

Tech in the same RTW building and continue to be the engineering consultants for the Tri-Lakes facility.

In June 2012, the state Water Quality Control Commission approved nutrient Control Regulation 85, which set TP and TIN permit limits for all large state wastewater treatment facilities. In early 2013, the JUC approved the development of a 20-year capital investment master plan by Tetra Tech for new required nutrient removal equipment as well as other near- and long-term capital replacements and upgrades. However, the JUC put that study on hold and redirected Tetra Tech to determine if the facility would qualify for funding from a new state nutrient grant program if the Colorado Legislature and Gov. John Hickenlooper approved House Bill 13-1191.

Hickenlooper signed this bill on May 10, 2013. It appropriated \$15 million over the next three years for state grants to help

fund planning, design, and construction of capital improvements by state wastewater treatment plants with a rated capacity of more than 2 million gallons per day (MGD) to meet Reg. 85 treatment requirements for TP (phosphates) and TIN (the sum of nitrates, nitrites, and ammonia.) The Tri-Lakes facility is rated at 4.2 MGD.

There are 391 wastewater treatment facilities in Colorado. However, the restrictions in Reg. 85 only apply to the 45 largest publicly owned wastewater treatment facilities in Colorado, those rated at over 2 million MGD of flow capacity. The new nutrient restrictions of Reg. 85 do not apply to the other 346 state wastewater treatment facilities, including the Upper Monument Creek Regional Wastewater Treatment Facility and Academy Water and Sanitation District here in the OCN coverage area.

Hickenlooper provided these grants

as a result of three years of lobbying the state Legislature by the Colorado Nutrient Coalition that was led by Wicklund, Fountain Sanitation District Manager Jim Heckman, Pueblo Compliance Director Nancy Keller, and the coalition's environmental attorney, Tad Foster.

Hickenlooper awarded a three-year \$80,000 planning grant to the Tri-Lakes facility on July 19, 2013 (<http://www.ocn.me/v13n8.htm#grant>). The state then authorized Tetra Tech to combine the facility's previously postponed 20-year capital investment master plan study with the facility's nutrient engineering planning study because both met state planning grant criteria.

This three-year state planning grant requires Tri-Lakes to provide an additional \$16,000 as a 20 percent facility match, which has been divided into separate contributing payments of \$5,333 each from the Monument, Palmer Lake, and Woodmoor special districts. To date the Tri-Lakes facility has received a total of \$66,006 in reimbursements from this state planning grant and Tetra Tech invoices totaling \$80,000 for Tamburini's 178-page draft nutrient engineering report.

Hickenlooper also awarded a separate three-year \$1 million design and construction grant to the Tri-Lakes facility on July 19, 2013, to help pay for installation of new phosphate removal equipment (<http://www.ocn.me/v13n8.htm#grant>). The \$1 million design and construction grant does not require any matching funds from the owners of the Tri-Lakes facility.

Monument and Palmer Lake both held district TABOR waiver elections to become eligible to legally accept their shares of this \$1 million state grant. Both elections were successful. Both districts will lose their annual enterprise fund status while accepting state grant payments. Woodmoor's operating budget is much larger than Monument's and Palmer Lake's, which enables Woodmoor to accept its share of the grant while staying within its TABOR grant limits.

The Tri-Lakes facility's current five-year discharge permit runs from Jan. 1, 2012 to Dec. 31, 2016. The facility's current daily maximum discharge limits for TIN and nitrate in this discharge permit are both 23 milligrams per liter (mg/l)—or parts per million. The current Reg. 85 TIN discharge permit limit, 15 mg/l, and TP permit limit, 1.0 mg/l, became effective July 1, 2013. However, these Reg. 85 limits will not apply to Tri-Lakes until the next Tri-Lakes five-year discharge permit is issued. Tamburini stated that TIN levels in Tri-Lakes' treated effluent are between 3 and 7 mg/l so there are no Reg. 85 TIN

concerns.

There is no permit limit for ammonia in the current Tri-Lakes discharge permit. Tri-Lakes has already conclusively demonstrated, by continuous reporting of very low treated effluent ammonia concentrations to the state for several years, that there is no reasonable potential for Tri-Lakes to have a permit violation for ammonia. The average ammonia level in Tri-Lakes' treated effluent is normally less than 1 mg/l.

In contrast, the ammonia levels in the lagoon-treated effluent of Academy WSD are so high that the state is forcing Academy to eliminate its lagoon treatment system. See the Academy article on Page 19 for more information.

The Tri-Lakes facility was never designed to remove phosphorus because there was no such requirement in place or forecast when the activated sludge plant was built. There is no phosphate discharge limit or reporting requirement in the facility's new discharge permit or monitoring report. However, facility Manager Bill Burks now must report monthly total phosphate concentrations in the facility's treated effluent as well as in Monument Creek upstream and downstream of the facility's effluent discharge pipe to meet Reg. 85 reporting requirements. TP effluent concentrations have been between 3 and 7 mg/l. The Tri-Lakes facility will have to comply with the new Reg. 85 annual median treated effluent limit of 1 mg/l for total phosphorus when the facility's current five-year discharge permit is renewed.

There are no total phosphorus or phosphate limits in the current Tri-Lakes discharge permit. However, monthly total phosphorus monitoring is now required by Reg. 85 to protect the downstream Monument Creek water treatment plants of Colorado Springs Utilities. Tamburini said Tri-Lakes' TP effluent sampling results are between 3 and 7 mg/l. In-stream TP concentrations in Monument Creek have been significantly lower at Baptist Road, demonstrating that Tri-Lakes is not causing a phosphate problem for Colorado Springs Utilities.

Most of the discharged Tri-Lakes nutrients are being absorbed in the numerous beaver ponds that dominate Monument Creek between the Tri-Lakes discharge pipe and Baptist Road. Monument Creek in-stream TP levels upstream of the Tri-Lakes discharge pipe at Arnold Avenue are negligibly small compared to the 1.0 mg/l Reg. 85 TP treated effluent limit, or undetectable.

For example, the latest sample concentration figures for June that were

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