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*DRAFT for Review & Comment***SECTION 3: APPLICABLE REGULATIONS**

Multiple state and federal regulations are in place to protect water quality and functions of the Cherry Creek Reservoir and the water resources in the watershed. This section highlights several key regulations pertinent to this watershed plan, focusing on this subset of state regulations:

- Regulation 38 Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin
- Regulation 72 Cherry Creek Reservoir Control Regulation
- Regulation 22 Site Location and Design Regulations for Domestic Wastewater Treatment Works
- Regulation 61 Colorado Discharge Permit System (CDPS) Regulations (and associated CDPS permits)

Additionally, the U.S. Army Corps of Engineers (USACE) administers federal regulations under Section 404 of the Clean Water Act to protect Waters of the U.S., including wetlands, and Section 408 to protect flood storage associated with flood control functions of the Reservoir. The USACE is also responsible for dam safety and operation of the Reservoir outlet structure and water levels.

3.1 REGULATION 38 CLASSIFICATIONS AND NUMERIC STANDARDS FOR SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN, REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN

The Colorado Water Quality Control Commission (WQCC) establishes water quality standards and designated beneficial uses for State Waters in the Regulation 31 Basic Standards and Methodologies for Surface Water. These statewide standards are then adopted for streams and lakes in basin regulations such as Regulation 38, which addresses the Cherry Creek Reservoir, Cherry Creek itself, and other tributaries in the watershed in Regulation 38.¹

Regulation 38 and Control Regulation 72 are the two main regulations adopted by the Colorado Water Quality Control Commission that govern the water quality of Cherry Creek Reservoir and its watershed.

Cherry Creek Reservoir is designated as Segment 2 (COSPCH02) of Cherry Creek in the South Platte River Basin. CWQCC assigned numeric standards to protect the designated uses of the Reservoir including warm water aquatic life (warm water class 1), recreation, agriculture, and water supply. Although the Reservoir includes a water supply classification, it is not a direct use water supply for drinking water. The Reservoir is also

¹ CCR 1002-38 Regulation No. 38 Classification and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin and Smoky Hill River Basin

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subject to antidegradation review (i.e., “reviewable”). Table 3-1 summarizes currently applicable designated uses and water quality standards for the Reservoir, with more detailed information accessible in Regulation 38. These standards are subject to a triennial review process, which occurs over a five-year period.

The Reservoir has a site-specific standard of 18 ug/L of chlorophyll-a, with attainment assessed as a seasonal average for July through September with an allowed one-in-five-year exceedance frequency. Although numeric standards for various physical and biological parameters and metals apply to the Reservoir, CCBWQA’s primary focus is working to reduce nutrient loading to the Reservoir so that the Reservoir attains its chlorophyll-a standard, with fewer algal blooms. CCBWQA closely monitors causative variables related to algal blooms such as various forms of nitrogen and phosphorus, as well as variables such as dissolved oxygen, temperature and pH. See CCBWQA’s current annual water quality monitoring report for more detailed information and Chapter 4 for a summary of current conditions.

At the time that this watershed plan was updated, the CWQCC and CWQCD were in the process of phased adoption of nutrient criteria for streams and lakes throughout Colorado. Total phosphorus and total nitrogen standards will be adopted for the Reservoir in the near future, and CWQCC is working on site-specific standards to propose to the CWQCC for these nutrients. For more information on lake nutrients criteria, see CWQCC’s 10-year Water Quality Roadmap [website](#).

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Table 3-1. CWQCC Designated Uses and Numeric Stream Standards for Cherry Creek Reservoir

2. Cherry Creek Reservoir.						
COSPCH02	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT			
Reviewable	Aq Life Warm 1 Recreation E Water Supply	acute	chronic	acute	chronic	
	Temperature °C	WL	WL	Arsenic	340	---
	D.O. (mg/L)	---	5.0	Arsenic(T)	---	0.02
Qualifiers:	pH	6.5 - 9.0	---	Cadmium	TVS	TVS
Other:	chlorophyll a (ug/L) 7/1 - 9/30	---	18*	Cadmium(T)	5.0	---
Temporary Modification(s):	E. coli (per 100 mL)	---	126	Chromium III	---	TVS
Arsenic(chronic) = hybrid	Inorganic (mg/L)			Chromium III(T)	50	---
Expiration Date of 12/31/2024		acute	chronic	Chromium VI	TVS	TVS
*chlorophyll a (ug/L)(chronic) = Season mean concentration measured in the upper three meters of the water column for the months of July through September with an exceedance frequency of once in five years.	Ammonia	TVS	TVS	Copper	TVS	TVS
*Uranium(acute) = See 38.5(3) for details.	Boron	---	0.75	Iron	---	WS
*Uranium(chronic) = See 38.5(3) for details.	Chloride	---	250	Iron(T)	---	1000
	Chlorine	0.019	0.011	Lead	TVS	TVS
	Cyanide	0.005	---	Lead(T)	50	---
	Nitrate	10	---	Manganese	TVS	TVS/WS
	Nitrite	---	0.5	Mercury(T)	---	0.01
	Nitrogen	---	---	Molybdenum(T)	---	150
	Phosphorus	---	---	Nickel	TVS	TVS
	Sulfate	---	WS	Nickel(T)	---	100
	Sulfide	---	0.002	Selenium	TVS	TVS
				Silver	TVS	TVS
				Uranium	varies*	varies*
				Zinc	TVS	TVS

Table Notes: See Regulation 38 for more detailed explanation of standards, including temperature acronyms. TVS = Table Value Standard; WS = Water Supply; metals standards are expressed as dissolved unless annotated with a T (for Total Recoverable).

3.2 REGULATION 72 CHERRY CREEK RESERVOIR CONTROL REGULATION

Regulation 72 is the Cherry Creek Reservoir Control Regulation that defines water quality management programs and controls to achieve water quality standards. The CWQCC first adopted the control regulation in 1984. The Cherry Creek Reservoir Control Regulation was the second control regulation to be adopted in Colorado. Other control regulations exist for Dillon Reservoir, Chatfield Reservoir, and Bear Creek Watershed. Since its adoption in 1984, Regulation 72 has been substantively amended several times as part of the CWQCC’s triennial review process, as illustrated in the timeline in Table 3-2.

Because Cherry Creek Reservoir does not meet its chlorophyll-a standard, Regulation 72 included a Total Maximum Annual Load (TMAL) for phosphorus that was expected to enable attainment of the chlorophyll-a standard. The TMAL is no longer part of Regulation 72 due to changes in the scientific understanding of reservoir conditions over the years. This is due in part to a finding that conditions in the Reservoir better correlated to phosphorus concentrations rather than loads and a finding that the Reservoir is often nitrogen-limited. The current version of Regulation 72 still includes very stringent numeric effluent limits for total phosphorus of 0.05 mg/L

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for point sources (e.g., WWTFs, industry) and stringent stormwater control measure requirements for development and redevelopment projects in the watershed with the goal of reducing nutrient loading to the Reservoir.

Table 3-2. Timeline of Regulation 72 Amendments

Year	Description of Change to Regulation 72
1984	Reg. 72 first adopted, with Total Maximum Allowable Load (TMAL) for phosphorus to protect water quality in the reservoir, specific Wasteload Allocations (WLAs) for wastewater dischargers, and Load Allocations (LAs) of 50% phosphorus removal with local regulations only for nonpoint sources (NPS)
1989	Clarified use of wastewater treatment facilities (WWTF) limits and extended compliance date for 50% phosphorus removal from nonpoint sources.
1991	Added WWTF annual maximum discharge limit concentration for total phosphorus.
1992	Added temporary Wasteload Allocation (WLA) for Denver SE Suburban W&SD.
1995	Added requirements for land application of treated wastewater.
1997	Established phosphorus trading program to be administered by the CCBWQA.
2001	Adopted phased TMAL, including WLAs for wastewater treatment facilities, temporary transfers, emergency pool, and reserve pool, trading program modifications, nonpoint source control requirements, Phase II stormwater requirements, and monitoring requirements for nutrients (not just phosphorus).
2004	Eliminated trading poundage cap and trading ratio ceiling, added flexibility in use of return flow factors in WLA calculations, included individual sewage disposal systems (OWTS), and exempted certain land disturbance activities
2009	CWQCC adopted revised Reg. 72, including removal of all TMAL-related components, a new concentration-based management approach, phosphorus discharge effluent limits for drinking water treatment plant discharges, and a 3-tiered stormwater system for development/redevelopment
2012	Triennial Review & Rulemaking Hearing to consider changes to 72.7 stormwater requirements
2022	CWQCC adopted changes to 72.7 stormwater requirements, specifically to better align with current versions of stormwater MS4 permits, removal of prescriptive lists of BMPs, and simplification of the development/redevelopment tier structures.
2023	CWQCC added best management practice requirements to construction dewatering discharges, in lieu of numeric effluent limits for total phosphorus.

Regulation 72 prescribes activities necessary to reduce the inflow of total phosphorus and other nutrient concentrations to Cherry Creek Reservoir to attain the chlorophyll- α standard as summarized in Figure 3-1.2. Responsibility for these activities is divided among different entities, including the CCBWQA, CWQCD, the Arapahoe and Douglas County Health Departments, and local governments in the basin. CWQCD issues discharge permits for point source discharges (e.g., WWTFs, municipal stormwater), serves as the 208 Planning Agency for the basin and establishes requirements for Onsite Wastewater Treatment Systems (OWTSs). County health departments permit OWTSs in their jurisdictions, and local

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governments subject to Municipal Separate Storm Sewer System (MS4) discharge permit requirements administer and enforce construction and post-construction stormwater quality requirements in their jurisdictions. The CCBWQA fulfills monitoring and annual reporting requirements of Regulation 72, constructs Pollution Reduction Facilities (PRFs), conducts public education and outreach, and serves as a referral agency for wastewater-related site applications and land development reviews. CCBWQA serves at the 208 Management Agency for the basin (as discussed further in Section 3.3 below).

Cherry Creek Stewardship Partners, Colorado Parks and Wildlife and local governments support public education and outreach activities that raise awareness of water quality issues in the basin and steps that citizens can take to reduce nutrient loading to the Reservoir.

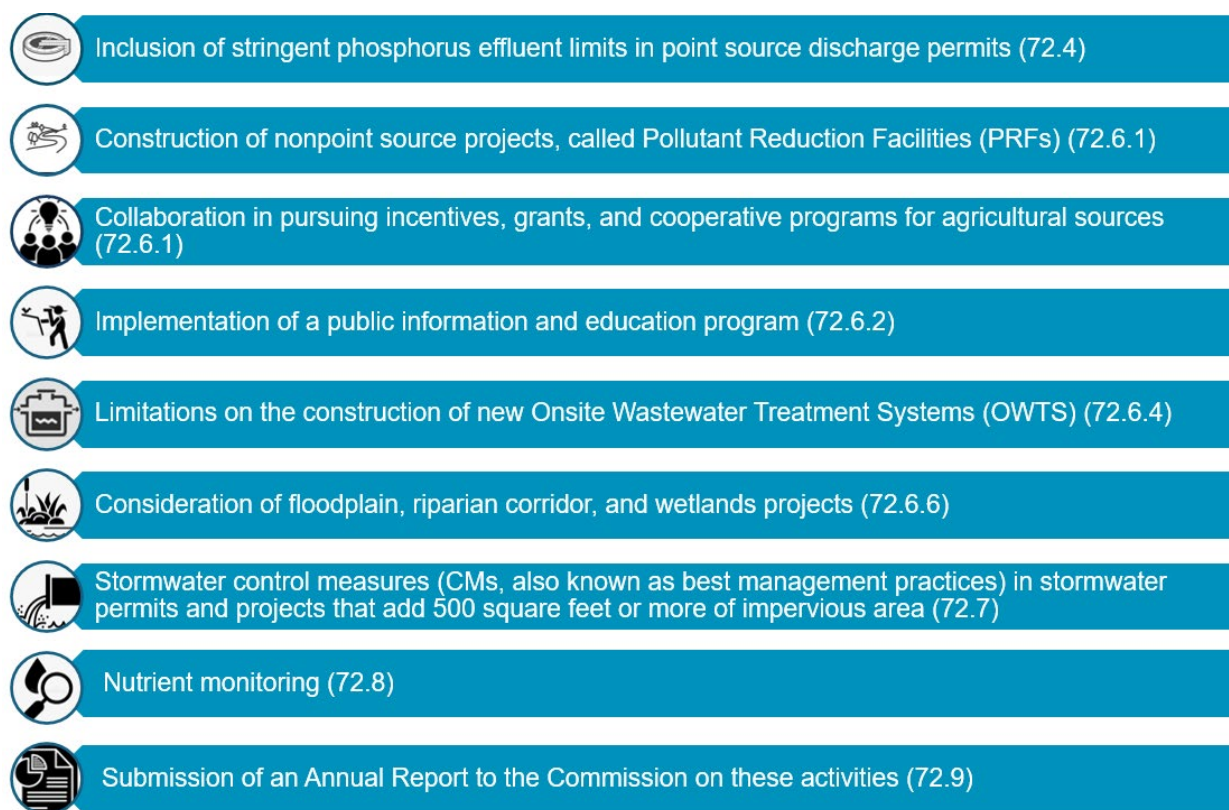


Figure 3-1. Overview of Regulation 72 Requirements

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3.3 REGULATION 22 SITE LOCATION AND DESIGN REGULATIONS FOR DOMESTIC WASTEWATER TREATMENT WORKS

Regulation 22² is the CWQCC regulation that informs the site location and design approvals process for domestic wastewater treatment works (also known as wastewater reclamation facilities and wastewater treatment facilities [WWTFs]). CCBWQA is the designated 208 Water Quality Management Agency³ for the Cherry Creek drainage basin and watershed, and in accordance with Regulation 22 reviews all site location applications that fall within the Cherry Creek Reservoir Basin boundary. As a result of these reviews, CCBWQA then may choose to provide the CWQCD with comments and recommendations for either: 1) approval with or without conditions; and/or 2) denial. To support the review of site location applications, CCBWQA has its [Site Application Review Process and Emergency Response Plan Criteria](#) that establish CCBWQA's criteria for reviewing site applications. CCBWQA reviews site applications for compliance with Regulation 72, CCBWQA's watershed plan, and the Regional Water Quality Management Plan.⁴ As the technical reviewer for site applications, the CWQCD is responsible for reviewing site applications for technical completeness and correctness.

3.4 REGULATION 61 COLORADO DISCHARGE PERMIT SYSTEM REGULATIONS AND DISCHARGE PERMITS

Regulation 61 is the CWQCC regulation that establishes requirements for all operations discharging to Waters of the State from a point source. Examples of point sources pertinent to the Cherry Creek Reservoir Basin include wastewater treatment facilities (WWTFs), municipal separate storm sewer systems (MS4s), water treatment facilities (WTFs), industry and other sources. Regulation 61 defines technology-based and water quality-based effluent limitations that are subsequently implemented in Colorado Discharge Permit System (CDPS) discharge permits. The regulation establishes requirements for discharges to surface water and groundwater.

The WQCD's [Water Quality Permits](#) webpage provides information on permitting sectors and a list of all active clean water permits in Colorado. Permit conditions for nutrients continue to evolve with the most current information available on WQCD's [10-year Water Quality Roadmap](#) webpage. WWTFs discharging in the Cherry Creek Reservoir Basin are subject to very stringent numeric total phosphorus limits (0.05 mg/L) and compliance schedules to reduce total inorganic nitrogen. MS4 permit limits are based on implementation of stormwater control measures (SCMs)

² Regulation 22 is also supported by additional guidance and information in [Clean Water Program Implementation Policy 14 \(CW-14\)](#).

³A local, regional, or state agency or political subdivision designated by the governor, in consultation with the designated planning agency and in accordance with Section 208 of the Federal Clean Water Act and State Law, that is responsible for implementing all or part of an approved regional water quality management plan (from CWQCC Regulation 22).

⁴ The CDPHE's CWQCD is the 208 Water Quality Planning Agency and is responsible for the regional water quality management plan. As there is no Regional Water Quality Management Plan developed for Cherry Creek Basin, the [Statewide Water Quality Management Plan](#) applies.

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or best management practices (BMPs), also known as practice-based limits. Stormwater SCMs are required during construction and post-construction (permanent SCMs) in accordance with stringent requirements described in Regulation 72.

3.5 USACE SECTION 404 AND 408 REGULATIONS






The U.S. Army Corps of Engineers (USACE) plays a significant regulatory role in the Cherry Reservoir Basin Watershed. USACE's local Tri Lakes Office manages day-to-day operation of the Reservoir, and the regional USACE Omaha office administers Section 404 and 408 permits.

Section 404 of the Clean Water Act requires approval prior to discharging dredged or fill material into waters of the United States, including wetlands. The purpose of the Section 404 program is to ensure that the physical, biological, and chemical quality of our nation's water is protected from irresponsible and unregulated discharges of dredged or fill material that could permanently alter or destroy these valuable resources ([USACE 2024a](#)). Section 404 permit requirements protect wetlands and streams in the Cherry Creek Basin during a variety of construction and development projects. In addition to development-related projects, 404 permit requirements also apply to fish and wildlife habitat improvement projects.





Section 408 of the Clean Water Act requires permission by the USACE to alter its projects. More specifically, in order to ensure that USACE projects, such as the Cherry Creek Reservoir flood control project, continue to provide their intended benefits to the public, Congress mandated that any use or alteration of a Civil Works project by another party is subject to the approval of USACE. This requirement was established in Section 14 of the Rivers and Harbors Act of 1899, which has since been amended several times and is codified at 33 USC 408 (Section 408) ([USACE 2024b](#)).

Additionally, due to recent changes in federal 404 permitting requirements and case law, the State of Colorado is developing and evolving "gap waters" regulatory program that will provide an additional layer of wetland regulation for certain features that are not longer considered Waters of the U.S. at the federal level.

3.6 LEARN MORE

-  [Cherry Creek Reservoir Control Regulation 72 \(5 CCR 1002-72\)](#)
-  [Regulation No. 38 Classification and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin and Smoky Hill River Basin \(CCR 1002-28\)](#)
-  [Regulation No. 22 - Site Location and Design Regulations for Domestic Wastewater Treatment Works](#)
-  [CDPHE](#)
-  [Regulation No. 31 The Basic Standards and Methodologies for Surface Water](#)

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-  [Regulation No. 61 Colorado Discharge Permit System Regulations](#)
-  [CDPHE 10-Year Water Quality Roadmap](#)
-  [CDPHE Clean Water Permitting](#)
-  [USACE Section 404 and 408 Permitting](#)