and windows to increase air circulation in the area. **Restrict access for two hours after the sick person has left. If possible, wait up to 24 hours before beginning cleaning and disinfection.**
 - Clean and disinfect all areas (e.g., offices, bathrooms, and common areas) used by the ill persons, focusing especially on frequently touched surfaces. Continue to follow all cleaning and disinfecting recommendations provided below.
- Wear disposable gloves when cleaning and disinfecting surfaces. Gloves should be discarded after each cleaning. If reusable gloves are used, those gloves

should be dedicated for cleaning and disinfection of surfaces for COVID-19 and should not be used for other purposes. Clean hands immediately after gloves are removed.

- If surfaces are dirty, they should be cleaned using a detergent or soap and water prior to disinfection.
- For disinfection, diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and most common EPA-registered household disinfectants should be effective. Consult the manufacturer's instructions for cleaning and disinfection products used.
- Diluted household bleach solutions can be used if appropriate for the surface. Check the label on the bleach container to be sure it provides claims about disinfecting and instructions for mixing. Follow manufacturer's instructions for mixing, application and proper ventilation. Avoid using bottles of bleach that you think may be older than one year, or are past their expiration date as marked on the bottle. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted.
 - Prepare a bleach solution by mixing:
 - 5 tablespoons (1/3rd cup) bleach per gallon of water. This a "standard recipe," be sure to check the label as bleach comes in different concentrations.
 - 4 teaspoons bleach per quart of water
 - Products with EPA-approved emerging viral pathogens are expected to be effective against COVID-19 based on data for harder to kill viruses. Follow the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, application method and contact time, etc.). The list of EPA-approved products for emerging viral pathogens expected to be effective against COVID-19 can be accessed at this link:
<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
- For soft (porous) surfaces such as carpeted floor, rugs, and drapes, remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces. After cleaning:
 - Launder items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely, or
- Use products with the EPA-approved emerging viral pathogens claims (examples at this [link](#)) that are suitable for porous surfaces.

How to Clean and Disinfect Clothing, Towels, and Linens

- Wear disposable gloves when handling dirty laundry from an ill person and then discard after each use. If using reusable gloves, those gloves should be dedicated for cleaning and disinfection of surfaces for COVID-19 and should not be used for other household purposes. [Wash hands](#) immediately after gloves are removed.
 - If no gloves are used when handling dirty laundry, wash hands afterwards.
 - If possible, do not shake dirty laundry. This will minimize the possibility of dispersing virus through the air.
 - Launder items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely. Dirty laundry from an ill

- person can be washed with other people's items.
- Clean and disinfect clothes hampers according to guidance above for surfaces. If possible, consider placing a bag liner that is either disposable (can be thrown away) or can be laundered.

Regulated Facilities: Schools, Child Care Facilities, Retail Food Establishments and Public Accommodations

The following guidance is designed to clarify proper cleaning, sanitizing and disinfecting of surfaces within regulated facilities such as schools, child care facilities, retail food establishments and public accommodations.

- **Clean** means to be free of dust and debris or to remove dirt and debris by vacuuming or scrubbing and washing with soap and water.
- **Disinfect** means to eliminate most or all pathogens. This is generally accomplished in these settings by the use of liquid chemical solutions such as a mixture of household bleach and water.
- **Sanitization** is not as strong as disinfecting, but still removes many pathogens, but is safe to use on surfaces used for food preparation.

Cleaning and disinfection after persons suspected/confirmed to have COVID-19 have been in the facility

- It is recommended to close off areas used by the ill persons and wait as long as practical before beginning cleaning and disinfection to minimize potential for exposure to respiratory droplets. Open outside doors and windows to increase air circulation in the area. **Restrict access for two hours after the sick person has left. If possible, wait up to 24 hours before beginning cleaning and disinfection.**
- Clean and disinfect all areas used by the ill persons, focusing especially on frequently touched surfaces. Continue to follow all cleaning and disinfecting recommendations provided below.

Specific Guidance for Schools

Schools should clean and disinfect commonly touched surfaces as they normally would in the event of increased rates of influenza and other respiratory infections. However, in kitchens and food preparation areas, schools should sanitize food contact surfaces as usual and of course, follow guidance on exclusion of ill workers, proper and frequent handwashing and respiratory hygiene, which is true for all settings.

Specific Guidance for Child Care Facilities

In child care facilities, we are recommending routine cleaning and sanitizing of kitchens and areas used primarily for food and bottle preparation. We recommend cleaning and disinfecting commonly touched surfaces. If toys children may mouth or table tops used for the service of food are disinfected, they should be rinsed and allowed to air-dry before being used or returned to use by children.

Specific Guidance for Restaurants

Restaurants and other retail food establishments should continue routine cleaning and sanitizing of food preparation surfaces in the kitchen and other food storage areas. We are recommending routine cleaning and disinfecting commonly touched surfaces in the dining and customer areas. Detailed guidance on heightened cleaning and disinfecting practices for restaurants can be accessed at this link:

https://drive.google.com/file/d/1pXAFPXCTLqBZvTJpuqrH45YeLB_Jc2wP/view

Specific Guidance for Hotels

Hotels and other public accommodations cleaning rooms used by a known case or a quarantined or isolated individual should follow recommended CDC guidance: [Interim Guidance for Environmental Cleaning and Disinfection for U.S. Households with Suspected or Confirmed Coronavirus Disease 2019](#).

- It is recommended to close off areas used by the ill persons and wait as long as practical before beginning cleaning and disinfection to minimize potential for exposure to respiratory droplets. Open outside doors and windows to increase air circulation in the area. **Restrict access for two hours after the sick person has left. If possible, wait up to 24 hours before beginning cleaning and disinfection.**
- In areas where ill persons have visited or used, continue routine cleaning and disinfection as in this guidance

Care of the Environment

The information below has been modified for relevance. The complete guidance can be [accessed at this link:https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html](https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html)

Recommendation:

- IV.F.1. Establish policies and procedures for routine and targeted cleaning of environmental surfaces as indicated by the level of patient contact and degree of soiling. (II)
- IV.F.2. Clean and disinfect surfaces that are likely to be contaminated with pathogens, including those that are in close proximity to the patient (e.g., bed rails, over bed tables) and frequently-touched surfaces in the patient care environment (e.g., door knobs, surfaces in and surrounding toilets in patients' rooms) on a more frequent schedule compared to that for other surfaces (e.g., horizontal surfaces in waiting rooms) (IB)
- IV.F.3. Use EPA-registered disinfectants that have microbiocidal (i.e., killing) activity against the pathogens most likely to contaminate the patient-care environment. Use in accordance with manufacturer's instructions (IB/IC)
- IV.F.5. Include multi-use electronic equipment in policies and procedures for preventing contamination and for cleaning and disinfection, especially those items that are used by patients, those used during delivery of patient care, and mobile devices that are moved in and out of patient rooms frequently (e.g., daily) (IB)
- IV.F.5.a. No recommendation for use of removable protective covers or washable keyboards. (Unresolved issue)

These recommendations provide supplemental information to the general cleaning and disinfecting recommendations already provided by the Department and are consistent with US FDA. It is important to note that labeled instructions must be followed on all sanitizing and disinfecting products, sanitizers must be EPA registered and disinfectants must be EPA registered and hospital-grade (effective against *Salmonella choleraesuis* (enteric), *Staphylococcus aureus*, and *Pseudomonas aeruginosa*)

Woodmoor Water and Sanitation District
Balance Sheet
As of March 31, 2020

Assets

Current Assets

Cash	\$	200.00
Investments	\$	26,091,205.06
Restricted Cash & Investments	\$	1,995,201.26
Accounts Receivable	\$	495,896.01
Prepaid Insurance and Expenses	\$	76,470.16
* Total Current Assets		28,658,972.49

Non Current Assets

Deposits	4,763.00
Investment in Joint Venture TLWWTF	2,478,120.65
Capital Assets, not depreciated	33,188,494.38
Building and Improvements	865,969.08
Equipment and Vehicles	1,848,791.86
Furniture and Fixtures	89,126.42
Water & Sewer Plant System	40,076,671.24
Less: Accumulated Depreciation	(23,846,165.50)
Total Non Current Assets	54,705,771.13

TOTAL ASSETS	\$ <u>83,364,743.62</u>
---------------------	--------------------------------

Liabilities and Stockholders' Equity

Current Liabilities

Accounts Payable	\$	48,264.36
Accrued Payroll		209,655.55
Accrued Interest Payable		105,905.61
Permit Fees Payable		7,900.00
Deposits Held		306.43
Bonds Payable - Current		<u>875,000.00</u>

Total Current Liabilities	1,247,031.95
----------------------------------	---------------------

Long-Term Liabilities

Bonds Payable-L/T Portion	22,724,645.85
Post Pumping Depletion Liability	4,500.00
JUWI Deposit	<u>100,000.00</u>

Total Long-Term Liabilities	22,829,145.85
------------------------------------	----------------------

Total Liabilities	24,076,177.80
--------------------------	----------------------

Net Position

Unrestricted Net Assets	59,045,885.80
Unrestricted Net Assets	<u>242,680.02</u>

Total Net Position	59,288,565.82
---------------------------	----------------------

Total Liabilities and Stockholders' Equity	\$ <u>83,364,743.62</u>
---	--------------------------------

*Value shown for current assets are primarily related to planned future capital improvements and renewal and replacement projects.

Woodmoor Water and Sanitation District
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN ASSETS
 March 31, 2020

Operating Income	
Water Use Fees	474,340.47
Sewer Use Fees	376,707.32
Miscellaneous Income	12,424.23
Construction Inspection	720.00
JUWI Lease Income	56,516.92
Meter Backflow	975.00
Availability of Service	11,241.00
Excess Water Sale	48,126.96
Total Operating Income	981,051.90
Operating Expenses	
Salaries - Regular	245,821.85
Payroll Taxes	20,474.14
Employee Benefits	52,501.48
Unemployment Comp Ins.	1,446.07
Professional Fees	46,159.20
Insurance	24,889.95
Office Expense	40,870.87
Director Fees	1,300.00
Repairs and Maint.	233,097.92
Vehicle Expense	15,728.95
Building Maintenance	5,867.19
Small Tools	4,729.75
Utilities	157,100.80
Sewer Treatment Charges	136,296.38
Training and Education	4,203.30
Meter Backflow	5,943.84
Travel and Entertainment	1,066.92
Chilcott Ditch Co.	96,939.45
Depreciation and Amortization	389,573.11
Miscellaneous	14,300.99
Total Operating Expenses	1,498,312.16
INCOME (LOSS) FROM OPERATIONS	(517,260.26)
NON - OPERATING INCOME AND EXPENSES	
Interest Income	159,828.90
Tap Fees	99,816.00
Renewable Water Investment Fee	495,795.38
Gains Losses on Disposals	4,500.00
Total Non-Operating Income	759,940.28
Operating Income (Loss)	242,680.02
Net Position, Beginning of Period	59,045,886
Net Position, End of Period	59,288,566

Income Statement
March 31, 2020

	Current Month	Year To Date	Annual Budget	Prior EOY TOTALS	Prior Budget	Prior %	Target Percent	Present Percent
Operating Income								
Water Use Fees	150,792.53	474,340.47	3,160,542	2,892,950.31	3,111,052	92.99 %	11%	15.01 %
Supplemental Water & Lease	0.00	48,126.96	48,851	109,638.98	27,061	405.15 %	n/a	98.52 %
Water and Sewer Taps	99,816.00	99,816.00	898,344	593,310.62	1,565,808	37.89 %	24%	11.11 %
Interest	94,983.35	159,828.90	539,054	639,225.64	375,390	170.28 %	n/a	29.65 %
Const. Inspections	720.00	720.00	5,400	5,340.00	11,600	46.03 %	n/a	13.33 %
Meter Backflow	975.00	975.00	8,100	5,348.23	13,500	39.62 %	n/a	12.04 %
Renewable Water Investment Fee	170,646.40	495,795.38	1,978,464	1,963,054.70	1,966,944	99.80 %	25%	25.06 %
Misc Income	4,586.75	12,424.23	95,000	93259.08	95,000	98.17 %	n/a	13.08 %
Availability of Service	8,745.00	11,241.00	15,600	13,305.00	12,450	106.87 %	57%	72.06 %
Sale of land/equipment	0.00	4,500.00	10,000	9,103.34	8,700	104.64 %	n/a	45.00 %
Sewer Use Fees	130,644.00	376,707.32	1,549,022	1,524,948.44	1,494,362	102.05 %	25%	24.32 %
Lease Income	0.00	56,516.92	77,500	80,561.79	72,000	111.89 %	n/a	72.93 %
Total Operating Income	661,909.03	1,740,992.18	8,385,877.00	7,930,046.13	8,753,867.00	90.59 %	n/a	20.76 %
Operating Expenses								
Salaries	82,453.67	245,821.85	1,181,327	1,076,562.80	1,104,430	97.48 %	25%	20.81 %
Payroll Taxes	6,848.96	20,474.14	95,257	84,706.74	93,579	90.52 %	25%	21.49 %
Employee Benefits	17,432.16	52,501.48	221,556	193,860.08	200,416	96.73 %	25%	23.70 %
Unemployment Comp Tax	116.98	1,446.07	3,640	3,624.18	3,537	102.46 %	n/a	39.73 %
Professional Fees	15,611.24	46,159.20	383,000	466,828.68	389,500	119.85 %	n/a	12.05 %
Insurance	8,296.65	24,889.95	105,225	104,939.40	105,271	99.69 %	25%	23.65 %
Office Expense	8,126.09	40,870.87	120,600	122,909.91	149,700	82.10 %	27%	33.89 %
Directors Fees	300.00	1,300.00	8,000	6,100.00	8,000	76.25 %	25%	16.25 %
Sewer Treatment Expense	39,527.85	136,296.38	737,878	648,856.79	673,112	96.40 %	n/a	18.47 %
Renewal and Replacement	50,168.30	233,097.92	609,500	640,991.62	627,900	102.08 %	15%	38.24 %
Vehicle Maint. and Expense	8,731.90	15,728.95	95,000	95,120.66	95,000	100.13 %	n/a	16.56 %
Building Maint.	3,156.58	5,867.19	59,000	27,450.96	34,000	80.74 %	n/a	9.94 %
Small Tools	1,262.87	4,729.75	10,000	6,536.52	11,500	56.84 %	n/a	47.30 %
Utilities	50,540.75	157,100.80	680,000	666,264.40	630,000	105.76 %	21%	23.10 %
Chilcote Ditch Co.	0.00	96,939.45	97,000	90,975.57	86,460	105.22 %	n/a	99.94 %
Training and Education	215.19	4,203.30	15,000	10,325.06	15,000	68.83 %	n/a	28.02 %
Travel and Entertainment	324.48	1,066.92	10,000	10,058.50	10,000	100.59 %	n/a	10.67 %
Meter - Backflow Expense	6,337.13	5,943.84	8,100	13,387.00	14,400	92.97 %	n/a	73.38 %
Miscellaneous Expense	373.62	14,300.99	38,000	37,643.27	35,350	106.49 %	n/a	37.63 %
Bond Principal	0.00	0.00	875,000	830,000.00	830,000	100.00 %	n/a	%
Bond Interest	0.00	0.00	1,076,950	1,118,450.00	1,118,450	100.00 %	n/a	%
Paying Agent Fees	0.00	0.00	500	200.00	500	40.00 %	n/a	%

FINANCIAL STATEMENTS

March 31, 2020

	Current Month	Year To Date	Annual Budget	Prior EOY TOTALS	Prior Budget	Prior % Percent %	Target Percent	Present Percent
Capital Outlay								
Equipment and Vehicles	0.00	92,915.65	183,500	101,269.46	399,500	2,025.39%	n/a	50.64 %
Land / Easements	0.00	0.00	5,000	63,068.81	5,000	262.79 %	n/a	%
Building and Improvements	0.00	0.00	0.00	10,310.62	24,000	42.96 %	n/a	%
Construction	708,238.51	908,785.50	5,123,000	1,570,897.08	2,094,636	75.00 %	n/a	17.74 %
Emergency Fund	0.00	0.00					n/a	0.00 %
Total Expenditures	<u>1,008,062.93</u>	<u>2,110,440.20</u>	<u>11,742,033</u>	<u>8,011,648.73</u>	<u>6,664,605</u>	<u>120.21 %</u>	<u>n/a</u>	<u>17.97 %</u>
Excess Revenue over Expenditures	(346,153.90)	(369,448.02)	(3,356,156)	(81,603)	2,089,262.00			

WOODMOOR water and Sanitation DISTRICT
Cash on Hand
As of March 31, 2020

	Current Month	Prior Year
Petty Cash	\$200.00	\$200.00
Integrity Investment Acct	\$8,349,219.63	\$8,284,315.15
Community Banks of Colorado	\$1,507,853.71	\$932,716.90
Xpress Bill Pay Account	\$75,804.12	\$72,119.82
Community Banks Savings Acct	\$249,213.98	\$249,125.91
Community Banks Money Market	\$406,141.06	\$405,888.03
Colotrust Post Pumping	\$4,947.32	\$4,926.61
C-Safe Investment Account	\$12,450,173.03	\$10,407,935.64
C-Safe Rev Debt Service Acct	\$37,141.93	\$36,995.62
Rev Debt Service WF	\$1,995,201.26	\$1,989,481.94
WF Investment Account	\$3,010,048.94	\$6,167,739.00
C-Safe	\$531.59	\$529.70
EI Paso County Escrow	\$129.75	\$129.75
Total Cash on Hand	<u>\$28,086,606.32</u>	<u>\$28,552,104.07</u>

**Professional Fees
March 31, 2020**

	Current Month	Year to Date	Annual Budget	Prior YTD	Prior Budget	Prior %	Current %
Audit/Accounting	0.00	6,000.00	8,500	8,500.00	8,500.00	100.00%	70.59 %
Legal Services	2,257.49	4,830.59	95,000	41,674.00	75,000.00	55.57 %	5.08 %
Engineering Consultants	0.00	1,260.00	25,000	18,552.62	45,000.00	41.23 %	5.04 %
Water- Legal Services	8,378.00	12,253.00	52,500	90,160.18	27,000.00	333.93%	23.34 %
Rates Modeling	0.00	0.00	20,000	19,998.00	20,000.00	99.99 %	0.00 %
Bishop-Brogden Assoc.	2,365.75	18,625.61	87,000	204,729.38	69,000.00	296.71%	21.41 %
Surveying Services	0.00	0.00	5,000	0.00	5,000.00	0.00 %	0.00 %
Reuse Pre-Design	0.00	0.00	0.00	16,079.50	50,000.00	32.16 %	0.00 %
JV Operations	2,610.00	3,190.00	75,000	67,135.00	75,000.00	89.51 %	4.25 %
Contingency	0.00	0.00	15,000	0.00	15,000.00	0.00 %	0.00 %

Total Professional Fees 15,611.24 46,159.20 383,000 466,828.68 389,500 119.85% 12.05 %

Woodmoor Water and Sanitation District
Balance Sheet
As of April 30, 2020

DRAFT

Assets

Current Assets

Cash	\$	200.00
Investments	\$	25,663,464.37
Restricted Cash & Investments	\$	1,995,201.26
Accounts Receivable	\$	501,443.55
Prepaid Insurance and Expenses	\$	68,362.08
* Total Current Assets		28,228,671.26

Non Current Assets

Deposits		4,763.00
Investment in Joint Venture TLWWTF		2,478,120.65
Capital Assets, not depreciated		33,188,494.38
Building and Improvements		865,969.08
Equipment and Vehicles		1,865,844.08
Furniture and Fixtures		89,126.42
Water & Sewer Plant System		40,159,336.65
Less: Accumulated Depreciation		(23,973,878.37)

Total Non Current Assets **54,677,775.89**

TOTAL ASSETS **\$ 82,906,447.15**

Liabilities and Stockholders' Equity

Current Liabilities

Accounts Payable	\$	60,094.26
Accrued Payroll		209,655.55
Accrued Interest Payable		105,905.61
Permit Fees Payable		8,100.00
Deposits Held		306.43
Bonds Payable - Current		875,000.00

Total Current Liabilities **1,259,061.85**

Long-Term Liabilities

Bonds Payable-L/T Portion		22,724,645.85
Post Pumping Depletion Liability		4,500.00
JUWI Deposit		100,000.00

Total Long-Term Liabilities **22,829,145.85**

Total Liabilities **24,088,207.70**

Net Position

Unrestricted Net Assets		59,045,885.80
Unrestricted Net Assets		(227,646.35)

Total Net Position **58,818,239.45**

Total Liabilities and Stockholders' Equity **\$ 82,906,447.15**

*Value shown for current assets are primarily related to planned future capital improvements and renewal and replacement projects.

Woodmoor Water and Sanitation District
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN ASSETS
 April 30, 2020

DRAFT

Operating Income	
Water Use Fees	628,255.88
Sewer Use Fees	503,500.71
Miscellaneous Income	20,780.42
Construction Inspection	1,320.00
JUWI Lease Income	56,516.92
Meter Backflow	1,950.00
Availability of Service	11,616.00
Excess Water Sale	52,466.09
Total Operating Income	1,276,406.02
Operating Expenses	
Salaries - Regular	373,563.51
Payroll Taxes	31,045.16
Employee Benefits	73,250.66
Unemployment Comp Ins.	1,717.62
Professional Fees	60,628.33
Insurance	33,186.60
Office Expense	49,382.17
Director Fees	1,300.00
Repairs and Maint.	277,824.87
Vehicle Expense	20,013.39
Building Maintenance	6,347.67
Small Tools	4,729.75
Utilities	219,706.20
Sewer Treatment Charges	167,071.07
Training and Education	4,453.30
Meter Backflow	14,960.28
Travel and Entertainment	1,113.77
Chilcott Ditch Co.	96,939.45
Depreciation and Amortization	517,285.98
Miscellaneous	18,076.00
Total Operating Expenses	1,972,595.78
INCOME (LOSS) FROM OPERATIONS	(696,189.76)
NON - OPERATING INCOME AND EXPENSES	
Interest Income	174,501.93
Tap Fees	166,360.00
Bond Interest Expense	-538,475.00
Renewable Water Investment Fee	661,656.48
Gains Losses on Disposals	4,500.00
Total Non-Operating Income	468,543.41
Operating Income (Loss)	(227,646.35)
Net Position, Beginning of Period	59,045,886
Net Position, End of Period	58,818,240

Income Statement
April 30, 2020

DRAFT

	Current Month	Year To Date	Annual Budget	Prior EOY TOTALS	Prior Budget	Prior %	Target Percent	Present Percent
Operating Income								
Water Use Fees	153,915.41	628,255.88	3,160,542	2,892,950.31	3,111,052	92.99 %	16%	19.88 %
Supplemental Water & Lease	4,339.13	52,466.09	48,851	109,638.98	27,061	405.15 %	n/a	107.40 %
Water and Sewer Taps	66,544.00	166,360.00	898,344	593,310.62	1,565,808	37.89 %	30%	18.52 %
Interest	14,673.03	174,501.93	539,054	639,225.64	375,390	170.28 %	n/a	32.37 %
Const. Inspections	600.00	1,320.00	5,400	5,340.00	11,600	46.03 %	n/a	24.44 %
Meter Backflow	975.00	1,950.00	8,100	5,348.23	13,500	39.62 %	n/a	24.07 %
Renewable Water Investment Fee	165,861.10	661,656.48	1,978,464	1,963,054.70	1,966,944	99.80 %	33%	33.44 %
Misc. Income	8,356.19	20,780.42	95,000	93259.08	95,000	98.17 %	n/a	21.87 %
Availability of Service	375.00	11,616.00	15,600	13,305.00	12,450	106.87 %	89%	74.46 %
Sale of land/equipment	0.00	4,500.00	10,000	9,103.34	8,700	104.64 %	n/a	45.00 %
Sewer Use Fees	126,793.39	503,500.71	1,549,022	1,524,948.44	1,494,362	102.05 %	33%	32.50 %
Lease Income	0.00	56,516.92	77,500	80,561.79	72,000	111.89 %	n/a	72.93 %
Total Operating Income	542,432.25	2,283,424.43	8,385,877.00	7,930,046.13	8,753,867.00	90.59 %	n/a	27.23 %
Operating Expenses								
Salaries	127,741.66	373,563.51	1,181,327	1,076,562.80	1,104,430	97.48 %	33%	31.62 %
Payroll Taxes	10,571.02	31,045.16	95,257	84,706.74	93,579	90.52 %	33%	32.59 %
Employee Benefits	20,749.18	73,250.66	221,556	193,860.08	200,416	96.73 %	33%	33.06 %
Unemployment Comp Tax	271.55	1,717.62	3,640	3,624.18	3,537	102.46 %	n/a	47.19 %
Professional Fees	14,469.13	60,628.33	383,000	466,828.68	389,500	119.85 %	n/a	15.83 %
Insurance	8,296.65	33,186.60	105,225	104,939.40	105,271	99.69 %	33%	31.54 %
Office Expense	8,511.30	49,382.17	120,600	122,909.91	149,700	82.10 %	34%	40.95 %
Directors Fees		1,300.00	8,000	6,100.00	8,000	76.25 %	33%	16.25 %
Sewer Treatment Expense	30,774.69	167,071.07	737,878	648,856.79	673,112	96.40 %	n/a	22.64 %
Renewal and Replacement	44,726.95	277,824.87	609,500	640,991.62	627,900	102.08 %	27%	45.58 %
Vehicle Maint. and Expense	4,284.44	20,013.39	95,000	95,120.66	95,000	100.13 %	n/a	21.07 %
Building Maint.	480.48	6,347.67	59,000	27,450.96	34,000	80.74 %	n/a	10.76 %
Small Tools		4,729.75	10,000	6,536.52	11,500	56.84 %	n/a	47.30 %
Utilities	62,605.40	219,706.20	680,000	666,264.40	630,000	105.76 %	29%	32.31 %
Chilcott Ditch Co.	0.00	96,939.45	97,000	90,975.57	86,460	105.22 %	n/a	99.94 %
Taining and Education	250.00	4,453.30	15,000	10,325.06	15,000	68.83 %	n/a	29.69 %
Travel and Entertainment	46.85	1,113.77	10,000	10,058.50	10,000	100.59 %	n/a	11.14 %
Meter - Backflow Expense	9,016.44	14,960.28	8,100	13,387.00	14,400	92.97 %	n/a	184.69 %
Miscellaneous Expense	3,775.01	18,076.00	38,000	37,643.27	35,350	106.49 %	n/a	47.57 %
Bond Principal	0.00	0.00	875,000	830,000.00	830,000	100.00 %	n/a	%
Bond Interest	538,475.00	538,475.00	1,076,950	1,118,450.00	1,118,450	100.00 %	n/a	50.00 %
Paying Agent Fees	0.00	0.00	500	200.00	500	40.00 %	n/a	%

Income Statement

April 30, 2020

DRAFT

	Current Month	Year To Date	Annual Budget	Prior EOY TOTALS	Prior Budget	Prior %	Target %	Present %
Capital Outlay								
Equipment and Vehicles	17,052.22	109,967.87	183,500	101,269.46	399,500	20.25 %	n/a	59.93 %
Land / Easements	0.00	0.00	5,000	63,068.81	5,000	262.79 %	n/a	%
Building and Improvements	0.00	0.00	0.00	10,310.62	24,000	42.96 %	n/a	%
Construction	82,665.41	991,450.91	5,123,000	1,570,897.08	2,094,636	75.00 %	n/a	19.35 %
Emergency Fund	0.00	0.00					n/a	0.00 %
Total Expenditures	<u>984,763.38</u>	<u>3,095,203.58</u>	<u>11,742,033</u>	<u>8,011,648.73</u>	<u>6,664,605</u>	<u>120.21 %</u>	<u>n/a</u>	<u>26.36 %</u>
Excess Revenue over Expenditures	(442,331.13)	(811,779.15)	(3,356,156)	(81,603)	2,089,262.00			

WOODMOOR WATER AND SANITATION DISTRICT
Cash on Hand
As of April 30, 2020

DRAFT

	Current Month	Prior Year
Petty Cash	\$200.00	\$200.00
Integrity Investment Acct	\$8,353,728.04	\$8,284,315.15
Community Banks of Colorado	\$1,062,409.61	\$932,716.90
Xpress Bill Pay Account	\$78,834.50	\$72,119.82
Community Banks Savings Acct	\$249,213.98	\$249,125.91
Community Banks Money Market	\$406,224.52	\$405,888.03
Colostrust Post Pumping	\$4,951.80	\$4,926.61
C-Safe Investment Account	\$12,460,219.25	\$10,407,935.64
C-Safe Rev Debt Service Acct	\$37,171.94	\$36,995.62
Rev Debt Service WF	\$1,995,201.26	\$1,989,481.94
WF Investment Account	\$3,010,048.94	\$6,167,739.00
C-Safe	\$532.04	\$529.70
El Paso County Escrow	\$129.75	\$129.75

Total Cash on Hand

\$27,658,865.63

\$28,552,104.07

Professional Fees

April 30, 2020

DRAFT

	Current Month	Year to Date	Annual Budget	Prior YTD	Prior Budget	Prior %	Current %
Audit/Accounting	0.00	6,000.00	8,500	8,500.00	8,500.00	100.00%	70.59 %
Legal Services	5,163.63	9,994.22	95,000	41,674.00	75,000.00	55.57 %	10.52 %
Engineering Consultants	0.00	1,260.00	25,000	18,552.62	45,000.00	41.23 %	5.04 %
Water Legal Services	0.00	12,253.00	52,500	90,160.18	27,000.00	333.93%	23.34 %
Rates Modeling	0.00	0.00	20,000	19,998.00	20,000.00	99.99 %	0.00 %
Bishop-Brogden Assoc.	4,230.50	22,856.11	87,000	204,729.38	69,000.00	296.71%	26.27 %
Surveying Services	0.00	0.00	5,000	0.00	5,000.00	0.00 %	0.00 %
Reuse Pre-Design	0.00	0.00	0.00	16,079.50	50,000.00	32.16 %	0.00 %
JV Operations	5,075.00	8,265.00	75,000	67,135.00	75,000.00	89.51 %	11.02 %
Contingency	0.00	0.00	15,000	0.00	15,000.00	0.00 %	0.00 %
Total Professional Fees	14,469.13	60,628.33	383,000	466,828.68	389,500	119.85%	15.83 %

Customer Number	Name	Balance	04/30/2020	03/31/2020	02/29/2020	01/31/2020	Last Pmt Date	Last Pmt Amount	Msg	Final Bill Date
20.3529.01		294.53	140.28	154.25	-	-	03/17/2020	148.82	None	
20.3532.01		19.00	9.50	9.50	-	-	03/17/2020	9.50	IRRIG	
20.3541.02		1,700.16	1,178.45	521.71	-	-	03/23/2020	392.82	None	
20.3542.02		3,659.86	2,384.68	1,275.18	-	-	03/23/2020	1,275.18	None	
20.3590.01		526.11	526.11	-	-	-	04/20/2020	582.08	None	
20.3597.01		43.14	43.14	-	-	-	04/20/2020	43.14	IRRIG	
20.3608.01		68.24	68.24	-	-	-	04/26/2020	68.24	IRRIG	
20.3637.01		524.91	524.91	-	-	-	04/22/2020	649.97	None	
20.3781.01		352.64	352.64	-	-	-	04/30/2020	352.64	None	
20.3838.01		156.58	156.58	-	-	-	04/30/2020	156.58	None	
20.3847.01		9.50	9.50	-	-	-	04/20/2020	9.50	IRRIG	
20.4091.01		40.00	40.00	-	-	-	04/18/2020	20.00	None	
20.4092.01		320.00	320.00	-	-	-	04/20/2020	140.00	None	
20.4093.01		300.00	300.00	-	-	-	04/20/2020	140.00	None	
20.4094.01		580.00	580.00	-	-	-			None	
20.4095.01		61.00	61.00	-	-	-	04/18/2020	48.80	None	
20.4096.02		39.00	39.00	-	-	-	04/28/2020	31.20	None	
20.4097.01		980.00	880.00	300.00	-	-	03/23/2020	180.00	None	
20.4115.01		108.33	76.70	31.63	-	-	01/27/2020	285.20	None	
20.4120.01		260.30	125.54	134.76	-	-	04/11/2020	1,070.22	None	
30.3578.01		205.71	98.20	107.51	-	-	08/31/2013	605.45	None	
30.4444.01		5,944.16	5,944.16	-	-	-	04/19/2020	503.00	None	
30.7777.01		162.96	162.96	-	-	-	04/23/2020	326.05	None	
30.8888.01		27.94	-	-	27.94	-	11/11/2016	26.04	None	
Grand Totals:		501,443.55	441,176.00	45,158.14	6,617.39	8,492.02				

Report Criteria

- Include active customers
- Age using billing periods
- Customer Customer Number = 1-30999999
- Customer Account Balance = (>) 0

Manager's Report
May 11th, 2020

1. Collaborative Organizations/Opportunities:

- a. PPRWA
 - Legislature is Moving, but Slowly

2. Operations Update

- a. Water Report
- b. Sewer Report

3. District Construction/Planning Projects

- a. Well 21 Site Work - Complete
- b. Well 21 Transmission Pipeline – Est. Completion June 1st

4. WWSD Subdivision/Development Status Update

- a. Northshore at Lake Woodmoor
- b. Southern ½ of the Beach at Woodmoor

5. Other Topics:

- a. None

WOODMOOR WATER AND SANITATION

WATER REPORT
FEBRUARY 29 TO MARCH 31
2020

TOTAL PRODUCED FOR POTABLE USE	21,891,521	GALLONS	
less PROCESS WATER USED	1,673,800	GALLONS	8%
> NET WATER PUMPED	20,217,721	GALLONS	
> less UNACCOUNTED WATER	2,697,419	GALLONS	13%
> POTABLE WATER BILLED	17,520,302	GALLONS	87%

	PREVIOUS	CURRENT	DIFFERENCE
DAWSON WELLS			
#2	44,189,000	45,252,600	1,063,600 GALLONS
#3	16,820,700	16,820,700	0 GALLONS
#5	93,199,100	93,203,000	3,900 GALLONS
#6	2,000	2,000	0 GALLONS
#7 Kgal meter	105905.0	107123.0	1,218,000 GALLONS
	7% OF TOTAL PUMPED	TOTAL	2,285,500 GALLONS
DENVER WELLS			
#9 Mgal meter	145.5893	145.5893	0 GALLONS
#17	44,998,471	48,690,474	3,692,003 GALLONS
	11% OF TOTAL PUMPED	TOTAL	3,692,003 GALLONS
ARAPAHOE WELLS			
#8 Kgal meter	54,393.6	54,738.8	345,200 GALLONS
#10 Mgal meter	848.9536	856.5834	7,629,800 GALLONS
#11 Kgal meter	261,450	261,999	549,000 GALLONS
#12	84,160,248	88,929,712	4,769,464 GALLONS
#15	152,933,000	157,669,000	4,736,000 GALLONS
#16	718,317,900	722,131,680	3,813,780 GALLONS
#18	200,088,000	204,003,000	3,915,000 GALLONS
#20 Kgal meter	158,634,661	161,928,935	3,294,274 GALLONS
	83% OF TOTAL PUMPED	TOTAL	29,052,518 GALLONS
		WELL PRODUCTION	35,030,021 GALLONS
SWTP SURFACE WATER	1,471,0510	1,471,0510	0 GALLONS
	0% OF TOTAL PRODUCTION	TOTAL PRODUCTION	35,030,021
LAKE REFILL METER	2,938,291	3,069,637	13,134,600
TOTAL LAKE IN (REFILL METER & WELL 5)			13,138,500
			TOTAL PRODUCED FOR POTABLE USE
			21,891,521

BILLING CALCULATIONS **TOTAL POTABLE BILLED** **17,520,302**

SOURCES OF UNACCOUNTED WATER			
	*SHEAR / MAIN BREAKS	0	
	*SERVICE FAILURES	1	

PROCESS WATER CALCULATIONS			
CWTP CLARIFIER - @ 4550 GAL PER CYCLE			
* FLUSH #1	2,407	2,412	22,750
* FLUSH #2	2,375	2,380	22,750
* FLUSH #3	906	910	18,200
*CWTP METERED B/W	22,882,000	23,045,000	163,000
*WELL 8 B/W - DIFF X 3500 GAL PER B/W	1,681	1,686	17,500
*WELL 11 METERED B/W	17,286,000	17,292,600	6,600
*SWTP METERED B/W	176,981	177,947	966,000
*SWTP FLUSH CYCLES @ 9500 GAL PER CYCLE			
* FLUSH #1	5,347	5,362	142,500
* FLUSH #2	5,261	5,277	152,000
* FLUSH #3	4,669	4,684	142,500
*INSTRUMENTATION CONTROL WATER			20,000
			1,673,800

NOTES: Well #1 inactive, Well #3 & 6 emergency Status, Well 4 inactive, Well #5 pumps directly to lake, Well #13 Abandoned, Well #14 undeveloped. Customer meters were read February 26 and March 29 (32 days). District meters were read February 27 and March 31 (33 days).

Central Water Treatment Plant

	Previous	Current	Difference	Reverse meters		
Well # 7	105,905	107,123	1,218,000	7	8.4	8.4
Well #15	152,933,000	157,669,000	4,736,000	15	421	421.000
Well #16	718,317,900	722,131,680	3,813,780	16	0	0
Well #18	200,088,000	204,003,000	3,915,000	18	0	0
Total flow from wells into CWTP supply line:			13,682,780			
Lake Influent Meter	2,938,291	3,069,637	13,134,600			
total CWTP inf - lake inf			548,180			
Effluent Meter	759,879,000	760,714,000	835,000			
		*difference	-286,820	-52%		
Backwash Meter	22,882,000	23,045,000	163,000	72% of total process water		
Backwash Ctr #1	1,112	1,114	2			
Backwash Ctr #2	1,066	1,070	4			
Backwash Ctr #3	461	467	6			
average gal/backwash			13,583			
Flush Ctr #1	2,407	2,412	22,750			
Flush Ctr #2	2,375	2,380	22,750			
Flush Ctr #3	906	910	18,200			
total flushing			63,700			
total process water			226,700	41%		
unaccounted water			-513,520	-94% plant production -(eff meter+process water)		

* does not take clearwell level into consideration

South Water Treatment Plant

	Previous	Current	Difference	Reverse meters		
Well 12/17/20	1,305.5820	1,317.6920	12,110,000			
Well 9	145.5893	145.5893	0	9	804902.6	804902.8
Well 10	848.9538	856.5834	7,629,800	10	20083.91	20134.84
Surface Water	1,471.0510	1,471.0510	0	12	375064	375202
Reclaim return			0	17	13820	13834
Total production			19,739,800	20	83212	83895
Plant Effluent	3,448.386	3,467.001	18,615,000	SWTP Eff	1753163	1785024
Backwash meter			966,000	69% of total process water		
Backwash Ctr #1	2,284	2,294	10			
Backwash Ctr #2	2,342	2,352	10			
Backwash Ctr #3	2,070	2,080	10			
average gal/backwsh			32,200			
Flush @7700/cycle						
Flush #1			142,500			
Flush #2			152,000			
Flush #3			142,500			
total flushing			437,000			
total process water			1,403,000	7%		
unaccounted water			-278,200	-1% plant production -(eff meter+process water)		

Well 12/17/20 Comparison

Well 12/17/20	1,305.5820	1,317.6920	12,110,000	GALLONS	
Well 12	84,160,248	88,929,712	4,769,464	GALLONS	
Well 17	44,998,471	48,690,474	3,692,003	GALLONS	
Well 20	158,634,661	161,928,935	3,294,274	GALLONS	
12,17,& 20 combined			11,755,741	GALLONS	
difference between SWTP & well meters			354259	GALLONS	3%

Wastewater Comparison

TLWWTP flows	24,332,000	
Total process water	1,673,800	
Cust return flow	22,658,200	
Billed	17,520,302	
I&I; Undetermined	5,137,898	23%

*blue cells require manual input

Woodmoor Water & Sanitation District #1

3/31/2020
 April Meeting Applications January - March 2019 2020 2019
 2020 3 2
 2020 3931
 2020 3932

District Taps
 Residential 3841
 Commercial 91
 TOTAL 3932

March Applications
 Beach Lot 35
 Beach Lot 3
 Beach Lot 6

Builder
 Campbell Homes
 Campbell Homes
 Campbell Homes

Water pumped vs. Water Billed	2019 Historical Values				2020 Current Values				WW Return Flows
	Net Pumped	Potable Water Billed	Total Produced for Potable Purposes	Known Pumped Not Billed (Process Water)	Net Water Pumped	Potable Water Billed	Lost - Pumped Not Billed	% Water Accounted For	
30 Dec/31 Jan	18,187,884	19,134,000	20,288,909	2,031,900	18,257,009	16,752,800	1,504,209	92%	23,433,000
01 Feb/28 Feb	17,006,924	15,709,806	19,516,195	1,822,950	17,693,245	15,546,904	2,146,341	88%	19,989,000
01 Mar/31 Mar	16,062,404	15,835,396	21,891,521	2,897,419	20,217,721	17,520,302	2,697,419	87%	24,332,000
01 April/30 April	21,812,773	18,564,736						#DIV/0!	24,850,000
01 May/31 May	25,508,406	22,113,100						#DIV/0!	25,164,000
01 Jun/30 Jun	32,128,252	31,927,902						#DIV/0!	22,360,000
01 Jul/31 Jul	47,540,017	41,804,204						#DIV/0!	23,383,000
01 Aug/31 Aug	39,116,554	36,751,902						#DIV/0!	28,688,000
01 Sep/30 Sep	43,259,958	44,995,002						#DIV/0!	26,481,000
01 Oct/31 Oct	24,815,142	21,025,400						#DIV/0!	23,991,000
01 Nov/30 Nov	17,600,327	16,397,594						#DIV/0!	23,588,000
01 Dec/31 Dec	22,293,153	18,519,302						#DIV/0!	24,474,000
Average	27,110,983	25,214,029	20,565,542	2,184,090	18,722,658	16,606,669	2,115,990	89%	24,224,417

Month	Shear/Main Break	Svc. Failure
January	2	1
February		3
March		1
April		
May		
June		
July		
August		
September		
October		
November		
December		

WOODMOOR WATER AND SANITATION

WATER REPORT

MARCH 28 TO APRIL 30
2020

TOTAL PRODUCED FOR POTABLE USE	23,279,716	GALLONS	
less PROCESS WATER USED	2,340,900	GALLONS	10%
> NET WATER PUMPED	20,938,816	GALLONS	
> less UNACCOUNTED WATER	2,360,516	GALLONS	11%
> POTABLE WATER BILLED	18,578,300	GALLONS	89%

	PREVIOUS	CURRENT	DIFFERENCE
DAWSON WELLS			
#2	45,252,600	46,326,100	1,073,500 GALLONS
#3	16,820,700	16,820,700	0 GALLONS
#5	93,203,000	93,203,200	200 GALLONS
#6	2,000	2,000	0 GALLONS
#7 Kgal meter	107,123.0	107,309.0	186,000 GALLONS
	5% OF TOTAL PUMPED	TOTAL	1,259,700 GALLONS
DENVER WELLS			
#9 Mgal meter	145.5893	147.4033	1,814,000 GALLONS
#17	48,690,474	50,085,432	1,394,958 GALLONS
	14% OF TOTAL PUMPED	TOTAL	3,208,958 GALLONS
ARAPAHOE WELLS			
#8 Kgal meter	54,738.8	54,810	71,000 GALLONS
#10 Mgal meter	856.5834	859.1438	2,560,400 GALLONS
#11 Kgal meter	261,999	261,999	0 GALLONS
#12	88,929,712	95,254,464	6,324,752 GALLONS
#15	157,669,000	158,352,000	683,000 GALLONS
#16	722,131,680	723,407,000	1,275,320 GALLONS
#18	204,003,000	204,534,000	531,000 GALLONS
#20 Kgal meter	161,928,935	169,312,621	7,383,686 GALLONS
	81% OF TOTAL PUMPED	TOTAL	18,829,158 GALLONS
		WELL PRODUCTION	23,297,816 GALLONS
SWTP SURFACE WATER	1,471.0510	1,471.0510	0 GALLONS
	0% OF TOTAL PRODUCTION		
		TOTAL PRODUCTION	23,297,816
LAKE REFILL METER	3,069,637	3,069,816	17,900
TOTAL LAKE IN (REFILL METER & WELL 5)			18,100
		TOTAL PRODUCED FOR POTABLE USE	23,279,716

BILLING CALCULATIONS **TOTAL POTABLE BILLED** **18,578,300**

SOURCES OF UNACCOUNTED WATER

*SHEAR / MAIN BREAKS	0
*SERVICE FAILURES	0

PROCESS WATER CALCULATIONS

CWTP CLARIFIER - @ 4550 GAL PER CYCLE

* FLUSH #1	2,412	2,415	13,650
* FLUSH #2	2,380	2,383	13,650
* FLUSH #3	910	914	18,200
*CWTP METERED B/W	23,045,000	23,110,000	65,000
*WELL 8 B/W - DIFF X 3500 GAL PER B/W	1,686	1,688	7,000
*WELL 11 METERED B/W	17,292,600	17,926,000	633,400
*SWTP METERED B/W	177,947	179,042	1,095,000
*SWTP FLUSH CYCLES @ 9500 GAL PER CYCLE			
* FLUSH #1	5,362	5,379	161,500
* FLUSH #2	5,277	5,294	161,500
* FLUSH #3	4,684	4,700	152,000
*INSTRUMENTATION CONTROL WATER			20,000
			2,340,900

Central Water Treatment Plant

	Previous	Current	Difference	Reverse meters			
Well # 7	107,123	107,309	186,000	7	8.4	8.4	0
Well #15	157,669,000	158,352,000	683,000	15	421	421,000	0
Well #16	722,131,680	723,407,000	1,275,320	16	0	0	0
Well #18	204,003,000	204,534,000	531,000	18	0	0	0
Total flow from wells into CWTP supply line:			2,675,320				0
Lake Influent Meter	3,069,637	3,069,816	17,900				
total CWTP inf - lake inf			2,657,420				
Effluent Meter	760,714,000	762,698,000	1,984,000				
		*difference	673,420	25%			
Backwash Meter	23,045,000	23,110,000	65,000	59%	of total process water		
Backwash Ctr #1	1,114	1,116	2				
Backwash Ctr #2	1,070	1,071	1				
Backwash Ctr #3	467	468	1				
average gal/backwash			16,250				
Flush Ctr #1	2,412	2,415	13,650				
Flush Ctr #2	2,380	2,383	13,650				
Flush Ctr #3	910	914	18,200				
total flushing			45,500				
total process water			110,500	4%			
unaccounted water			562,920	21%	plant production -(eff meter+process water)		

* does not take clearwell level into consideration

South Water Treatment Plant

	Previous	Current	Difference	Reverse meters			
Well 12/17/20	1,317.6920	1,333.1940	15,502,000				
Well 9	145.5893	147.4033	1,814,000	9	804902.8	906529.2	101,626
Well 10	856.5834	859.1438	2,560,400	10	20134.64	20220.52	85.88
Surface Water	1,471.0510	1,471.0510	0	12	375202	376605	1,403
Reclaim return			0	17	13834	14637	803,000
Total production			19,876,400	20	83895	85162	1,267,000
Plant Effluent	3,467.001	3,485.033	18,032,000	SWTP Eff	1765024	1779056	14,032
							119,217
Backwash meter			966,000	67%	of total process water		
Backwash Ctr #1	2,294	2,305	11				
Backwash Ctr #2	2,352	2,364	12				
Backwash Ctr #3	2,080	2,091	11				
average gal/backwsh			28,412				
Flush @9500/cycle							
Flush #1			161,500				
Flush #2			161,500				
Flush #3			152,000				
total flushing			475,000				
total process water			1,441,000	7%			
unaccounted water			403,400	2%	plant production -(eff meter+process water)		

Well 12/17/20 Comparison

Well 12/17/20	1,317.6920	1,333.1940	15,502,000	GALLONS	
Well 12	88,929,712	95,254,464	6,324,752	GALLONS	
Well 17	48,690,474	50,085,432	1,394,958	GALLONS	
Well 20	161,928,935	169,312,621	7,383,686	GALLONS	
12,17,& 20 combined			15,103,396	GALLONS	
difference between SWTP & well meters			398604	GALLONS	3%

Wastewater Comparison

TLWWTP flows	24,330,000	
Total process water	2,340,900	
Cust return flow	21,989,100	
Billed	18,578,300	
t&i; Undetermined	3,410,800	16%

Woodmoor Water & Sanitation District #1

4/30/2020
 April Meeting
 Applications
 January - April

2020 5
 2019 5

Total Taps
 2019 3931
 2020 3936

District Taps
 Residential 3845
 Commercial 91
 TOTAL 3936

April Applications
 Beach Lot 4
 Boomgears Lot 1
 Mayeda Minor Lot 2

Builder
 Campbell Homes
 Handcrafted Const
 Kevin Brislow

Water pumped vs. Water Billed	2019 Historical Values					2020 Current Values				
	Net Pumped	Potable Water Billed	Total Produced for Potable Purposes	Known Pumped Not Billed (Process Water)	Net Water Pumped	Potable Water Billed	Lost - Pumped Not Billed	% Water Accounted For	WW Return Flows	
30 Dec/31 Jan	18,187,884	19,134,000	20,288,909	2,031,900	18,257,099	16,752,800	1,504,299	92%	23,433,000	
01 Feb/28 Feb	17,006,924	15,709,808	19,516,195	1,822,950	17,693,245	15,546,904	2,146,341	88%	19,988,000	
01 Mar/31 Mar	16,062,404	15,835,396	21,891,521	2,697,419	20,217,721	17,520,302	2,697,419	87%	24,332,000	
01 April/30 April	21,812,773	18,554,736	23,279,716	2,340,900	20,938,816	18,578,300	2,360,516	89%	24,330,000	
01 May/31 May	25,508,406	22,113,100						#DIV/0!		
01 Jun/30 Jun	32,128,252	31,927,902						#DIV/0!		
01 Jul/31 Jul	47,540,017	41,604,204						#DIV/0!		
01 Aug/31 Aug	39,116,554	36,751,902						#DIV/0!		
01 Sep/30 Sep	43,259,958	44,995,002						#DIV/0!		
01 Oct/31 Oct	24,815,142	21,025,400						#DIV/0!		
01 Nov/30 Nov	17,600,327	16,397,584						#DIV/0!		
01 Dec/31 Dec	22,293,153	18,519,302						#DIV/0!		
Average	27,110,983	26,214,029	21,244,085	2,223,292	19,276,688	17,099,577	2,177,121	89%	23,311,600	

Month	Shear/Main Break	Svc. Failure
January	2	1
February	-	3
March	-	1
April	-	-
May	-	-
June	-	-
July	-	-
August	-	-
September	-	-
October	-	-
November	-	-
December	-	-

2020 Monthly Construction WORKING

	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	WORKING 2020 Budget	% TOTAL
Waterwell Pump Rep. Rehab													\$	250,000	0.00%
Dirt Well 21		\$ 180,719.19	\$ 702,856.51	\$ 26,562.28									\$ 910,137.98	1,380,000	65.95%
NAS Tank Painting													\$	200,000	0.00%
SFP Repair Turbines	\$ 576.00	\$ 10,295.80		\$ 22,494.33									\$ 33,366.13	360,000	9.27%
Lake Access Road		\$ 1,960.00	\$ 5,382.00	\$ 28,197.80									\$ 34,939.80	0	#DIV/0!
CWPT Surface Water Conv.	\$ 128.00	\$ 7,468.00											\$ 7,596.00	1,400,000	0.54%
MCE Turbidity Monitor Eq													\$ 5,411.00	17,000	0.00%
Lake/CWPT Pump Station				\$ 5,411.00									\$	1,226,000	0.44%
Hwy 105 Imp													\$	272,000	0.00%
Facility Fencing & Poles													\$	18,000	0.00%
TOTAL CONSTRUCTION													\$ 991,450.91	5,123,000	19.35%
Gen. Water Maint.	\$ 18,397.52	\$ 12,045.45	\$ 5,413.47	\$ 8,097.88									\$ 43,954.32	210,000	20.93%
Water Quality Testing	\$ 3,586.00	\$ 2,233.19	\$ 5,407.57	\$ 973.40									\$ 12,200.16	20,000	61.00%
Water Chemical		\$ 289.05	\$ 7,626.27	\$ 5,283.28									\$ 13,198.60	34,000	38.82%
Tank Cleaning													\$	3,500	0.00%
Lake Woodmoor Maint													\$	45,000	0.00%
Gen WW Maint.	\$ 8,703.17	\$ 3,275.60	\$ 1,416.08	\$ 11,152.97									\$ 24,547.82	60,000	40.91%
Sewer Cleaning & Inspections													\$	127,000	0.00%
JV Grass Seeding				\$ 11,355.00									\$	28,000	40.55%
Herbicide Application													\$	35,000	0.00%
Ranch Maintenance	\$ 15.00	\$ 15.00	\$ 1,144.00	\$ 7,191.42									\$ 8,365.42	40,000	20.91%
Total R & R													\$	602,500	0.00%
Vehicle Maintenance & Expense	\$ 2,024.36	\$ 4,608.54	\$ 8,731.90	\$ 4,273.63									\$ 19,638.43	95,000	20.67%
Heavy Equip Maintenance		\$ 366.13		\$ 10.81									\$ 376.94		0.00%
Building Maintenance	\$ 725.00	\$ 1,985.61	\$ 3,156.58	\$ 480.48									\$ 6,347.67	59,000	10.75%
Meter Backflow Exp	\$ 403.67	\$ (796.96)	\$ 6,337.13	\$ 9,016.44									\$ 14,960.28	8,100	184.89%
TOTAL:	\$ 34,558.74	\$ 223,862.80	\$ 747,471.51	\$ 140,500.72	\$	\$	\$	\$	\$	\$	\$	\$	\$ 1,146,393.57	5,887,600	19.47%