Valley Soil & Water Conservation District
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June 30, 2025

Dear Board of County Commissioners,

On behalf of the Valley Soil & Water Conservation District (VSWCD), we appreciate the opportunity to comment on the recent McCall Area of Impact meetings. We commend the Commissioners for their thoughtful engagement, opportunity for change and continued interest in identifying improvements that will strengthen water quality protections across Valley County.

We are encouraged by your openness to reviewing existing codes, and we're pleased to share a comparison chart designed to support that effort. This fact-based chart highlights key differences between City of McCall impact area codes and current Valley County codes, with the goal of fostering a clearer understanding of where code alignment or where we can update county-wide water quality measures. VSWCD's recommendations for updates are also included in the document.

For additional context, please note that several of these recommendations build on previously submitted input for the County's Comprehensive Plan, as well as proposed draft resolutions from 2024 and 2025 regarding Shoreline Zone modifications and Stormwater Impoundment Design Criteria. We would be happy to re-share those documents upon request.

We respectfully request a scheduled time to discuss the attached recommendations in greater depth and to answer any questions you may have. As was aptly stated during one of the Area of Impact meetings, "It shouldn't be about us versus them. It should be about what we all are doing to improve and protect our water bodies... all of us are trying to work on the environment." VSWCD fully supports this shared vision and is eager to collaborate toward that common goal.

Thank you for your time and for your continued dedication to environmental stewardship.

Sincerely,

Art Troutner, Chair
With full Board Approval

Valley Soil & Water Conservation District
Art Troutner, John Lillehaug, Bill Leaf, Colt Brown, Judy Anderson, Lenard Long, Pam Pace
Valley Soil & Water Conservation District Board of Supervisors and Associates

SUMMARY FACT SHEET (Valley Soil & Water Conservation District)

McCall Impact Area Code Comparison of Development Requirements for Water Quality

McCall Code	Valley Co. Code	VSWCD Recommendations
- Defines a "shoreline and river environs zone" of 150 feet. - Building setback of 50 feet. - Design review and vistas protection. - Landscaping and buffering codes. - Scenic bylaws protection. - Stormwater certification training required for contractors. - Specific design criteria for treatment of stormwater first flush.	- Does not establish a shoreline zone for development purposes. - Building setback of 30 feet. - No specific design review criteria or "Vista Protection" ordinances. - General landscaping language, no specific requirements. - Stormwater certification training not required. - No treatment of stormwater first flush required.	**1) Establish a 300-foot county-wide standard Waterways Shore Zone.** **2) Adopt the Shore Zone ordinance provided in 2025** • **Establishes a 300-foot Shore Zone, with a 25-foot vegetation buffer to reduce erosion and enhance habitat protection.** • **25' Vegetation Buffer Zone (Buffer) retained at the waterfront.** • **Building Setback line from high-water elevation is fifty feet (50') minimum.** • **Proof of stormwater certification training provided by the individual applying for the building permit.** **3) Incorporate Valley Co. Comprehensive Plan Goals and Objectives, with VSWCD recommendations provided in 2025, into development approvals and building permit conditions.** **4) Implement and follow guidelines in the 2022 Valley County Waterways Management Plan** **5) Adopt the suggested "Basis of Design" standard provided to P&Z and the county engineer in 2024 ensuring proper stormwater safeguards are installed and maintained.**

Completing the five steps below, Valley County would be securing the safeguards in place that already exist for the McCall Impact Area, as of today:

1) Establish a 300-foot county-wide standard Waterways Shore Zone.
2) Adopt the Shore Zone ordinance provided in 2025.
3) Incorporate Valley Co. Comprehensive Plan Goals and Objectives, with VSWCD recommendations, into development approvals and building permit conditions.
4) Implement and follow guidelines in the 2022 Valley County Waterways Management Plan.
5) Adopt the "Basis of Design" standard to ensure proper stormwater safeguards are installed and maintained.

FACT SHEET

McCALL IMPACT AREA CODE COMPARISON

Concern	McCall Codes (MCC)	Valley Co. Code (VCC)	VSWCD Suggested Changes
Shoreline Protection Zone	Clearly defines a "shoreline and river environs zone" as the area between the water pool shore contour (or high-water mark for certain water bodies) and a parallel line 150 feet away (with special adjustments on certain streets).	Does not establish a formal "shoreline zone" for development purposes.	Recommends establishing a 300-foot county-wide standard Waterways Shore Zone (explained below)
Shoreline Protection	3.7.02: SHORELINE AND RIVER ENVIRONS ZONE The purpose of this zone (MCC 3.7.020) explicitly includes protecting water quality, habitat, vistas, and public visual access. MCC 3.7.023 Fifty-foot (50') Building Setback Line. Includes the stipulation that No Harm shall take place within this setback. No harm:The excessive clearing of natural vegetation or change of natural landforms within the area between the water pool shore contour or high-water mark and the fifty-foot (50') building setback line. Harm also means the creation of conditions which foster runoff of sediment, fertilizers, toxic substances, pollutants and contaminants. Proof of stormwater certification training shall be provided by the individual applying for the building permit.	Title 9 LAND USE AND DEVELOPMENT; 9-4-3-2: SETBACKS and TABLE 4-A All residential buildings shall be set back at least thirty feet (30') from high water lines and ditches. All other buildings shall be set back at least one hundred feet (100') from high water lines and ditches. 9-4-3-4: SITE IMPROVEMENTS VCC uses recommended practices vs mandatory practices...i.e. Best management practices "should be used". No proof of stormwater training required.	WATERWAY SHORE ZONES. Adapt the suggested Shore Zone ordinance provided in 2025. • Proposed ordinance establishes a 300-foot Shore Zone, incorporating a 25-foot vegetation buffer at the waterfront to reduce erosion and enhance habitat protection. • Building Setback line from high-water elevation is fifty feet (50') minimum. Within this setback, no conditions can be created that foster runoff of sediment, fertilizers or other pollutants • Proof of stormwater certification training shall be provided by the individual applying for the building permit to construct within the 300 foot Shore Zone • Valley County has adopted the IDEQ "Catalog of Stormwater BMP'S" but following them is voluntary and needs to be MANDATORY under the Clean Water Act for developments greater than 1 acre.
Residential Setback Limit	MCC 3.7.021 refers to the "high water mark" and "water pool shore contour." The regulations for the Shoreline and River Environs Zone are tied to this delineation.	Chapter 4-5, the "Valley County Waterways Ordinance," defines "SHORELINE" as the "Natural or Ordinary High-Water Line as established by the State of Idaho Department of Lands."	Setbacks shall be measured along a line perpendicular to a line tangent to the nearest point so determined on the waterway shore contour high elevation, without regard to the spatial relationship between that nearest point and any boundary lines of the lot in question.

FACT SHEET

McCALL IMPACT AREA CODE COMPARISON

Concern	McCall Codes (MCC)	Valley Co. Code (VCC)	VSWCD Suggested Changes
			50 foot minimum set back for residential buildings. All structures, perched beaches, patios and fences shall be prohibited in the setback zone, except for narrow private walkways to the waterfront. An undisturbed natural Vegetation buffer zone shall be retained at the waterfront. The buffer shall be a minimum of 25 ft. landward from the high water mark of the water body.
Aesthetic Vistas Protection	MCC 3.7.020 (Shoreline and River Environs Zone - Purpose): Explicitly states one of the purposes is to protect "vistas, and public visual and physical access to such waters." MCC 3.7.023 (Requirements for Development): States that any structure wholly or partially within this zone, visible from water bodies, and within the 150-foot land strip is subject to design review (MCC Title 3, Chapter 16 "Design Review"). This design review process would likely address vista impacts. MCC 3.7.03 (Scenic Route Zone): this zone aims to protect scenic views along designated routes, which could interact with waterway vistas.	No specific "Vista Protection" ordinances are provided.	
General Waterway Regulations (Boating, etc.)	MCC 3.7.01 City generally defers to/operates under the Valley County Waterways Ordinance for boating rules. City code focuses on land use adjacent to water and within Navigable Water Zone.	Valley County Waterways Ordinance (Chapter 4-5) governs operational rules, no-wake zones (generally 300 ft), age limits on public waters county-wide.	Implementation of the Valley County Waterways Management Plan Cities , county and other jurisdictions work together to implement and Follow guidelines provided in the 2022 Valley County Waterways Management Plan for BMP's, waterways management , no wake zones (500 ' in congested areas) and monitoring of lake capacities, and water quality.

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McCALL IMPACT AREA CODE COMPARISON

Concern	McCall Codes (MCC)	Valley Co. Code (VCC)	VSWCD Suggested Changes
Landscape	3.8.13: LANDSCAPING AND BUFFERING To ensure that landscape design takes advantage of natural settings, and preserves and enhances existing trees, vegetation, native soils, and other natural features such as streamside environments, water courses and wetlands. Discourage landscaping that requires high water use. Lawns are prohibited in the Shoreline and River Environs Zone	9-5A-4: LANDSCAPING: This code is generalized and emphasizes sustainability, visual harmony, and land-use efficiency while protecting both private property values and public environmental interests.	Establish a minimum 25-foot vegetation buffer at water edges to reduce erosion and enhance habitat protection. Including a 25-foot buffer for wetlands.
Stormwater First Flush Treatment	Resolution 16-10 and Title 9 Drainage Management Guidelines Provides specific design criteria for the treatment of stormwater first flush.	Valley County lacks "First Flush Stormwater Treatment" codified ordinances.	Adopt the suggested "Basis of Design" standard provided to P&Z and the county engineer in 2024. The proposed ordinance sets minimum design standards for stormwater impoundment basins to mitigate the impacts of urbanization on water bodies. Our heaviest waterway's pollution occurs from spring runoff or "First Flush" Properly designed and sized impoundment basins can temporarily hold developments' runoff, recharge groundwater, and allow for beneficial reuse of stormwater.
Ground Water Protection	9.7.07 Development within Areas of Critical Concern	Valley County comprehensive plan(Chapter 4, Goal 1) Conserve and manage groundwater	ADOPT and Integrate into land use planning process, a Water Resource Management Plan with specific enforceable policies to

FACT SHEET

McCALL IMPACT AREA CODE COMPARISON

Concern	McCall Codes (MCC)	Valley Co. Code (VCC)	VSWCD Suggested Changes
	Special consideration shall be given to proposed development within or contiguous with , an area of critical concern to assure that the development is necessary and desirable and in the public interest in view of unique conditions. Conditions that trigger concern can include unstable soils, lakes, wetlands, permanent or intermittent streams.	and surface water in all its forms in order to prevent depletion and pollution. Objectives are :Orient watershed management practices for the improvement of ground and surface water throughout Valley County.	stop potential harmful pollutants from entering surface or groundwater. Where septics are the proposed waste treatment method, increased setback requirements as well as other measures must be implemented to ensure that septic systems do not negatively affect groundwater and surface water quality, especially when waterways with TMDL targets are involved. A Nutrient Pathogen Evaluation may be required of the applicant if the criteria in IDEQ's groundwater protection document are present and there is a concern about septic capacity.
Site Improvements	3.8.23 Site Design To guarantee site planning is undertaken as an integrated process inclusive of all factors influencing the development of the site. Factors such as: Minimizing the modification of natural drainage patterns; using swales and retention basins; avoiding concentration or acceleration of runoff; stormwater runoff retained on site and used to irrigate. Landscape plans shall be prepared as part of site plan and design review as required by this title.	Although the County provides a booklet on proper sediment control at construction sites, has adopted a storm water BMP manual, has entered into County Code an ordinance (V.C. code 9-4-3-4, site improvements, section F), there is no formal inspection process regarding compliance with sediment control BMPs. Most other aspects of construction have a formal inspection process that ensures compliance with County Building Codes.	Enforce VCC 9-5A-1-E where the site grading plan "shall be subject to review by the county engineer and the soil conservation district...the information received from the county engineer, the soil conservation district and other agencies regarding the site grading plan shall be considered by the P&Z commission and /or the county commissioners in preparing the conditions of approval or reasons for the denial of the application." Before construction or any soil disturbance on the construction site commences an inspection will be done to ensure that all necessary, per approved design, sediment control structures or other soil erosion BMPs are in place and installed properly. An inspection of requested permanent storm flow drainage structures, sediment basins or other permanent BMPs is to be

FACT SHEET

McCALL IMPACT AREA CODE COMPARISON

Concern	McCall Codes (MCC)	Valley Co. Code (VCC)	VSWCD Suggested Changes
			completed before approval and signing of final inspection. ADOPT a process for ongoing inspection of compliance with County recommended sediment control BMPs.

Both Valley County and the City of McCall prioritize water quality and safety, but their approaches differ. Valley County focuses on waterway operations and recreational safety, ensuring responsible use across multiple public waterways. In contrast, McCall's regulations emphasize preserving the natural beauty and ecological integrity of its lakefront through strict land use controls. McCall takes a proactive stance on managing shoreline development to protect scenic vistas and sustain the tourism-driven economy, while Valley County's policies broadly promote safe and environmentally conscious waterway usage.

Additional nuanced differences/concerns exist.

VALLEY COUNTY WATERWAY SHORE ZONES

Generally, the Valley County waterways' shorelines are ecologically fragile and any substantial use or alteration can lead to excessive sedimentation, pollution, erosion, and water turbidity. Waterways are a valued resource of regional significance and many are impaired; listed under the federal Clean Water Act with pollutant reduction goals. Site activities in the shore zone require added levels of care on behalf of the landowners and contractors for many reasons, including visual interest in the land/water edge, sensitive ecological processes at work, pollution prevention, and the visual vulnerability of shorelines.

The purpose of this chapter (or ordinance) is to protect and safeguard the general health, safety, and welfare of the public residing in or visiting the county by preserving and protecting the quality of the ground and surface waters. This chapter has the following objectives: 1) prevent any increase in stormwater runoff from any development to reduce flooding, siltation, and streambank erosion; 2) prevent any increase in pollution caused by stormwater runoff from development which would otherwise degrade the quality of water in waterways and render it unfit for human consumption, interfere with water-based recreation or adversely affect aquatic life; and 3) ensure that the total annual volume of surface water runoff which flows from any specific site during and following development shall not exceed that which prevailed before development.

This section regulates development along and alterations of the Shore Zone of county waterways and the banks and immediate vicinity within three hundred feet (300') landward of the high-water elevation (in the case of rivers and perennial streams environs, high-water elevation shall mean from the limits of the area of special flood hazard areas). If any portion of a structure lies within this zone, then the total structure shall be deemed to be within this zone. Docks, earth fills, retaining walls, bulkheads and other uses shall be deemed within and regulated by this zone without regard to whether all or any part thereof also falls within the "navigable water zone" and other sections.

Development:

1. Prohibitions: No construction, alteration or activity shall cause harm to:
   a. Water quality.
   b. Fish and aquatic habitats.
   c. Wetlands.
   d. Significant wildlife habitat harboring any threatened or endangered species.
   e. Views of, from, or across a lake or river.
   f. To this end, all applications for building permits within this zone, no matter what the permit may be for, shall be accompanied by a plan for the installation of the appropriate natural, storm, and meltwater drainage and treatment facilities. Such plans for natural, storm and meltwater drainage of the property and on and through the property, shall be consistent with best management practices under county, state and federal storm and meltwater regulatory programs to which the county is subject and consistent with other county programs in these regards to the satisfaction of the county.
2. Harm Defined: "Harm" for these purposes means:
   a. The creation of conditions that foster runoff of, or other sources of sedimentation, fertilizers, toxic substances, or other pollutants or contaminants, into the water;
   b. The excessive clearing of natural vegetation or change of natural landforms within the area between the water high-water mark and the Building Setback line described below;
   c. The removal, burial, or destruction in whole or part of boulders, sandy beaches, rocky shores, or other features of the water pool shore contour or high-water mark, the land below the same, or the immediate upland edge;
   d. The filling or dredging of waterway bottom or wetlands;

VALLEY COUNTY WATERWAY SHORE ZONES

e. The erection of visual barriers between the lake or river and the roads on the uplands, beyond the extent reasonably necessary for an owner's usage of the land for a permitted use; or

f. The creation of any other condition that would be inconsistent with best management practices under, or threaten a violation of, state and federal storm and melt water regulatory programs to which the county is subject, or fail otherwise to be consistent with other county programs in these regards, all as established to the satisfaction of the county.

3. Access: Public access along the beach and waterward of the high-water elevation shall be unobstructed.

4. Permit(s): As a condition of permit approval, the applicant shall provide all permits and plans from all other appropriate regulatory agencies (i.e. USACE, USBR, IDEQ, CHD, etc) within thirty (30) days of receipt of such permits and plans.

Shore Zone Lot Setbacks: Setbacks shall be measured along a line perpendicular to a line tangent to the nearest point so determined on the waterway shore contour high elevation, without regard to the spatial relationship between that nearest point and any boundary lines of the lot in question.

For lots with frontage on waterways, the Building Setback line from high-water elevation is fifty feet (50') minimum. All structures, perched beaches, patios, and fences shall be prohibited within the fifty-foot (50') building setback with the following exceptions: (1) public walkways to the waterfront, and private walkways, stairs, landings and trams not exceeding eight feet (8') in width; (2) essential public infrastructure; and (3) public parks facilities and civic uses not requiring sanitary waste disposal.

An undisturbed natural Vegetation Buffer Zone (Buffer) shall be retained at the waterfront. A stairway, walkway, stairway landing, or a tram shall be allowed to encroach within the Buffer. The Buffer shall be a minimum of twenty-five feet (25') landward from the high-water mark of the water body.

Shore Zone Landscape:

As much as possible, existing mature, natural vegetation (especially tree cover) located in the Shore Zone should be preserved.

Fertilizers contribute to waterway algal blooms and pesticides poison indiscriminately. There are many ways to accomplish beautiful property landscaping without using these chemicals. Landscaping that focuses on using native plants eliminates the need for fertilizers and pesticides. Phosphorus is a nutrient that occurs naturally in the county environment. Phosphorus-containing fertilizers shall not be used within this shore zone, except for new lawns during their first growing season or as approved by the county.

Landscape drainage shall include vegetation ground cover, roof drip splash protection, bioswales, mulch, diversions and/or check berms to reduce runoff volume, peak flows, and pollution levels through detention, infiltration, evapotranspiration, and filtration before offsite discharge. Stormwater runoff shall be retained on the site wherever possible and used to irrigate plant materials.

Shore Zone Construction

Proof of stormwater best management practices certification training shall be provided to the county by the individual applying for the building permit to construct within the three hundred feet (300') Shore Zone.

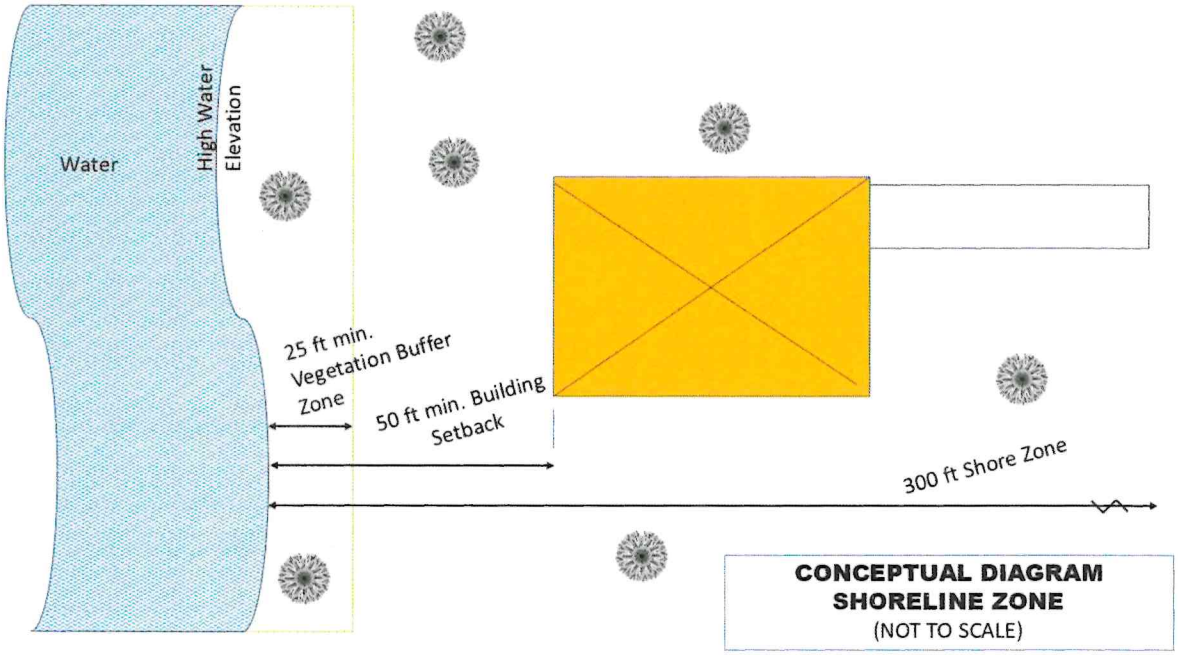
VALLEY COUNTY WATERWAY SHORE ZONES

Before any earthwork, and after construction limits are staked and stormwater best management practices are in place, an onsite pre-construction meeting with the county inspector is required to lay the groundwork for a smooth and successful project execution.

Building and earthwork construction within fifty feet (50') of the building setback shall be prohibited. No heavy construction equipment, such as backhoes, graders, and dump trucks shall be used within the fifty feet (50') area without prior county engineer approval.

No earth fill, organic or construction material shall be deposited in or placed where it may be directly carried into a stream, lake or wetlands area.

Minimum county-required stormwater best management practices during construction shall include installing silt fence, wattles or another county engineer-approved filter system, placed between construction disturbance activities and the high-water elevation. Any lakeward water disturbance such as rip-rap boulder placement or fill shall include a turbidity curtain/barrier protecting the waterway.



Shore Zone Parking Lots: Paved parking lots with a capacity of more than six (6) motorized vehicles shall include an oil/water separator placed in the drainage system between the lot and the water body as approved by the county engineer.

Retaining Walls, Dock, Breakwater and Similar Waterward Construction: tbd

Grazing Practices: Grazing shall conform to Natural Resources Conservation Service, Conservation Practice Standards for Prescribed Grazing and Water Facility (latest edition of codes 528 and 614).

Other Activities: Requirements for commercial and over-the-water construction activities are provided in other sections.

June 20, 2024

A DRAFT RESOLUTION OF THE COUNTY COMMISSIONERS

VALLEY COUNTY, STATE OF IDAHO, APPROVING STORMWATER DESIGN CRITERIA for

WATER QUALITY VOLUME OF IMPOUNDMENTS

A BEST MANAGEMENT PRACTICE

WHEREAS, authority is provided through the Clean Water Act of 1972, as amended in 1987, which prohibits the discharge of pollutants into the waters of the United States unless the discharge complies with the National Pollutant Discharge Elimination System (NPDES) permit, and VCC 9-5A-1, 9-4-3-4, 4-5-2.2, 9-5A-3, 9-9-8, and 14-2-1, Valley County Waterways Management Plan objective CW5 and Priority Strategy LC3, and Comprehensive Plan Chapter 4: Natural Resources Goal I, 5.

WHEREAS, this resolution complements and does not contract or lessen County Stormwater Best Management Practices as referenced requirements to the state Catalog of Stormwater Best Management Practices for Idaho Cities and Counties, Valley County Minimum Standards for Road Construction requirements, or Idaho Department of Water Resource impoundment requirements.

WHEREAS, the County Commissioners have determined that it would benefit future water quality, improve consistency of stormwater management facility design, and facilitate engineering approval and administration of stormwater regulations within the County, to adopt certain design criteria defined in this resolution:

NOW, THEREFORE, BE IT RESOLVED BY THE COUNTY COMMISSIONERS OF VALLEY COUNTY, IDAHO, AS FOLLOWS:

Section 1: In general, the rate of stormwater runoff from any proposed land development shall not exceed the rate of runoff before the proposed land development regardless of the storm event evaluated. The typical impact consequences of new development over natural land include:

1. Increased volume of runoff
2. Increased peak flow of runoff
3. Increased duration of discharge
4. Increased pollutant loadings including first flush
5. Increased temperature of runoff

Stormwater impoundment, infiltration, detention, and retention basins can counter-action most of these consequences.

One design parameter for sizing Impoundment Basins is the water quality volume (WQV). The WQV, or portion thereof, is equal to the minimum volume of the Basin, which does not include other additional runoff volume or flow requirements due to post-development stormwater runoff mitigation, rain-on-snow or overflow events, and freeboard components as designed by the responsible engineer.

Section 2: The following shall be used for sizing first-flush treatment systems or other detention systems:

A. **Hydrologic Sensitive Zone (P=0.77 inch):** The design storm for projects within or touching 1,000 feet of an impaired waterbody (high waterline) should be the 95th percentile rainfall event 95% storm based on Cascade historic rainfall (1994-2024). The rationale for using the 95th percentile event is that it represents the majority of runoff volume on an annual basis and that targeting larger events would not be cost-benefit effective in terms of Best Management Practice (BMP) implementation. It is also consistent with the City of McCall's code and Section 438 of the Energy Independence and Security Act of 2007(EISA).

B. **Upland Areas (P=0.51 inch):** In all other areas, the 85th percentile 24-hour runoff event should be used to determine as WQV captured stormwater volume for the area, from the formula recommended in Urban Runoff

Quality Management (URQM), WEF Manual of Practice No. 23, ASCE Manual of Practice No. 87, 1998. The rationale for using the 85th percentile event is that it represents ~80 percent removal of Total Suspended Solids (TSS) by gravity settlement.

C. **How to Calculate Water Quality Volume and Residence Time:**
   a. **Water Quality Volume (WQV) = Runoff volume generated by the __th percentile 24-hr storm event (Cubic Ft)**
      WQV = Rv (P/12) A
      Where:
      Rv = Volumetric Runoff Coefficient
      P = Precipitation Depth (total rainfall from __th percentile storm event)
      A = Contributing Drainage Area (Square Ft)
   b. **Hydraulic Retention Time (HRT water residence time for allowing settlement of suspended solids, 48-hour goal)**
      $HRT = WQV/_{Qoutflow}$
      Where:
      $Q_{outflow}$ = Impoundment WQV Discharge Flow Rate (cfs)

Section 3: The engineer shall follow the Valley County Minimum Standards for Road Construction requirements for sizing stormwater runoff flow mitigation facilities (excluding first flush water quality treatment).

Section 4: Design Features for Pollutant Removal: It is highly recommended to incorporate features such as forebays for sediment capture, aquatic benches for plant uptake of nutrients, and aeration systems to enhance the breakdown of pollutants. Mosquito abatement and safety fencing may also be needed.

Section 5: The above criterion DOES NOT apply under the following conditions:

- The entire design stormwater runoff mitigation volume is recharged to groundwater (i.e. infiltration pond).
- Developments less than two acres in size or less than 5,000 square feet of proposed impervious surface.
- More detailed discussion is provided in the "Stormwater Impoundments Basis of a Minimum Design Standard" support document.

Stormwater Impoundments
Basis of a Minimum Design Standard

Overview

As watersheds are developed, ponds are created and impervious surfaces increase in area, the hydrology of the watersheds fundamentally changes over time which can result in downstream flooding and/or degraded aquatic ecosystems if not properly designed. Post-construction stormwater impoundments and ponds are critical components of modern water management strategies for land use development. They should be designed to mitigate the impacts of urbanization on natural water bodies. These engineered solutions serve multiple purposes: they control flooding by temporarily holding stormwater, recharge groundwater, reduce peak flow to the pre-development level, improve water quality by settling sediments and transforming pollutants, and provide valuable habitats for birds and wildlife. Moreover, stormwater ponds are not just functional; they can also enhance community aesthetics and recreational opportunities, making them an integral part of sustainable urban planning.

Each proposed project's overall hydrologic design objective is to maintain pre-development hydrology and prevent any net increase in stormwater runoff as depicted in Figure 1. The County desires to prevent or minimize runoff impacts; i.e. Discharge Post-development to be equal to or less than Pre-development Flow Rate/Volumes.

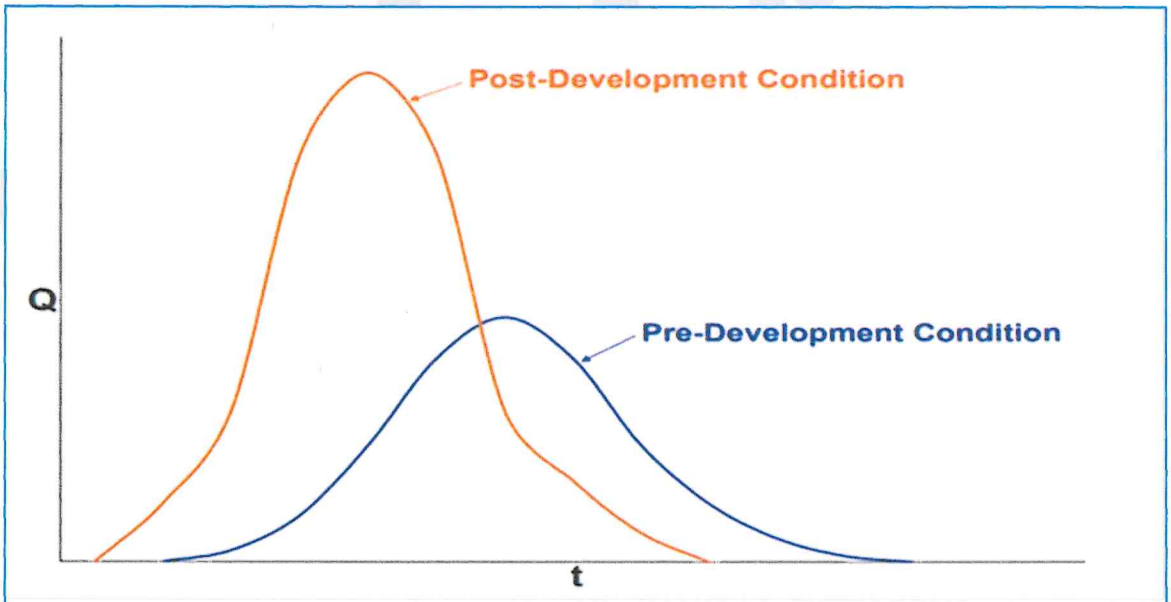


Figure 1, Text book hydrograph depiction of a stormwater runoff event for Pre and Post Development Flow (Q) verse Time (t) because of increased reduced open-space, low permeability covered surfaces (i.e. roofs, streets, parking, etc.). To keep flow at or below pre-development conditions ponding is needed.

Stormwater Impoundments
Basis of a Minimum Design Standard

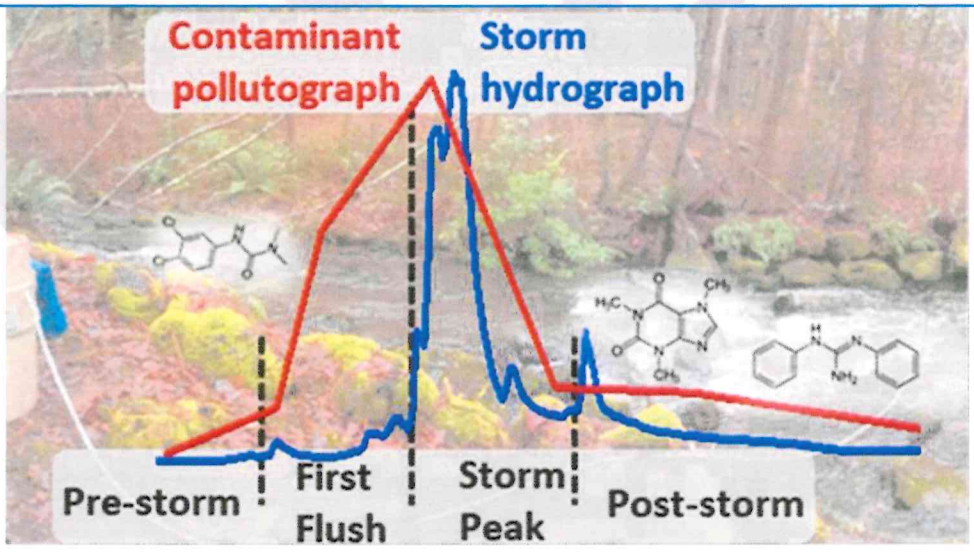
Sensitive Receiving Waterways

Valley County and the North Fork Payette River Watershed have many streams and lakes that are impacted, not conforming to federal Clean Water Act criteria. Sensitive receiving waters in Valley County are designated wetlands, lakes, and tributaries with EPA-established Clean Water Act Total Maximum Daily Load (TMDL) and waterways impaired - not meeting "designated use" goals (such as irrigation, drinking water, cold-water aquatic habitat, sediment load, excess nutrients, etc.). Unique to Lake Cascade with its chronic Harmful Algal Blooms is a need to keep cold water flowing in and healthy wetlands filters. Based on lake carrying capacity modeling, shoreline sites within 1,000 feet from the high waterline of lake or any impaired[1] tributary of the lake are considered to have the most potential influence for adding non-point source pollutant loading in terms of lake water quality protection.

Stormwater Pollutant Loading

The first flush[2] delivers a highly concentrated pollutant loading in runoff during the early stages of a storm or snowmelt due to the adsorption/washing effect of runoff on pollutants that have accumulated on drainage surfaces (see Figure 2). This typically occurs with most concern in the spring during snowmelt and late summer after prolonged dry periods.

This simplified design concept described herein encourages limited-impact development concepts to minimize the adverse pollutant impacts on waterways and attempts to mimic natural hydrologic processes.



Text Book "First Flush", is defined by disproportionate concentrations or mass loads early in the storm hydrograph. Typical Water Quality Treatment BMPs are designed to achieve a minimum 80 percent removal of TSS for influent concentrations.

Figure 2 First Flush Concept

Stormwater Impoundments
Basis of a Minimum Design Standard

The natural surface runoff treatment process to the rivers and lakes includes biofiltration (i.e. wetlands), gravity settling, percolation into the soil (when the ground is not frozen), and evaporation between the point of pollutant impact and the point of discharge into the receiving waterbody. Properly designed stormwater impoundment filtering basins can address water quality protection goals, reduce downstream adverse cumulative impacts related to the increased runoff from development, and mimic natural flows that allow for the beneficial reuse of stormwater.

Current Condition: Non-consistent Design Parameters for Water Quality Volume

We currently see Planning and Zoning development design submittals of impoundment basins with a wide range of volume criteria. Proposed volumes range from 1/3 of a 2-year storm event to full retention of a 100-year event; in some cases, treatment is ignored completely. These conditions are not ideal for water quality. Smaller volumes allow regular breaching of pollutants while full water retainment robs the streams and lakes of much-needed cold water. We strive herein for consistency.

Compounding the problem in this County is the fact that primary runoff events, with winter-long pollutant loading on surfaces, occur during rain-on ice-snowpack when the soil is frozen (temporarily impermeable) in the spring. Research and verbal communications with IDEQ indicate our heaviest waterway's pollutant loading of nutrients occurs from spring runoff. Other contaminants such as litter, salt, loose snowplow scrapings, animal wastes, and oil & grease are also concentrated on snowpack during winter waiting for the spring thaw to be released.

Authority and References for this Guidance

- Valley County Code 9-5A-1-E "The plan shall be subject to review of the county engineer and the soil conservation district. The information received from the county engineer, the soil conservation district, and other agencies regarding the site grading plan shall be considered by the planning and zoning commission and/or the board of county commissioners in preparing the conditions of approval or reasons for denial of the applications. (Ord. 10-06, 8-23-2010)".
- VCC 4-5-2.2 "To protect all County waterways against pollution from contaminants".
- Valley County Waterways Management Plan county-wide objective CW5 and Priority Strategy LC3.
- The U.S. Environmental Protection Agency (EPA) provides comprehensive guidelines on the management of these systems, emphasizing their role in maintaining ecological balance and public safety. In addition, the 95th percentile event is a rainstorm for which 95% of all rainstorms are this depth or less. The U.S. Environmental Protection Agency (USEPA) also recommends retaining stormwater runoff from rainfall events that are equal to or less than the 95th percentile storm event (EISA Section 438, 2007). Executive Order 13514 on "Federal Leadership in Environmental, Energy,

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and Economic Performance" calling upon all federal agencies to "lead by example" to address a wide range of environmental issues, including stormwater runoff.

- USBR Hydromet Historical Precipitation Data 1980-2024
- Section 42-201, Idaho Code, makes it unlawful to divert or use public water without a valid water right. Water rights permits are issued by IDWR.
- McCall city codes first flush treatment systems requirements.
- According to the Idaho Department of Environmental Quality, Lake Cascade does not meet Federal Clean Water Act (CWA) standards and is 305b listed. It does not meet its goals for beneficial use... it's impaired by nutrients and other chemistry parameters. The state has Water Quality Standards (IDAPA 39-3610, IDAPA 58.01.02.050, IDAPA 58.01.02.350, IDAPA 58.01.02 080 and, et al) that should be met for pollutant loading into Lake Cascade.

Valley County Building Codes (9-4-3-4) are for excavation permits and DOES NOT have a specific storm return period (2, 10, 25, 50, or 100-year) criterion or volume, and pond designs are currently not regulated by permit in the County except the grading portion. We understand the county engineer (Parametrix) does review plans for code compliance... "downstream drainage systems shall not be adversely affected by upstream developments" and "ensure the runoff from a development/project do not exceed pre-development conditions flow rates/volumes"... but there are no specific criteria for water quality treatment.

Valley County DOES have detention requirements in the Minimum Standards for Public Road Design and Construction manual which uses a 100-year event for detention basins. (note; this is not necessarily a first-flush scenario, more for flood control) and would not be cost-effective for first flush treatment.

Valley County adapts the IDEQ Stormwater Best Management Practices and Idaho Pollutant Discharge Elimination System Discharge Permit No. IDR100000 that DOES have criteria for events during construction and grading of developments that disturb 1 acre or more. Construction General Permit for Discharge Activities, 2.2.12 Page 12, states "Design the basin or impoundment to provide storage for either the calculated volume of stormwater from a 2-year, 24-hour storm or 3,600 cubic feet per acre drained". This Stormwater Pollution Prevention Plan (SWPPP) process does not have post-construction pond requirements.

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Suggested Design Parameters for Water Quality Volume

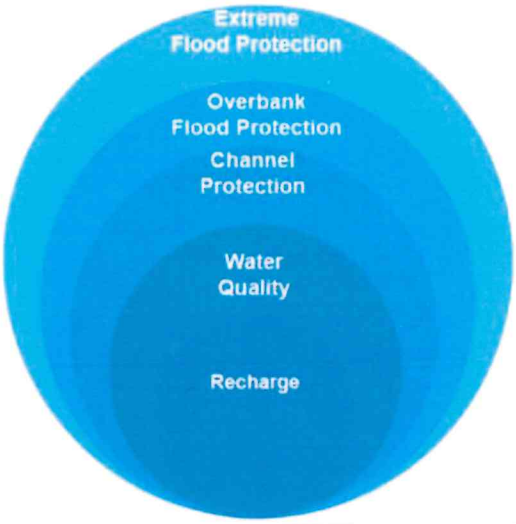

Figure 3 Graphic of typical Impoundment design features.

Impoundment sizing has numerous features to consider for stormwater management facilities as displayed in the graphic Figure 3. In addition, federal dam safety and Idaho Department of Water Resource requirements may also pertain to the design.

The water quality volume or WQV[2] is a volume-based technology approach to sizing a stormwater best management practice. When coupled with its targeted drawdown time, the WQV optimizes both the volume of stormwater runoff captured annually in management practice and the length of residence time for gravity pollutant treatment mechanisms to operate. This document focuses on **minimum sizing** to accommodate the first flush[3] water quality volume (WQV) and residence time (to allow settlement of suspended solids). Other storage and flow components and conveyance systems should follow acceptable standards of engineering methodologies and the County requirements in the Minimum Standards for Public Road Design and Construction Manual.

Precipitation Depth (P) Determination

The practice of estimating runoff as a fixed percentage of rainfall has been used in the design of storm drainage systems for over 100 years. Despite its simplification of the complex rainfall-runoff processes, it is still a commonly used method for urban drainage calculations. The intent is to use generally accepted design practices in a simplified process. The 30-year (1994-2024) 24-hour historical data was obtained from USBR Hydromet Historical Data at North Fork Payette River Station (Cascade Dam) in Cascade, Idaho. Data was filtered to remove daily storm events less than. 0.1" which typically do not produce runoff. The statistical data set and percentile calculation are attached as an Excel spreadsheet titled "USBR Cascade Prec Data.xlsx". The 95^{th4} percentile event is a rainstorm for which 95% of all rainstorms are this depth or less. It is based on daily measured precipitation depths accumulated over a 24-hour period.

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Hydrologic Sensitive Zone (P=0.77 inch): The design storm for projects within or touching 1,000 feet (high waterline) of an impaired waterbody should be the 95th percentile rainfall event. The rationale for using the 95th percentile event is that it represents the majority of runoff volume on an annual basis and that targeting larger events would not be cost-benefit effective in terms of Best Management Practice (BMP) implementation. It is also consistent with the City of McCall's code and Section 438 of the Energy Independence and Security Act of 2007(EISA).

Upland Areas (P=0.51 inch): In all other areas, the 85th percentile 24-hour runoff event should be used to determine the WQV captured stormwater volume for the area, from the formula recommended in Urban Runoff Quality Management (URQM), WEF Manual of Practice No. 23, ASCE Manual of Practice No. 87, 1998. The rationale for using the 85th percentile event is that it represents ~80 percent removal of Total Suspended Solids (TSS).

How to Calculate Water Quality Volume and Residence Time:

a. *Water Quality Volume (WQV)* = Runoff volume generated by the __th percentile 24-hr storm event (Cubic Ft)

   WQV = Rv (P/12) A

   Where:

   Rv = Volumetric Runoff Coefficient

   P = Precipitation Depth (total rainfall from __th percentile storm event)

   A = Contributing Drainage Area (Square Ft)

b. *Hydraulic Retention Time (HRT water residence time for allowing settlement of suspended solids, 48-hour goal)*

   HRT = $WQV/Q_{outflow}$

   Where:

   $Q_{outflow}$ = Impoundment WQV Discharge Flow Rate (cfs)

Insight and Guidance to Consider:

- It is preferred that events greater than the Water Quality Event be bypassed around the BMP with an upstream flow splitter to prevent resuspension of captured pollutants and to minimize the size of the BMP.
- "Multi-Stage" outlet structure should be considered to account for various design flows.
- Detention ponds are preferred over retention ponds. Both can reduce peak storm flows and downstream flooding; But, they have different environmental effects.

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- Aquatic vegetation plays an important role in pollutant removal in both stormwater ponds and wetlands. In addition, vegetation can enhance the appearance of a pond or wetland, stabilize side slopes, serve as wildlife habitat, and can temporarily conceal unsightly trash and debris.
- Many ponds in this area experience explosive weed and algae growth in the summer and mosquito abatement problems.

Footnotes:

[1]Impaired Waterways are those identified as non-supporting the designated beneficial uses by the EPA based on lakes and streams listed under section 305(b) of the Clean Water Act by the Idaho Department of Environmental Quality.

[2]Water Quality Volume (WQV) is a term used in stormwater regulations to refer to the volume of water needed to be captured and treated from a given area for a storm that is equal to the water quality rainfall event. The volume of WQV is equal to the total rainfall depth from the 85th or 95th percentile storm runoff.

[3]The first flush is the initial surface runoff of a rainstorm. During this phase, water pollution entering storm drains in areas with high proportions of impervious surfaces is typically more concentrated compared to the remainder of the storm. Consequently, these high concentrations of urban runoff result in high levels of pollutants discharged from storm sewers to surface waters.

[4]To determine what the 85th or 95th percentile storm event in a specific location, all 24-hour storms that have recorded values greater than 0.1 inches (less would likely not create runoff) over 30 years were tabulated and a 95th percentile storm was determined from this record, i.e., 5% of the storms would be greater than the number determined to be the 95th percentile storm. Thus the 95th percentile storm would be represented by a number such as 0.77 inches, and this would be the water quality volume design storm.

VSWCD Comprehensive Plan Suggested Amendments

Recommended language/edits/additions are in bold red text in each of the sections below.

CHAPTER 2: POPULATION

Goal I: Accommodate growth and development while protecting quality of life within Valley County.

Objectives:

1.Maintain or improve existing levels of service as new growth occurs **ADD: especially concerning water by recognizing that population growth, changing land use patterns and climate change are impacting water availability and quality. Incorporate water management agencies and water availability assessments into all stages of development assuring adequate water supply and providing information on how the project can be more water efficient and low impact while preserving water quality.**

2.Evaluate **ADD: both the available water supply and the likely impact of new growth on the costs of services to ensure the proposed growth does not create an undue hardship for Valley County residents.**

3.Collaborate with other regional partners and communities **ADD: by facilitating the formation of partnerships within (land use planners, staff, commissioners and water managers) and across jurisdictions (county, city and water districts) that foster coordination, exchange of information and implementation.**

CHAPTER 4: NATURAL RESOURCES

Background

3d) Valley County has adopted the Idaho Department of Environmental Quality " Catalog of Stormwater BMPs for Idaho Cities and Counties" along with a Valley County-specific addendum table to assist local agencies and developers with the selection, design, installation and maintenance of BMPs to reduce stormwater pollution. The handbook presents general guidelines ~~and is voluntary~~. **(COMMENT; mandatory under the Clean Water Act for developments greater that 1-acre)**

3f) Valley County Waterways Management Plan addresses the desired future condition and management for all waterways across the County with additional strategic direction for Lake Cascade, Big Payette Lake, Warm Lake, alpine lakes, and North Fork of the Payette River. The Plan provides guiding direction for future waterway management, land use standards, and best management practices (BMPs). Various agencies and partners can adopt and help implement portions of the Plan as relevant to their jurisdiction

Goal I: Conserve and manage groundwater and surface water in all its forms in order to prevent depletion or pollution.

Objectives

1. ~~Orient~~ **Adopt** watershed management practices for the improvement and maintenance of ground and surface water quality throughout Valley County **by implementing and enforcing innovative development standards. Healthy watersheds are vital natural infrastructure that collect, store, and filter water and provide benefits for biodiversity conservation, climate impact mitigation, food security, and human health and well-being, ensuring economic stability of the region.**

a) Integrate a Water Resource Management Plan into the comprehensive plan including policies to stop potential harmful pollutants from entering surface or groundwater.

b) Serious consideration must be given to the possible pollution of ground, surface water and wells from poorly maintained septic systems or septic system density that overwhelms the soil's ability to filter OR inadequate setbacks of septic systems from stream banks and lake shores. Nutrient- Pathogen studies should be considered when criteria is met for special consideration based on soil profiles, ground water levels, groundwater flows and proximity to impacted streams or water bodies.

c) Formally request IDWR to monitor more wells in Valley County not only for water table depth but water quality so there can be a more comprehensive and accessible picture of our groundwater situation. If groundwater levels decline over a 5 year average in the specific 4 wells that have the longest term record then Valley County needs to request that IDWR create a Groundwater Management Area.

d) Emphasize water quality protection in land use policies and ordinances taking into account projected changes in snowpack, rate of snowmelt, flow, precipitation, longer and hotter summers and drought. For example, sizing culverts, retention basins and snow management practices to accommodate more runoff on frozen ground as in increasingly intense Rain on Snow (ROS) events.

e) Promote the understanding that pollution of waterways and groundwater decreases water availability for drinking and irrigation effectively reducing critical water supply necessitating strong measures to guard against pollution.

f) Develop a robust Water Conservation Plan for the county starting with promoting high efficiency, water efficient, plumbing and building standards along with water saving landscaping and maintenance practices. Make PUD applications conditional upon meeting water conservation and water quality protection standards.

g) Establish water conservation, efficiency and re-use of water as a priority in all development plans

3. ~~Encourage~~ **Require vegetated** ~~open space~~ buffers adjacent to ~~rivers and creeks~~ **water bodies and courses** in order to preserve riparian areas. **ADD: Delineate clearly required open space buffers adjacent to rivers and creeks in order to preserve riparian areas.**

5. Protect the recreational value of the county's water bodies and water courses **ADD: by implementing the Waterways Management Plan and following its monitoring and indicators protocol.**

6 Protect important riparian areas by:

b. **Ensuring** ~~Promoting~~ the preservation of riparian habitats and stream conditions by **requiring vegetated buffers that meet the County's standards for implementation and maintenance.**

9. **Enforce requirements of the Army Corps of Engineers for** ~~Encourage the retention of~~ existing wetlands **and require wetland buffers** in order to protect water quality and **also** establishment of new wetlands.

10. Protect waterways' shorelines from excessive sedimentation, pollution, erosion, and water turbidity. Site activities in the shore zone require added levels of care on behalf of the landowners, tourists, and contractors for many reasons, including visual interest in the land/water edge, sensitive ecological processes at work, pollution prevention, and the visual vulnerability of shorelines.

Goal III: To protect fish and wildlife as natural resources of critical importance in Valley County.

Objectives

1. Valley County shall encourage:
   b. ~~Preservation of open space buffers adjacent to rivers and creeks~~ **Require vegetated buffers adjacent to water bodies and courses in order to preserve riparian areas for wildlife and fish habitat.**

CHAPTER 5: HAZARDOUS AREAS

Goal I: To protect the health and safety of Valley County residents and visitors from the impacts of natural hazards

Objectives:

7. ADD: Recognize increasing drought as a critical hazard impacting water supply and energy availability. Create a Drought Resilience plan for the county.

Goal III: To mitigate effects of disasters on Valley County residents and visitors, structural and infrastructure assets, and wildlife/natural resources from all hazards.

Objectives:

1. Participate with other communities in the West Central Mountains in developing the All Hazard Mitigation Plan, **ADD: including drought**

2. Educate residents and visitors of potential hazards. Enlist first contact professions such as realtors, title companies, financial institutions, etc. **ADD: Educate residents, second home owners and visitors about the necessity for water conservation in their homes, businesses and landscaping to mitigate the effects of drought.**

CHAPTER 6: SPECIAL AREAS AND SITES

Background

Add-

4 a) Valley County waterways' shorelines are ecologically fragile and any substantial use or alteration can lead to excessive sedimentation, pollution, erosion, and water turbidity. Waterways are a valued resource of regional significance and many are impaired; listed under the federal Clean Water Act with pollutant reduction goals. Site activities in the shore zone require added levels of care on behalf of the landowners and contractors for many reasons, including visual interest in the land/water edge, sensitive ecological processes at work, pollution prevention, and the visual vulnerability of shorelines.

Goal II: To recognize the waterways and water bodies in Valley County as special areas.

Objectives:

2. Work with local, state, and federal agencies to provide improvements to waterways within the county **and adopt policies that encourage innovative development that protects and helps to improve these unique natural resources.**

3. ~~Encourage retention of vegetation along specific waterways.~~ **Require vegetated buffers that meet the County's standards for implementation and maintenance along all water bodies and courses.**

4. Implement goals established in the Valley County Waterways Management Plan.

5. Protect Shoreline Zones

CHAPTER 8: HOUSING AND COMMUNITY DESIGN

Goal III: To encourage innovative and attractive designs for new development, preservation of the rural flavor of the region, and protection of special areas.

1. Encourage innovation and excellence in design for all new developments.

2. Require developments that prioritize and integrate the unique natural features of the land by:

a) clustering buildings within development when it will preserve special areas, scenic views, or open space.
b) preserving the view sheds and rural openness as part of the design.
c) incorporating scenic aspects of the existing water courses, forests, and natural topography.

3. Adequately landscape and buffer agriculture, commercial and industrial operations, as well as residential developments, making a positive contribution to a well-planned place to live.

4. Adopt landscaping standards ~~which mitigate potential impacts~~ **that utilize firewise protocols, xeriscaping plants and concepts, and implement vegetated buffer planting guidelines for stormwater filtering and recharge.**

[These above four objectives replace the existing objectives 1, 2, 3, 5, 8, and 9.]

CHAPTER 11: PUBLIC FACILITEIS, UTILITIES AND SERVICES

Goal III: To promote and protect the livability, vitality, and social needs of the residents of the county.
Objectives:

3. Encourage the development of adequate water and sewer systems that meet current and anticipated needs while protecting the public health. **ADD: Acknowledge that the proliferation of individual wells and septic systems in developments can pose a threat to groundwater and surface water.**

Chapter 13 LAND USE

Goal I: Retain the rural atmosphere of Valley County by protecting its natural beauty and open characteristics and preserving its historical and scenic beauty.

Objectives:

1. Encourage those land use practices that protect and reserve the best agricultural land for agricultural use **by approving development projects next to existing infrastructure, encouraging agricultural preservation areas, and conservation easements.**

2. Promote the control of despoilers of natural beauty by:

e) Implement development patterns and encourage development approvals that preserve and protect our natural resources and minimize land and water disruptions.

3. Discourage scattered, sprawling, haphazard suburban development by:

b) Continuing to implement land use planning in order to avoid conflicts with non-compatible uses **by employing overlay districts and development standards for orderly development.**

c) Encouraging development *in timbered areas (is that right? Fire danger?)* and in compact subdivisions **next to existing infrastructure** thus facilitating better use of facilities, road maintenance, police, and fire protection, **lessening sprawl and reducing the service load of the subdivision on these service**

d) Adopting overlay districts to further promote orderly development and recognize the unique features in the respective overlay districts.

e) Urban sprawl, the fragmentation of large tracts of agricultural land and leapfrog residential development is to be discouraged.

4. ~~Emphasize~~ **Prioritize** natural beauty when designing projects, such as bridges, roadways, commercial buildings, subdivisions, and homes **by first preserving these natural resources, providing adequate buffers (if applicable) and implementing best management practices.**

7. Mitigate the impacts of the climate through sustainable land use practices.

Goal II: ~~Increase the economic value of privately owned land in Valley County.~~ Strategically manage land use to foster economic growth while simultaneously protecting and sustainably utilizing the area's natural resources.

Objectives

1. ~~Increase the production of land consistent with recommended BMPs.~~ **Attract businesses and investments by highlighting the county's natural assets while ensuring responsible development.**

2. Guide marginal land and wasteland into more profitable uses depending upon the basic resources and the local situation by:

c) Developing attractive residential areas ~~in select locations~~ **next to existing infrastructure and prioritizing the preservation and protection of natural resources.**

e) Balance development needs and environmental conservation to ensure long-term prosperity for the region.

CHAPTER 15: DEFINITIONS

Add - Shoreline Zone: Shore Zone of county waterways and the banks and immediate vicinity within three hundred feet (300') landward of the high-water elevation (in the case of rivers and perennial streams environs, high-water elevation shall mean from the limits of the area of special flood hazard areas).

County Code 9-4-3-4, Site Improvements

Suggested modifications to the Code:

Include inspections before and after construction

Before construction or any soil disturbance on the construction site commences an inspection is in order to ensure that all necessary, per approved design, sediment control structures or other soil erosion BMPs are in place and installed properly.

An inspection of requested permanent storm flow drainage structures, sediment basins or other permanent BMPs is to be completed before approval and signing of final inspection.