

above after the effluent copper is diluted by the essentially copper-free Monument Creek headwater flows coming from upstream of the Tri-Lakes facility discharge location.

**District manager's reports**

Mike Wicklund, Monument's district manager, reported that the Monument board had approved a new policy to help limit the potential for illegal use of copper sulfate in leaking customer-owned sewer pipes that have tree root infiltration causing backups. Monument will offer financing for replacement of these damaged sewer pipes. For more information, see the May 16 Monument Sanitation District article on page 16.

Wicklund and Becky Orcutt, Palmer Lake's district manager, both reported that the annual line cleaning and video inspections of their collection systems had been completed. Woodmoor Assistant District manager Randy Gillette reported that Woodmoor's annual line cleaning and video inspections would begin later in the month.

**Facility manager's report**

Burks noted the following individual monthly sample readings from the March Control Regulation 85 nutrients data collection report were:

- Ammonia nitrogen – 0.45 milligrams per liter (mg/l)
- Nitrite nitrogen – 0.35 mg/l
- Nitrate nitrogen – 2.00 mg/l
- Total inorganic nitrogen – 2.80 mg/l
- Total Kjeldahl Nitrogen – 2.30 mg/l
- Total nitrogen – 4.65 mg/l.
- Total phosphorus was 3.6 mg/l

Burks also noted the following monthly grab sample readings in this March Reg. 85 report for samples taken in Monument Creek below the mixing zone for stream and effluent flows—about a mile south of the Tri-Lakes discharge location where Monument Creek crosses Baptist Road, just

west of the railroad tracks:

- Ammonia nitrogen – 0.13 mg/l
- Nitrite nitrogen – 0.00 mg/l
- Nitrate nitrogen – 2.00 mg/l
- Total inorganic nitrogen – 0.90 mg/l
- Total Kjeldahl Nitrogen – 1.03 mg/l
- Total nitrogen – 2.20 mg/l
- Total phosphorus was 2.6 mg/l

Some of the separate nutrient concentrations Burks noted for weekly testing in the March facility discharge monitoring report were:

- 30-day average for nitrogen ammonia – 0.7 mg/l; no permit limit
- Daily maximum for nitrogen ammonia – 1.2 mg/l; no permit limit
- Daily maximum for nitrate – 4.1 mg/l; permit limit is 23 mg/l
- Daily maximum for total inorganic nitrogen – 5.6 mg/l; permit limit is 23 mg/l

Two of the twice per month sampling results that Burks noted in the March facility discharge monitoring report were:

- 30 day average for sulfate – 34 mg/l; no permit limit
- 30 day average for chloride – 67.5 mg/l; no permit limit

The plant's nutrient effluent limits in the next facility discharge permit, which is tentatively scheduled to be issued in January 2017 under Control Regulation 85, will be 15 mg/l for total inorganic nitrogen and 1 mg/l for total phosphorus. However, the Water Quality Control Division is currently running two to three years behind schedule in issuing new five-year discharge permits.

The interim value for total nitrogen in Regulation 31.17 that will become effective in 2022 for the Tri-Lakes facility is 170 µg/l, which is a more restrictive standard than a total inorganic nitrogen standard of 170 µg/l would be. The total phosphorus interim value in Regulation 31.17 that will become effective in 2022

for Tri-Lakes is 2.01 mg/l.

A new treatment chain will have to be installed to remove total phosphorus down to the 1 mg/l limit in Control Regulation 85. A chemical pilot plant will be built first to determine the exact settings that will be needed in a variety of waste loading, flow, and temperature conditions. A full-scale chemical treatment chain will then be added to the existing plant to meet the Control Regulation 85 total phosphorus discharge permit limits in the facility's next five-year discharge permit. The chemicals that are currently used for removing total phosphorus are ferric chloride or aluminum sulfate.

The current Tri-Lakes discharge permit requires Burks' staff to test for and report 30-day average readings each month for sulfate and chloride concentrations. The chloride and sulfate readings are being collected by the Water Quality Control Division to establish a baseline for the current concentrations before the planned pilot plant is built and becomes operational. Treatment of total phosphorus using either ferric chloride or aluminum sulfate will cause sulfate and chloride concentration in treated Tri-Lakes effluent to increase.

Some of the other twice-per-month sampling results that Burks noted in the March facility discharge monitoring report were:

- 30 day average concentration for copper – 8.5 µg/l
- Daily maximum concentration for copper – 9 µg/l
- 30 day average manganese concentration – 35 µg/l; no permit limit
- 30 day average zinc concentration – 74 µg/l; no permit limit

- Hydrogen sulfide, lead, selenium, and nonylphenol were undetectable

Nonylphenol is a family of closely related organic compounds that are surfactant precursors to a wide range of household and commercial detergents. The nonylphenol in dry cleaning compounds has proven to occasionally be a hazardous material. For example, some dry cleaning sites in Colorado Springs have contaminated some of Security Water and Sanitation District groundwater wells.

Burks stated that he had contacted the facility's permit writer to request a decrease in the frequency of the facility's requirement for testing for nonylphenol. The cost for a single nonylphenol test is \$350 and the current testing requirement is twice per month. All facility sample tests to date have been unable to detect any nonylphenol.

Mercury was again undetectable in the quarterly test. The quarterly whole effluent toxicity tests showed no effluent toxicity for the tested minnows and fleas.

The JUC also discussed various options and TABOR revenue constraints on seeking a state grant to help finance future capital treatment plant construction. Improvements will be necessary to meet inevitable tighter restrictions on total phosphorus concentrations in the plant's treated effluent that will be imposed first by the Water Quality Control Commission's Control Regulation 85 in 2017 and Regulation 31.17. For links for downloading these two regulations, see: [www.colorado.gov/cs/Satellite/C D P H E - M a i n / C B O N / 1251595703337](http://www.colorado.gov/cs/Satellite/C D P H E - M a i n / C B O N / 1251595703337)

Each of the three facility owner districts can hold an election for a temporary or permanent waiver

for the TABOR-mandated state grant ceiling for special district enterprise funds of 10 percent of the fiscal year's operating revenue. This TABOR limitation on the three owner districts' ability to accept large state grants is about \$400,000 per year, which makes it difficult for the Tri-Lakes facility to accept a state construction grant of \$1 million when the timing, number, and amount of grant payments are unknown.

The meeting adjourned at 11:35 a.m.

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The next meeting will be held at 10 a.m. on June 11 at the at the Tri-Lakes facility's conference room, 16510 Mitchell Ave. Meetings are normally held on the second Tuesday of the month. Information for these meetings is available at 481-4053.

Jim Kendrick can be reached at [jimkendrick@ocn.me](mailto:jimkendrick@ocn.me).

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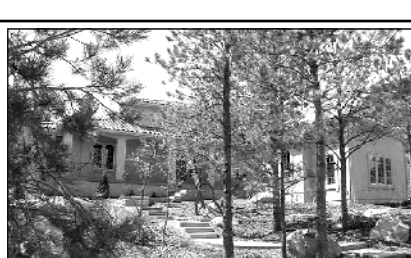
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