WATER QUALITY CONTROL COMMISSION
STATE OF COLORADO

RESPONSIVE PREHEARING STATEMENT OF
THE CHATFIELD WATERSHED AUTHORITY

IN THE MATTER OF PROPOSED ADOPTION OF REVISIONS TO THE BASIC STANDARDS AND METHODOLOGIES FOR SURFACE WATER (REGULATION NO. 31); REVISIONS TO CLASSIFICATIONS AND NUMERIC STANDARDS FOR ARKANSAS RIVER BASIN (REGULATION NO. 32), UPPER COLORADO RIVER BASIN AND NORTH PLATTE RIVER (PLANNING REGION 12) (REGULATION NO. 33), SAN JUAN RIVER AND DOLORES RIVER BASINS (REGULATION NO. 34), GUNNISON AND LOWER DOLORES RIVER BASINS (REGULATION NO. 35), RIO GRANDE BASIN (REGULATION NO. 36), LOWER COLORADO RIVER BASIN (REGULATION NO. 37), AND SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN, REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN (REGULATION NO. 38); REVISIONS TO NUTRIENTS MANAGEMENT CONTROL REGULATION (REGULATION NO. 85)

The Chatfield Watershed Authority ("CWA" or the "Authority"), by and through its counsel, Somach Simmons & Dunn P.C., submits this Responsive Prehearing Statement ("RPHS") for the above captioned matter to the Colorado Water Quality Control Commission (the "Commission").

I. Executive Summary

While CWA generally supports the Water Quality Control Division's (the "Division") efforts to improve the water quality of Colorado's lakes and reservoirs, CWA opposes the Division's proposal to apply the table value standard for total nitrogen ("TN") of 380 ug/L to Chatfield Reservoir beginning in 2023. Rather, CWA proposes for the development and implementation of a site-specific standard that takes into consideration Chatfield Reservoir's unique characteristics and track record of regulatory compliance.

Chatfield Reservoir already has site-specific standards for chlorophyll-a of 10 ug/L and total phosphorus of 30 ug/L in Regulation 38, and limits on the total maximum annual load ("TMAL") for phosphorus of 19,600 lbs/y under a median flow of 100,860 AF/y in Regulation 73. Furthermore, CWA has implemented nonpoint source controls for areas within its jurisdiction with the goal of reducing nonpoint source phosphorus in the watershed, and is in the process of collecting long-term data suitable for development of site-specific nutrient standards.

Chatfield Reservoir continues to meet its water quality standards on a consistent basis, has generally avoided the most concerning toxic algal blooms that have impacted other Colorado reservoirs, and expends significant resources on various efforts to protect Chatfield Reservoir's water quality, which appears to be improving as a result. CWA supports the implementation of nutrient standards that the science and data indicate will improve Chatfield Reservoir's water quality. However, imposing a standard that is not tailored to Chatfield Reservoir nor supported by the available data and science—merely to impose a standard—will have little benefit to water quality in the watershed, but such a standard will surely increase the cost to wastewater treatment plants and, as a result, the general public.

Accordingly, CWA respectfully requests that the Commission reject the Division's proposal to impose the table value TN standard of 380 ug/L on Chatfield Reservoir in 2023 and instead provide for the development of a site-specific TN standard for Chatfield Reservoir pursuant to Sections 31.7(1)(b)(ii) and (ii) of Regulation No. 31. Due to CWA's limited financial resources, CWA proposes to develop the site-specific standard once CWA has completed work on its revised TMAL, which is expected to occur in 2026. CWA further requests that the Commission refrain from imposing any TN standard on Chatfield Reservoir prior to the development of a site-specific standard.

II. Background on CWA and Chatfield Reservoir

Chatfield Reservoir is located fifteen (15) miles southwest of Denver, Colorado, and the Chatfield watershed encompasses 483 square miles, spanning parts of Jefferson, Douglas, and El Paso counties. The Reservoir receives drainage from two primary drainage basins: the South Platte River basin and the Plum Creek basin. Approximately 24 miles of Interstate 25 and 14 miles of U.S. Highway 85 run through the watershed. CWA seeks to protect the waters of the Chatfield watershed to support drinking water supplies, aquatic life, recreation, and agricultural uses through stakeholder collaborative efforts by prioritizing and implementing activities that maintain and measurably improve water quality in the watershed.

Since 1984, CWA has undertaken measures to protect water quality in Chatfield Reservoir and its watershed. CWA was designated by the Governor of Colorado and the U.S. Environmental Protection Agency ("EPA") as the 208 Management Agency (for wastewater management) for the Chatfield watershed. In addition to its 208 responsibilities, CWA, in coordination with its membership agencies, implements point source, nonpoint source, and stormwater controls pursuant to Regulation 73 to protect water quality and beneficial uses in Chatfield Reservoir. CWA's membership is composed of the following entities: the City and County of Denver (acting by and through its Board of Water Commissioners); City of Littleton, Douglas County, Jefferson County, Roxborough Water and Sanitation District, Town of Castle Rock, Perry Park Water and Sanitation District, Centennial Water and Sanitation District, Town of Larkspur, Castle Pines Metropolitan District, Dominion Water and Sanitation District,

Louviers Water and Sanitation District, and Plum Creek Water Reclamation Authority. In addition to the dues that each member pays to support CWA's efforts, each entity also expends a significant amount of money on other efforts to improve the water quality of the Chatfield watershed and beyond.

CWA has implemented a watershed plan that involves monitoring and modeling to identify issues that negatively affect Chatfield Reservoir's water quality. According to the watershed plan, the majority of pollutants of concern (chlorophyll a and phosphorus) within Chatfield Reservoir comes from nonpoint sources, including erosion from degraded streambanks, stormwater runoff, leachate from poorly functioning or unmaintained septic systems, runoff from agricultural lands, and runoff from wildfire burn areas. In addition to the watershed plan, the U.S. Army Corps of Engineers in coordination with the Colorado Water Conservation Board developed a plan for the reallocation of water storage in Chatfield Reservoir to accommodate a growing demand for water in the Front Range. In May 2020, project participants began storing water in the new reallocation pool for the first time and initiated a five-year monitoring and reporting program to determine water quality and other impacts. The watershed plan and reallocation project serve as two examples of ongoing efforts by a wide range of stakeholders to improve water quality in Chatfield Reservoir.

The Chatfield Reservoir Control Regulation No. 73, 5 CCR 1002-73, is a watershed-scale implementation plan for meeting a TMAL of total phosphorus to Chatfield Reservoir. The regulation identifies a TMAL for phosphorus of 19,600 lbs/y under a median inflow of 100,860 AF/y to attain the water quality standards for 10 ug/l chlorophyll a and 0.030 mg/L total phosphorus, as described in Regulation No. 38. The control regulation also includes sections that guide permitting effluent limitations and point source allocations, phosphorus trading, determinations of wasteloads, monitoring and reports, and nonpoint source controls. The control regulation does not provide for TN regulation.

Over the past ten (10) years, Chatfield Reservoir has generally attained its site-specific standards for phosphorus and chlorophyll a. As a result, Chatfield Reservoir has avoided the toxic algal blooms that have proved problematic for other urban Colorado reservoirs. If the Commission decides to implement the Division's proposed table value TN standard at Chatfield Reservoir beginning in 2023, that could lead to the reservoir falling out of regulatory compliance despite continuing to meet its site-specific chlorophyll a and phosphorus standards. The increased costs associated with coming into compliance with the Division's table value TN standard would likely require CWA to postpone and/or terminate much of the work related to the watershed plan.

III. Discussion

As discussed above, CWA supports the development of a site-specific TN standard for Chatfield Reservoir. CWA has concerns related to the Division's categorization of the state's

lakes and reservoirs as well as the dataset used by the Division in calculating the proposed revised table value nutrient standards, as discussed in further detail below. In addition, CWA has developed a base watershed model to aid in efforts to protect and improve the water quality of Chatfield Reservoir and the entire Chatfield watershed. Furthermore, Chatfield Reservoir's history of attainment of its chlorophyll a and phosphorus standards indicate that the public uses of the reservoir appear to be fully protected by the current standards, which supports CWA's request for additional time to develop a site-specific standard.

For these reasons, CWA requests the Commission to decline to implement the proposed table value TN standard at Chatfield Reservoir in 2023 and instead permit CWA to develop a site-specific standard once resources become available that is based on robust, Chatfield-specific data and analysis.

1. <u>CWA has concerns with the division of Colorado's lakes and reservoirs into two categories: cold water and warm water.</u>

At the recommendation of EPA, the Division divided the state's lakes and reservoirs into different classes and has proposed nutrient standards based on that separation. The Division considered classifying lakes in several different ways, including by ecoregion (Plain, Rockies, Xeric) and by lake type (natural lake, man-made reservoir), but ultimately decided to classify based on aquatic life use (warm, cold), which relates to water temperature but is not determined by water temperature, even though the technical report relied on by the Division indicated that "the best classification option (aquatic life use, ecoregion, or both) was not apparent from statistical analysis." N-STEPS Colorado Lakes Final Technical Report, WQCD Prehearing Statement, Exhibit O, pg. 24.

The Division did not consider temperature as a variable for the categorization of lakes and reservoirs, but according to a Technical Review of Information Related to Development of Revised Nutrient Criteria for Colorado Lakes, prepared by James H. McCutchan, Jr., of the University of Colorado's Environmental Engineering Program, (the "CU Report"), temperature "possibly would provide for better predictions of chlorophyll a than aquatic life use." CU Report, p. 25. In addition, the Division also excluded lake depth and water-residence time as possibly categorizations, even though both variables can limit algal growth in lakes. Accordingly, the CU Report concludes that aquatic life use may not constitute the most appropriate basis for partitioning relationships between nutrient concentrations and chlorophyll. The CU Report also notes that "[d]ecisions about classification are important for development of nutrient criteria because relationships between chlorophyll a and any single variable (TP, TN, temperature, depth, water-residence time, etc.) have poor predictive power." *Id*. at 26. Furthermore, the N-STEPS final report evaluated these covariates based on a data set that has since been substantially revised, and did not provide enough substantiation of the analysis to evaluate why these other covariates were rejected. Therefore, the analysis needs to be completed again and made available for review and comment before the Commission can move forward with the proposed TVS based on aquatic life use classification.

The Division categorized Chatfield Reservoir as a cold-water reservoir, despite the reservoir's unique position on the Front Range, along the foothills of the Rocky Mountains, with both a cold-water and warm-water source. The average temperature of Chatfield Reservoir varies significantly from the average temperature of other reservoirs classified as cold-water reservoirs by the Division. This variation in temperature would influence both the appropriate trophic state goal and the relationships among nutrients and chlorophyll a. It is unclear how Chatfield Reservoir would have been classified if the Division had used a different method of classification. The proposed table value TN standard for warm-water reservoirs is 610 ug/L, compared to 380 ug/L for cold-water reservoirs. Based on CWA's internal calculations, Chatfield Reservoir would have met the table value TN standard for warm-water reservoirs every year since at least 2018.

Chatfield Reservoir's location and water sources support the implementation of site-specific nutrient standards rather than table value standards for cold-water reservoirs. As discussed above, Chatfield Reservoir already has site-specific standards for chlorophyll a and phosphorus, and the Commission should allow CWA to develop a site-specific TN standard for the reservoir that takes into account the reservoir's unique status among Colorado lakes and reservoirs.

2. <u>CWA has concerns with the dataset relied on by the Division in calculating the proposed revised nutrient standards.</u>

CWA also has concerns with the Division's proposal to impose the table value TN standard on Chatfield Reservoir, given that the standard was calculated based on an irrelevant benchmark for chlorophyll a—the table value standard rather than Chatfield Reservoir's site-specific standard, which the Commission has previously determined is the appropriate trophic state for Chatfield and which the Division does not propose to change in this rulemaking. Because Chatfield Reservoir already has a site-specific chlorophyll a standard contained in Regulation 38 that has been determined to sufficiently address water quality, the Division should have used that standard in calculating any proposed TN standard for Chatfield Reservoir. In addition, the CU Report identifies concerns with the Division's minimum sample size used to calculate the revised proposed table value standards and with the Division's inclusion of anomalous values in its dataset.

CWA also has concerns with the Division's determination that a single sampling event was adequate for calculation of seasonal-mean values used for development of the proposed nutrient criteria. According to the CU Report, "[s]easonal-mean values cannot be estimated reliably from results for a single sampling event." CU Report, p. 22. Accordingly, "reliable estimates of seasonal-mean values would require results from multiple sampling events." *Id*. In calculating the nutrient standards adopted in 2012, the Division required a minimum of three samples per season to determine the seasonal averages used in the calculations. WQCD, PHS, p. 42. However, in calculating the revised nutrient standards proposed by the Division in this rulemaking, the Division included data from lakes with less than three samples available for each

growing season, in some cases permitting the use of a single sample to determine a lake's summer average. *Id*. at 43. The Division concedes that a "waterbody with less than three samples per growing season does not have the benefit of averaging conditions across the growing season," but alleges that "the data still convey information about the waterbody that could provide valuable information about the responsiveness of chlorophyll to nutrients for that waterbody." *Id*.

CWA has concerns with the inclusion of data on lakes with less than three samples available. If the Division needs more data to calculate accurate proposed nutrient standards, the solution is not to reduce the required sample size, but rather to gather more data, even if that requires additional time and a delay of the imposition of the proposed revised standards. CWA supports revising the state's nutrient standards pursuant to accurate and relevant data if necessary to address water quality issues. If the Division needs to gather more data to ensure that the proposed standards are correct and supported by sufficient data, then that should occur prior to the imposition of revised nutrient standards.

CWA also has concerns related to the Division's inclusion of anomalous values in the dataset. According to the CU Report, the Division's dataset contains numerous anomalous values for chlorophyll a, total nitrogen, and total phosphorus. CU Report, p. 13. Specifically, the total phosphorus data for Chatfield Reservoir includes anomalous values that likely "represent typographical errors or gross analytical errors." *Id*. According to the CU Report, the "retention of such errors in the data set would affect the relationships between nutrients and chlorophyll a," on which the criteria for phosphorus and nitrogen is based. *Id*.

CWA's concerns with the Division's dataset used to calculate the proposed revised table value nutrient standards further justifies the development of a site-specific TN standard for Chatfield Reservoir that is based on robust and accurate data, specific to the Chatfield watershed.

3. <u>CWA has developed a base watershed model that will help aid in the development of a site-specific TN standard</u>.

CWA has developed a base watershed model for the Chatfield watershed, and continues to engage in modeling work to help determine what proposed efforts included in the watershed plan CWA should engage in. As part of this modeling work, CWA has gathered significant data and samples from the reservoir that would assist in the development of a site-specific TN standard. As discussed above, since Chatfield Reservoir continues to attain its site-specific chlorophyll a standard, there does not appear to be a valid reason to rush to impose a TN standard, particularly if the standard is incorrect. Rather, it would be better to wait to impose a TN standard that is agreed upon by all of the parties to be both accurate and protective but not overly burdensome.

IV. Conclusion

In summary, CWA requests that the Commission decline to impose the Division's proposed table value TN standard on Chatfield Reservoir and instead allow for the development of a site-specific standard once CWA has completed work on its TMAL. As explained above, Chatfield Reservoir does not fit neatly into the Division's proposed categorization of the state's reservoirs as either warm water or cold water, already has site-specific standards for chlorophyll a and phosphorus, and remains in compliance with regard to its chlorophyll a standard—which indicates that the public uses of the reservoir are currently protected and will continue to be protected during the development of the site-specific TN standard. Given these reasons, and the risks involved with imposing an incorrect TN standard on the reservoir, the Commission should grant CWA's request to be given time to develop a site-specific TN standard tailored specifically to Chatfield Reservoir.

V. Witnesses

The CWA may call the following individuals as witnesses:

Alan Leak, CWA Technical Consultant, RESPEC
Barbara Biggs, Roxborough Water & Sanitation District
Wes Martin, Plum Creek Water Reclamation Authority
James H. McCutchan, Jr., Department of Civil, Environmental and Architectural Engineering, University of Colorado
Michael Daugherty, Somach Simmons & Dunn P.C.

VI. Exhibits

Technical Review of Information Related to Development of Revised Nutrient Criteria for Colorado Lakes, James H. McCutchan, Jr., Department of Civil, Environmental and Architectural Engineering, University of Colorado, August 9, 2022.

Respectfully submitted this __ day of December, 2022.

SOMACH SIMMONS & DUNN, P.C.

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