Appendix D: Standards for the Vermillion River Watershed Joint Powers Organization

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Adopted April 22, 2026, as part of the 2026-2035 Vermillion River Watershed Management Plan.

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Section 1: Policy Statement

The Vermillion River Watershed Joint Powers Organization (VRWJPO) is a watershed management organization as defined in the Metropolitan Surface Water Management Act (Minn. Statutes Chapter 103B). This Act provides the VRWJPO with the authority to accomplish its statutory purpose – to protect, preserve and manage surface and groundwater systems within the Vermillion River Watershed (Watershed).

The VRWJPO has adopted a Watershed Management Plan (Plan) pursuant to the Act and Minn. Rules Chapter 8410. As defined by Minn. Rule 8410.0105, the Plan must incorporate controls or performance standards relating to, at minimum, wetland management, management of stormwater runoff, flooding impacts, and a classification system for the management of waterbodies.

The Plan provides the management Goals, Objectives, and Actions that the VRWJPO will use to protect, improve, preserve, and manage water resources in the watershed, and the need and reasonableness for standards, rules, and ordinances to enforce the Goals, Objectives, and Actions of the plan. Many of these Standards are intended to mitigate the potential for impacts to water resources in the watershed from land development and other activities, essentially acting as a tool to protect, preserve, and manage water resources. In this way, the following Standards implement the Plan's Goals, Objectives, and Actions.

Watershed studies have documented streambank erosion where changes in land use and land management throughout the watershed have resulted in increased flow volume, intensity, and duration, combined with poor quality riparian vegetation, leading to bank instability. Unstable stream channels can depress land values, damage property, and endanger high value structures. Accelerated streambank erosion can also increase the rate and severity of stream channel migration, which could result in property loss. In addition, unstable channels undermine bridges, clog culverts, and can otherwise damage infrastructure, requiring costly repairs and ensuring legal issues for both public agencies and private individuals.

A number of sensitive habitats and communities exist in the watershed, including designated trout streams, natural communities, rare and endangered species, and wetlands. Trout and their habitats may be threatened by development without appropriate stormwater management or appropriate land management on agricultural lands. Other sensitive resources, such as natural communities, rare species, and wetlands, have been depleted or have been altered throughout the watershed. This has increased the value of remaining natural communities and resources. Wetlands can be impacted directly by development and land disturbing activities, and indirectly by hydrologic and water quality changes that are sometimes associated with development and other land disturbing activities. Wetlands provide a variety of functions and values, which are important to the overall character and function of the watershed.

Cities and residents throughout the VRWJPO derive their drinking water from groundwater. High nitrates have been documented in groundwater and wells in the eastern portions of the watershed. The nitrates have largely been linked to agricultural activities. Future activities without better management or adequate controls may further impact groundwater quality. Impacts to groundwater and water resources from agricultural resources are no longer addressed by these Standards, as the previous version of the Standards (2019) did not provide any tools for regulation or enforcement. The VRWJPO intends to work with partner agencies that are regulating agricultural activities to avoid overlapping requirements and work with partner agencies on proactive projects to improve land management and stewardship.

These Standards address the issues identified in the Plan to protect the public health, safety, welfare and natural resources of the VRWJPO by regulating the improvement or alteration of land and waters within the watershed to reduce the severity and frequency of high water, to preserve floodplain and wetland storage capacity, to improve the chemical and physical quality of surface waters, to reduce sedimentation, to preserve the hydraulic and navigational capacities of waterbodies, to preserve and protect channels and drainageways, to promote and preserve natural infiltration areas, protect groundwater, and to preserve natural shoreline features. In addition to protecting natural resources, these Standards are intended to minimize future public expenditures and liability on issues caused by the improvement or alteration of land and waters.

Section 2: Relationship with Local Government Units

The VRWJPO recognizes that the control and determination of appropriate land use is the responsibility of the Local Governmental Units (LGUs, e.g. cities, townships, counties). The VRWJPO can adopt Rules consistent with these Standards in the event it acquires the authority of a watershed district under Minn. Stat. 103B.211, Subd. 1(a)(3).

LGUs are responsible for adopting Local Water Plans (LWPs) and other regulatory controls that implement the Plan. Pursuant to Minn. Stat. 103B.235, The Vermillion River Watershed Joint Powers Board must approve LWP's. The standards in the LWP's must meet or exceed the VRWJPO's Standards and must implement the Standards. LGUs may elect to adopt the VRWJPO Plan by reference, though this option still requires creation of a local ordinance to meet these Standards.

In Dakota County, the cities are the LGUs within their corporate limits. The Townships are the planning and zoning authority in the unincorporated areas in Dakota County. Dakota County maintains permitting authority over development impacting Shoreland and Floodplain and may be the permitting authority for Individual Sewage Treatment Systems (depending on the Township or location within Shoreland and Floodplain). In Scott County, the County is the planning and zoning authority in addition to maintaining permitting authority over Shorelands and Floodplain and Individual Sewage Treatment Systems in unincorporated areas. Thus, in the Scott County portions of the VRWJPO, cities are the LGUs in incorporated areas and Scott County is the LGU in unincorporated areas.

The VRWJPO will evaluate local government official controls to determine if they match the VRWJPO Standards. If a local government's official controls are found to be insufficient (i.e., do not meet the VRWJPO Standards), the VRWJPO will implement a permitting program in that community.

If an LGU incorporates the VRWJPO Standards into its official controls, and demonstrates compliance with the VRWJPO Standards, that LGU will be responsible for permitting activities. The VRWJPO will require LGUs responsible for permitting to submit some proposed plans to the VRWJPO for review and comment on an as-needed basis. LGUs may also request assistance from the VRWJPO with the review of development plans or clarifications on Standards being implemented through local ordinances. Plans with the following conditions are particularly important to the VRWJPO for review and/or comment:

- Diversions which negatively affect downstream water courses
- Intercommunity flows (upon request from adjoining communities)
- Project site size of 40 acres or more

- Projects that are adjacent to or appear to impact watercourses or unique natural resources

All land alteration plans that require an amendment to, or a variance from, the adopted local water plan must be submitted to the VRWJPO for review and approval, or denial, as prescribed by Minn. Stat. 103B.211. The VRWJPO can enforce these Standards or Rules (if Rules are implemented) as allowed by Minn. Stat. 103B and 103D and may evaluate LGU enforcement of Standards at any time. If these evaluations reveal non-compliance with the Standards, the VRWJPO will implement a permitting program for all applicable Standards that fall under the VRWJPO's direct enforcement authority in that community. In the event of implementing a permitting program, the VRWJPO will collect permit fees from applicants to offset the costs of implementing a permitting program.

These Standards present the VRWJPO's interpretation of how the Goals, Objectives, and Actions in the Plan should be translated into Standards. LGUs may adopt more restrictive standards. The VRWJPO recognizes that LGUs have different authorities and different ways of implementing programs that will necessitate variation in language and approaches from those presented in the Standards. However, ordinances and official controls implementing the VRWJPO Standards must ultimately show compliance.

Section 3: Definitions

Unless the context clearly indicates otherwise, the following words and phrases shall have the meanings ascribed to them in this section. Unless specifically defined herein, terms used in these Standards shall have the same definition as provided in Minn. Stat. 103B and 103D and Minn. Rule 8410 as may be amended, and if not defined there, shall have common usage meaning. For purposes of these Standards, the words "must" and "shall" are mandatory, and the word "may" is permissive.

Agricultural Activity – The use of land for growing and/or production and wholesale distribution of field crops, livestock, and livestock products to produce income or own use, including but not limited to the following:

1. Field crops, including but not limited to: hemp, wheat, wheatgrass, barley, beans, corn, hay, oats, potatoes, rye, peas, sorghum, and sunflowers
2. Livestock, including but not limited to, structures used for care of livestock, dairy and beef cattle, goats, sheep, hogs, horses, poultry, game birds and other animals, including deer, rabbits, elk, alpaca, llama, and mink
3. Livestock products, including but not limited to, structures used to produce or store products, milk, butter cheese, eggs, meat, fur, and honey
4. Trees, shrubs, bushes, and plants for wholesale distribution
5. Sod farming
6. Orchards

Agricultural Preserve – A land area created and restricted according to Minn. Stat. 473H.05 to remain in agricultural use.

Alteration or Alter – When used in conjunction with public waters or wetlands, any activity that will change or diminish the course, current or cross-section of public waters, public waters wetlands, or wetlands.

Bankfull Channel Width – The channel width of a stream, creek, or river at bankfull stage.

Bankfull Stage – The water level in a stream channel, creek, or river where the flow just begins to leave the main channel and enter the connected floodplain.

Base Flood Elevation – The computed elevation to which floodwater is anticipated to rise during a 100-year flood (a flood that has a 1% chance of occurring in any given year). It is determined by the Federal Emergency Management Association (FEMA) and used in floodplain management, insurance, and building regulations to establish safe construction practices.

Best Management Practices or BMPs – Techniques proven to be effective in controlling runoff, erosion and sedimentation, including those documented in the Minnesota Construction Site Erosion and Sediment Control Planning Handbook (BWSR, 1988); Protecting Water Quality in Urban Areas (MPCA, 2000); the Minnesota Small Sites BMPs Manual (Metropolitan Council, 2001); the Minnesota Stormwater Manual (MPCA 2005); and, other sources as approved by the VRWJPO: as such documents may be amended, revised or supplemented.

BWSR – The Minnesota Board of Water and Soil Resources.

Buffer – An area of natural, minimally maintained, vegetated ground cover abutting or surrounding a watercourse, public waters wetland, or wetland.

Commercial Use Development – The development of property for use as a commercial business or office.

Compensatory Storage – Excavated volume of material below the floodplain elevation required to offset floodplain fill.

Dakota SWCD – The Dakota County Soil and Water Conservation District.

Dead Storage – The volume of space located below the overflow point of a basin, pond or landlocked basin.

Drain or Drainage – Any method for removing or diverting water from water bodies, including excavation of an open ditch, installation of subsurface drainage tile, filling, diking, or pumping.

Erosion – The wearing away of the ground surface as a result of wind, flowing water, ice movement, or land disturbing activities.

Erosion and Sediment Control Plan – A plan of BMPs or equivalent measures designed to control runoff and erosion and to retain or control sediment on land during the period of land-disturbing activities using standards adopted by the jurisdictional authority.

Excavation – The artificial removal of soil or other earth material.

Fill – The process of adding soil, gravel, or other materials to raise the ground level or create a stable foundation. Fill is used to build up low areas, level uneven terrain, or provide a base for construction projects such as roads, building pads, or embankments.

Filtration – A process by which stormwater runoff is captured, temporarily stored, and routed through a filter, vegetated strip, underdrain, or buffer to improve water quality.

Floodplain – Any land area susceptible to being inundated by floodwaters from any source. More specifically, FEMA's Special Flood Hazard Area (SFHA) refers to the area that has a 1% annual chance of flooding (also called the 100-year floodplain). Floodplains are categorized on Flood Insurance Rate Maps (FIRMs), which indicate flood risk and are used for insurance, building regulations, and disaster preparedness.

Floodplain Storage – The volume of space available for flood water volume within the floodplain.

Fragmentation – The breaking up of an organism's habitat into discontinuous components.

Grassed Waterway – A natural or constructed channel that is shaped or graded to required dimensions and established in suitable vegetation for the stable conveyance of runoff.

Green Acres – Real property or real estate that qualifies as agricultural property having agricultural use under the Minnesota Agricultural Property Tax Law, Minn. Stat. § 273.111.

Industrial Use Development – The development of property for industrial use as identified by the Standard Industrial Classification (SIC) codes or the North American Industry Classification System (NAICS code).

Infiltration – A process by which stormwater runoff is captured, temporarily stored, and routed through a filter, vegetated strip, or buffer to improve water quality while reducing the volume of stormwater runoff by transmitting runoff into the ground.

Impervious Surface – A constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than before development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.

Infrastructure – The system of public works for a county, state, or LGU, including, but not limited to, structures, roads, bridges, culverts, sidewalks, stormwater management facilities, conveyance systems and pipes, pump stations, sanitary sewers and interceptors, hydraulic structures, permanent erosion control and stream bank protection measures, water lines, gas lines, or electrical lines and associated facilities, and communication lines and supporting facilities.

Land Disturbing Activity – Any activity on property that results in a change or alteration in the existing ground cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to, development, redevelopment, demolition, construction, reconstruction, clearing, grading, filling, stockpiling, excavation, and borrow pits. The use of land for new and continuing agricultural activities and routine vegetation management activities shall not constitute a land disturbing activity under these Standards.

Landlocked Basin – A basin that is one acre or more in size and does not have a natural outlet at or below the existing 100-year flood elevation as determined by the 100-year runoff event.

Local Governmental Unit or LGU and/or Jurisdictional Authority – Any federal, state, city, county, and township lying in whole or part within the VRWJPO having the authority to review and approve items related to development, redevelopment, improvement, or modification of the natural landscape.

Lot – A parcel of land designated by metes and bounds, subdivision plats, platted property, or other accepted means and separated from other parcels or portions by said description for the purpose of sale, lease, or separation thereof, as designated by Scott or Dakota County.

Lot of Record – Any lot that legally existed prior to the current adoption date of these Standards.

Meander – A sinuous bend of a river, stream, or creek.

Meander Belt – The area between lines drawn tangential to the extreme limits of fully developed meanders.

Minimum Impact Alignment – The alignment for a proposed road, street, utility, path or access that creates the smallest area of

impact to a buffer, watercourse, or floodplain. For activities that cross a buffer, watercourse, or floodplain the minimum impact alignment is one that crosses perpendicular, or near perpendicular, to the longitudinal orientation of the buffer, watercourse, or floodplain as reasonable to serve the intended purpose of the improvement.

MPCA – The Minnesota Pollution Control Agency.

MS4 – A municipal separate storm sewer system (MS4) is a conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, storm drains, etc.) that is also owned or operated by a public entity (which can include cities, townships, counties, military bases, hospitals, prison complexes, highway departments, universities, sewer districts, etc.), designed or used for collecting or conveying stormwater, not a combined sewer, and not part of a publicly owned treatment works.

Native Vegetation – Plant species that are indigenous to Minnesota, or that expand their range into Minnesota without being intentionally or unintentionally introduced by human activity and are classified as native in the Minnesota Plant Database.

Natural Retention or Detention – Retention or detention storage of rainwater and runoff that occurs due to the natural landscape and is not artificially constructed.

New Development – The construction of any public or private improvement project, infrastructure, structure, street or road that creates more than 1 acre of new or additional impervious surface or, the subdivision of land.

Noxious Weeds – Any plant listed as a prohibited or restricted or secondary weed according to the Minnesota Department of Agriculture's Minnesota Noxious Weed List.

NPDES – National Pollutant Discharge Elimination System.

NRCS – United States Department of Agriculture Natural Resources Conservation Service.

Ordinary High Water (OHW) Level – The boundary of water basins, watercourses, public waters, and public waters wetlands pursuant to Minnesota Statues 103G.005, subd. 14.

Outlot – A parcel of land shown on a subdivision plat as an outlot, as designated by Scott or Dakota County, and designated alphanumerically, (for example – Outlot A.). Outlots are used to designate one of the following: Land that is part of the subdivision but is to be subdivided into lots and blocks at a later date; land that is to be used for a specific purpose as designated in a developer's agreement or other agreement between the Local Governmental Unit and the developer; or for a public purpose that may have restricted uses such as a buffer.

Plat – The drawing or map of a subdivision prepared for filing of record pursuant to Minn. Stat. § Ch. 505.

Pre-development Condition – The land use on a site that existed in 2005.

Public Waters Wetland – Any public waters wetland as defined in Minn. Stat. § 103G.005, subd. 15a.

Recreational Use Development – Any development of land for recreational use, including but not limited to, parklands, sporting facilities, golf courses, and other commercial or public facilities designed and used to provide recreational opportunities to the public.

Redevelopment – The rebuilding, repair, or alteration of a structure, land surface, road or street, or facility that creates less

than 1 acre of new impervious surface, and disturbs, replaces, or alters more than 1 acre of existing impervious surface.

Right-Of-Way – A strip of land occupied or intended to be occupied by a street, railroad, electric transmission line, oil or gas pipeline, water main, sanitary or storm sewer main, or another special use, and dedicated to public use by the recording of the plat on which such right-of-way is established.

Runoff – Rainfall, snowmelt or irrigation water flowing over the ground surface.

Rural Preserves – Class 2a or 2b property that had been assessed under Minnesota Stat. § 2006, section 273.111, or that is part of an agricultural homestead under Minnesota Stat. § 2006, section 273.13, subdivision 23, paragraph (a).

Scott SWCD – The Scott Soil and Water Conservation District.

Sediment – Soil or other surficial material transported by surface water.

Sedimentation – The process or action of depositing sediment.

Sinuous – The curving patterns of a river, stream, or creek.

Stewardship Plan – A conservation plan completed for agricultural land and activities accepted by the Dakota SWCD, the Scott SWCD, or the VRWJPO.

Stream Type – One of numerous stream types based on morphology defined by Rosgen D., *Applied River Morphology*, 1996.

Stormwater Pollution Prevention Plan or SWPPP – A plan for stormwater discharge that includes erosion prevention measures and sediment controls that, when implemented, will decrease soil erosion on a parcel of land and decrease off-site nonpoint pollution.

Structure – Anything manufactured, constructed, or erected which is normally attached to or positioned on land, including portable structures, earthen structures, water and storage systems, drainage facilities, and parking lots.

Subdivision – The separation of an area, lot, or tract of land under single ownership into two or more parcels, tracts, or lots.

USDA – United States Department of Agriculture.

VRWJPO – Vermillion River Watershed Joint Powers Organization.

Watercourse – Intermittent and perennial streams identified on Map 1 attached to these Standards.

Wetland – Any wetland as defined in Minn. Stat. § 103G.005, subd. 19.

Wetland Conservation Act or WCA – The Minnesota Wetland Conservation Act of 1991, as amended.

Section 4: Floodplain Alteration Standards

Summary of Purpose and Jurisdiction Guidance

Floodplain alteration involves land disturbing activities and projects that may impact the floodplain, or the area around waterbodies that is inundated during heavy rainfall or snowmelt events. Regulations exist for land disturbing activities and projects in floodplain areas to maintain floodplain storage, to minimize changes to upstream and downstream property and stream reaches, and to protect property and structures.

In Dakota County, cities are the LGUs in incorporated areas that regulate floodplain activities and must be contacted for appropriate permits. Dakota County administers Shoreland and Floodplain requirements through its Ordinance 50 in unincorporated townships and must be contacted for appropriate permits for activities within the floodplain. In Scott County, cities are the LGUs for incorporated areas while Scott County requires permits for the unincorporated areas that regulate floodplain activities and must be contacted for appropriate permits. The VRWJPO does not have a direct role in the implementation or oversight of floodplain activities as that is the responsibility of the jurisdictional authority.

4.1 Policy

It is the policy of the VRWJPO to:

- Protect the natural function of the Federal Emergency Management Agency (FEMA)-designated floodplain storage areas from encroachment.
- Maintain storage volumes in FEMA-designated floodplains.
- Require Local Plans to include a provision that restricts construction of new structures in FEMA-designated floodplains.
- Require Local Governments to adopt floodplain ordinances that are consistent with Dakota and Scott County water resources plans and ordinances.
- Require floodplain alterations result in “no net loss” of floodplain storage, including the preservation, restoration, and management of floodplain wetlands.
- Encourage local governments gain compensatory storage above direct replacement for new developments within the floodplain.

4.2 Regulation

No person or political subdivision shall obstruct flood flows, increase flood elevations, fill, excavate, or store materials or equipment below the Base Flood Elevation of any watercourse, public waters, public waters wetland, or other wetland without first obtaining a permit from the appropriate LGU.

4.3 Criteria

Development within the floodplain is regulated by the jurisdictional authority.

Section 5: Wetland Alteration Standards

Summary of Purpose and Jurisdiction Guidance

Wetlands are areas that collect and filter water and are defined by their soils, vegetation, and hydrology (the way water is held by and flows through them). Wetlands are critical resources for storage and treatment of surface water runoff and are extremely valuable to the watershed. LGUs are required to enforce the Wetland Conservation Act (WCA) in Minnesota. As a result, the VRWJPO does not have a direct role in the implementation or oversight of WCA, as that is the direct role of the jurisdictional authority.

In Dakota County, cities and townships are the LGUs for WCA enforcement and require wetland delineations and permit approvals if wetland impacts cannot be avoided. The Dakota SWCD is contracted to do wetland reviews for many of the townships and some cities in Dakota County. In Scott County, cities are the LGUs for incorporated areas, while Scott County reviews delineations and approvals for the unincorporated areas.

5.1 Policy

It is the policy of the VRWJPO to:

- Work to achieve no net loss of wetlands in the watershed.
- Replace lost wetlands in the same subwatershed whenever possible.
- Provide equal or greater functions and values for lost wetlands at the replacement ratios dictated by the WCA.
- Avoid direct or indirect wetland disturbance per State and Federal requirements and approved local wetland management plans.
- Limit the use of high-quality wetlands for stormwater management where other alternatives exist.
- Avoid fragmentation of natural areas and corridors when feasible and mitigate when unavoidable.

5.2 Regulation

No person or political subdivision shall drain, fill, excavate, or otherwise alter a wetland or public waters wetland without first submitting a wetland application and obtaining approval from the LGU with jurisdiction over the activity.

5.3 Criteria

Wetland replacement/mitigation siting must follow the priority order below:

1. Mitigation within the VRWJPO boundary (on-site if approved by the WCA Jurisdictional Authority)
2. Mitigation within Dakota or Scott County
3. Within BWSR Wetland Bank Service Area 8
4. Within any other BWSR Wetland Bank Service Area

Section 6: Buffer Standards

Summary of Purpose and Jurisdiction Guidance

Buffers are areas of perennial vegetation surrounding watercourses, public waters wetlands, and wetlands that help protect water resources by limiting erosion and filtering runoff. These VRWJPO Buffer Standards will ensure placement of buffers upon development to protect watercourses and wetlands.

In Dakota County, cities and townships ensure that Buffer Standards are enforced through the platting, subdivision, and permitting process. In Scott County, cities ensure Buffer Standards are enforced through the platting, subdivision, and permitting process, while Scott County ensures buffer standards are enforced for subdivisions in the unincorporated areas.

6.1 Policy

It is the policy of the VRWJPO to:

- Work to establish buffers, acting as filter strips, around every wetland and watercourse based on its management classification.
- Avoid fragmentation of natural areas and corridors when feasible and mitigate when unavoidable.
- Protect wetlands and watercourses from chemical, physical, biological, or hydrological changes to prevent significant adverse impacts.

Based on program evaluation, water quality monitoring, and research, the VRWJPO may, in the future, modify standards to vary by subwatershed or require buffers on lands in addition to developing land to meet water quality management objectives.

6.2 Regulation

For any lot created after March 22, 2007, or the adoption of local ordinances implementing the VRWJPO standards, a buffer shall be maintained around the perimeter of all wetlands, watercourses, and public waters wetlands. Buffer strip establishment shall apply to all lots of the proposed subdivision, regardless of whether the watercourse, wetland, or public waters wetland is on a specific lot within a proposed development.

In areas where land use is zoned agricultural with one building eligibility per every quarter of a quarter section (40 acres) of property, the buffer requirement will not be exercised until such time as the land use zoning is changed to an alternate use zoning or a higher density of residential building eligibilities. At that time, the buffer requirement will be fully implemented.

The Buffer Standards do not apply to:

- Lots created that are enrolled in Green Acres, Rural Preserves, Agricultural Preserves, or similar agricultural or rural preservation programs controlling or limiting the potential for future lot subdivision or development, as part of the subdivision process.
- A lot of record as of March 22, 2007, until such lot is subdivided.
- Wetland or public waters wetland with an applicable exemption listed under the WCA, and to those portions of wetlands that will be filled under approved wetland replacement plans per the WCA.
- To existing outlots that received preliminary plat approval in the two-year period preceding March 22, 2007. Buffer standards in effect at the time of LGU approval of a development agreement shall remain in effect throughout the term of the agreement or for a ten-year period from the date of approval, whichever is less.

6.3 Criteria

A. LGU Comprehensive Wetland Management Plans, which prescribe required buffer widths shall be compliant with standards set by the VRWJPO; applicable ordinances, governing widths, restrictions, allowable uses, and monumentation must meet or exceed the requirements set by the VRWJPO.

B. Where a stream meandering project has been completed, the buffer width shall be established by the LGU.

C. Where acceptable natural vegetation exists in buffer areas, the retention of such vegetation in an undisturbed state is required unless approval to replace such vegetation is received. A buffer has acceptable vegetation if it:

   1. Has a continuous, dense layer of perennial grasses and forbs that has been uncultivated or unbroken for at least 5 consecutive years
   2. Has an overstory of trees and/or shrubs that has been uncultivated or unbroken for at least 5 consecutive years
   3. Contains a mixture of the plant communities in 1 and 2 above that has been uncultivated or unbroken for at least 5 years

D. Buffers shall be staked and protected in the field prior to construction unless the vegetation and the condition of the buffer are considered inadequate by the jurisdictional authority. Existing condition vegetation will be considered unacceptable if:

   1. Physical condition of the buffer tends to channelize the flow of surface water
   2. Vegetative cover is less than 90%

E. Where buffer vegetation and conditions are unacceptable, or where approval has been obtained to replant, buffers shall be replanted and maintained according to the following Standards:

   1. Buffers shall be planted with a native seed mix approved by the State of Minnesota, with the exception of a one-time planting with an annual nurse or cover crop. Plantings of native forbs and grasses may be substituted for seeding. All substitutions must be approved by the LGU. Groupings/clusters of native trees and shrubs, of species and at densities appropriate to site conditions, can also be planted throughout the buffer area.
   2. The seed mix and planting shall be broadcast/installed according to the State of Minnesota specifications. The selected seed mixes and plantings for permanent cover shall be appropriate for the soil site conditions and free of invasive species.
   3. Buffer vegetation (both natural and created) shall be protected by erosion and sediment control measures during construction.
   4. During the first five full growing seasons, except where the LGU has determined vegetation establishment is acceptable, the owner or applicant must replant buffer vegetation where the vegetative cover is less than 90%. The owner or applicant must assure reseeding/or replanting if the buffer changes at any time through human intervention or activities.

F. The buffer shall be protected under a conservation easement, acceptable to the LGU, or include the buffer in a dedicated outlot as part of platting and subdivision approval, except where the buffer is located in a public transportation right-of-way. Buffers shall also be monumented to clearly designate the boundaries of all new buffers within new residential subdivisions. A monument shall consist of a post and a buffer strip sign approved by the LGU.

G. Alterations, including building, storage, paving, routine mowing, burning, plowing, introduction of noxious vegetation, cutting, dredging, filling, mining, dumping, grazing livestock, agricultural production, yard waste disposal, or fertilizer application are prohibited within any buffer. Periodic mowing or burning, or the use of fertilizers and pesticides for the purpose of managing and maintaining native vegetation is allowed with approval of the LGU. Noxious weeds may be removed and mechanical or spot herbicide treatments may be used to control noxious weeds, but aerial or broadcast spraying is not acceptable. Prohibited alterations would not include plantings that enhance the natural vegetation or selective clearing or pruning of trees or vegetation that are dead, diseased or pose similar hazards, or as otherwise clarified in Criteria F.

H. The following activities shall be permitted within any buffer and shall not constitute prohibited alterations:

1. The following activities are allowed within both the minimum and average buffer width areas:

   a. Use and maintenance of an unimproved access strip through the buffer, not more than 10 feet in width, for recreational access to the watercourse or wetland and the exercise of riparian rights.
   b. Structures that exist when the buffer is created.
   c. Placement, maintenance, repair, or replacement of public roads and utility and drainage systems that exist on creation of the buffer or are required to comply with any subdivision approval or building permit obtained from the LGU or county, so long as any adverse impacts of public road, utility, or drainage systems on the function of the buffer have been avoided or minimized to the extent practical.
   d. Clearing, grading, and seeding are allowed, if part of an approved Wetland Replacement Plan or approved Stream Restoration Plan.
   e. A multipurpose trail through an area protected by conservation easement or in a dedicated outlot, is allowed provided it is designed and constructed to minimize erosion and new impervious surfaces, and maintains an absolute minimum distance of at least fifteen feet as measured from the edge of the trail nearest the water resource to the wetland or public waters wetland edge, the bank of the watercourse, or the meander belt, and averages at least one-half the total VRWJPO identified buffer width. Where needed to cross the watercourse, the minimum impact alignment shall be used. The area between the trail and the water resource must be maintained in perennial vegetation in an undisturbed state excepting regular required maintenance of the buffer. Boardwalks and pedestrian bridges associated with a multipurpose trail must be approved by the LGU.
   f. The construction of underground utilities such as water, stormwater, and sanitary sewers and pipelines provided the minimum impact alignment is used, the area is stabilized in accordance with Criteria C.

2. The following activities are allowed within those portions of the average buffer width that exceed the minimum buffer width:

   a. Stormwater management facilities, provided the land areas are stabilized in accordance with Criteria C above, and alterations prohibited in Criteria E above are upheld.
   b. The area of shallow vegetated infiltration and biofiltration facilities, and water quality ponds not to

exceed 50 percent of the pond area, adjacent to wetlands and watercourses may be included in buffer averaging provided the facilities do not encroach into the minimum buffer width, and the land areas are stabilized in accordance with Criteria C above, and alterations prohibited in Criteria E above are upheld.

I. A wetland functional assessment for vegetative diversity, using a functional assessment method approved by the BWSR, will be completed with each wetland and public waters wetland, delineated for a project and buffers established according to the management classification in *Table D-1*. LGUs may require more restrictive buffer widths for the protection of jurisdictional wetlands.

J. Watercourse buffers shall be established adjacent to watercourses as shown and classified on *Figure D-1 (page D-17)* included in these Standards, and as described for the various classifications below. The specified buffer widths shall be applied on each side of the watercourse (*Table D-2*).

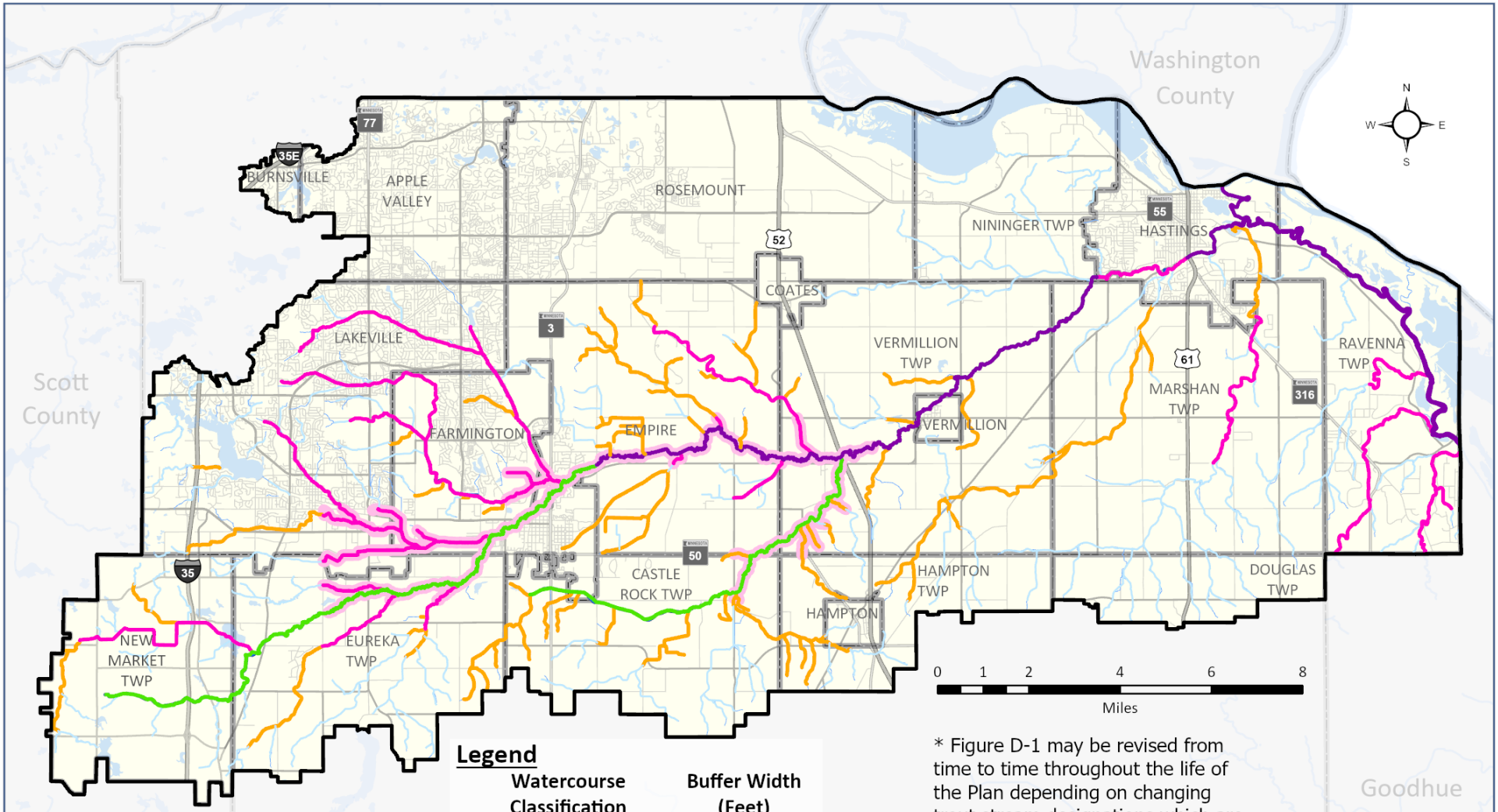
Table D-1: Buffer Requirements by Wetland Management Classification

Buffer Requirement	Exceptional Quality Wetland (Preserve)	High Quality Wetland (Manage 1)	Medium Quality Wetland (Manage 2)	Low Quality Wetland (Manage 3)
Average Buffer Width	50 feet	40 feet	30 feet	25 feet
Minimum Buffer Width	30 feet	30 feet	25 feet	16.5 feet

Table D-2: Watercourse Buffer Width Standards

Watercourse Classification	Buffer Width Standard
Conservation Corridor	• Lower Reach (Vermillion River downstream of Biscayne Avenue): 150-foot average, 100-foot minimum measured from the edge of the meander belt of the river. • Upper Reach (Vermillion River upstream of Biscayne Avenue and South Branch Vermillion River): 150-foot average, 100-foot minimum measured from the edge of the meander belt of the river. If meander belt isn't present, buffer shall be measured from edge of streambank.
Aquatic Corridor – Principal Connector	Required buffer width 100-foot average, 65-foot minimum measured from the edge of the meander belt of the river. If meander belt isn't present, buffer shall be measured from edge of streambank.
Aquatic Corridor – Principal Connector with Trout Stream Designation	100-foot, no averaging, as required by MN R100001 (NPDES General Construction Permit) issued by the Minnesota Pollutant Control Agency, August 1, 2003, or latest revision.

Watercourse Classification	Buffer Width Standard
Aquatic Corridor – Tributary Connector	50-foot average, 35-foot minimum measured from the edge of the meander belt of the tributary. If meander belt isn't present, buffer shall be measured from edge of streambank.
Water Quality Corridor	30-foot average, 20-foot minimum where there is a flow path for concentrated surface runoff measured from the center line of the flow path.



Legend

Watercourse Classification	Buffer Width (Feet)
Conservation Corridors	
Lower Reach	150
Upper Reach	150
Aquatic Corridors	
Principal Connectors	100
DNR Trout Streams/Tributaries	
Tributary Connectors	50
Water Quality Corridors	30

* Figure D-1 may be revised from time to time throughout the life of the Plan depending on changing trout stream designations which are regulated by the DNR.

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This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information, and data located in various city, county, and state offices and other sources, affecting the area shown, and is to be used for reference purposes only. Dakota County is not responsible for any inaccuracies herein contained. If discrepancies are found, please contact this office.

Vermillion River watershed
reflecting life

Watercourse Classifications and Buffer Standards

Figure D-1

Section 7: Erosion and Sediment Control Standards

Summary of Purpose and Jurisdiction Guidance

Land disturbing activities, like building construction projects, expose soils to rainfall and runoff which can cause erosion of soil and deposition of sediment onto neighboring properties or in waterbodies and watercourses. Erosion and sediment control measures (e.g., a silt fence) keep soil on site during construction and help ensure soil does not permanently wash away.

In Dakota County, cities and townships are generally the LGUs for oversight of erosion and sediment control. Erosion and sediment control requirements are often incorporated into requirements for building, agricultural building, grading, or other local permits. In Scott County, cities are the LGUs for oversight of erosion and sediment control in incorporated areas, while Scott County requires erosion and sediment control measures for the unincorporated areas.

7.1 Policy

It is the policy of the VRWJPO to:

- Minimize the movement of soil within the landscape of the watershed.
- Reduce or mitigate the mechanisms that are the cause of soil movement to the extent practicable.
- Capture soil that does move as close to its point of origination as possible.
- Reduce the delivery of sediment to natural water bodies due to land disturbing activities to the extent practicable.

7.2 Regulation

No person or political subdivision shall commence a land disturbing activity encompassing one acre or more of land without first obtaining a land disturbing activity permit consistent with the NPDES General Construction Permit (MNR 100001) requirements.

MS4-permitted LGUs may have stricter requirements for erosion and sediment control either by election or by other permitting requirements. Local permits must be obtained when required by the LGU.

7.3 Criteria

A. Land disturbing activities encompassing one acre or more of land or if a project is part of a common plan of development or sale that ultimately will disturb more than an acre are regulated under the MN R100001 (NPDES General Construction Permit).
B. Jurisdictional authorities must be provided a copy of an NPDES General Construction Permit associated with activities.

Section 8: Stormwater Management Standards

Summary of Purpose and Jurisdiction Guidance

When development and construction projects create new impervious surfaces like roofs and parking lots, they increase the amount of water and the speed of water that can leave the site as runoff. Stormwater management addresses the rate and volume of stormwater leaving sites through long-term practices like stormwater ponds and infiltration basins.

In Dakota County, cities and townships are generally the LGUs responsible for oversight of stormwater management requirements. Stormwater management requirements are often incorporated into requirements for building, agricultural building, grading, or other local permits. In Scott County, cities are the LGUs responsible for oversight of stormwater management in incorporated areas while Scott County ensures stormwater management requirements are met in the unincorporated areas.

8.1 Policy

It is the policy of the VRWJPO to:

- Manage stormwater to minimize erosion.
- Require land disturbing activities to address impacts on water resources, including cumulative impacts.
- Require development plans to consider impacts on local natural resources and corresponding receiving waters.
- Minimize impacts of runoff from land disturbing activities and preserve in-stream conditions supportive of a viable trout fishery by developing stormwater rate and volume control techniques.
- Develop standards that include requirements for controlling stormwater runoff by minimizing impervious surfaces, maximizing infiltration, requirements for cities and townships to control stormwater rates crossing municipal boundaries, and creating stormwater storage that addresses not only peak flows for extreme events, but takes into account the cumulative effects of runoff volume, and will include stormwater rate control requirements.
- Prevent further degradation of waterbodies in the watershed included on the MPCA impaired waters [303(d)] list so that these waterbodies can be removed from the list.
- Encourage use of existing natural retention and detention areas for stormwater management to maintain or improve existing water quality.
- Minimize water quality impacts (including thermal impacts) from land-disturbing activities.
- Ensure stormwater management systems are maintained.

8.2 Regulation

No person or political subdivision shall commence a land disturbing activity for “new development” or “redevelopment” (per Section 3: Definitions) without first obtaining a permit from an LGU.

8.3 Criteria

Stormwater management criteria are presented separately below for Runoff Volume Control, Peak Runoff Rate Control, and Water Quality Criteria.

Runoff Volume Control Criteria

A. New development or redevelopment must incorporate volume control practices into the design sufficient to prevent an increase in the runoff volume from the 2-year, 24-hour storm for site conditions prior to development. Determination of the necessary control volume to achieve this Standard is calculated on a site-by-site basis for each activity.

B. Runoff volume reducing practices in site design are the preferred method for meeting volume control requirements and shall be considered prior to the design of the required practices. Practices applying the Minnesota Minimal Impact Design Standards (MIDS) are allowed. Applicants must identify specific practices and provide documentation of the application of the MIDS calculator (or equivalent) in practice selection and site design. Stormwater volume-reducing BMPs other than those identified by MIDS, and their associated credits, must be approved by the LGU. Final crediting must be approved by the LGU before application to final design of site stormwater volume control facility requirements.
C. The water quality control volumes that meet NPDES General Construction Permit criteria using infiltration or filtration technologies can count toward the Volume Control requirements of these Standards.
D. Infiltration volumes and facility sizes shall be calculated using design criteria from the Minnesota Stormwater Manual.
E. Infiltration areas must be protected from disturbance before the land disturbing activity starts.
F. For sites with predominantly Type C and D soils, or where a shallow water table prevents construction of infiltration systems, the following additional criteria must be met in order of decreasing preference:

    1. Minimize connected impervious surfaces to the maximum extent practicable.
    2. Underdrains are used.
    3. Wet ponds are designed for zero discharge for the 2-year, 24-hour storm.
    4. Ponds with overflows or outlets located below the seasonally high-water table are allowed only where it can be demonstrated that there is a reasonable need for such an outlet to control seepage damage to existing structures.

Peak Runoff Rate Control Criteria

A. A hydrograph method based on the most recent precipitation frequency estimates based on scientifically accepted methods and/or applicable federal or state guidance and deemed appropriate by the VRWJPO will be used to analyze runoff for the design or analysis of flows and water levels.
B. Numerical flow standards must be adopted at intercommunity boundaries as identified in the VRWJPO Hydrologic Model (2009 as amended) for the communities of Burnsville, Apple Valley, Rosemount, Lakeville, Farmington, Hastings, and Elko-New Market. Those communities must apply the VRWJPO Hydrologic Model values in the calibration of their own local hydrologic models.
C. Runoff rates for proposed activities shall apply land cover conditions existing prior to development and shall not exceed existing runoff rates for the 1-year, 10-year, and 100-year 24-hour duration storm event.

Water Quality Criteria

Post construction stormwater runoff quality measures shall meet the standards of the General Permit Authorization to Discharge Storm Water Associated with Construction Activity under the NPDES General Construction Permit (MNR10001) issued by the Minnesota Pollution Control Agency, August 1, 2023, as amended; except where more specific requirements which are intended to address an increase in runoff temperature:

A. Infiltration or other volume reduction practices are the preferred approach to minimize any increase in temperature in areas that drain to the trout stream portions of the Vermillion River and its tributaries from the 2-year 24-hour precipitation event where such areas do not first drain to a waterbody with 10 or more acres of open water.

B. Vegetation used in conjunction with infiltration systems must be tolerant of urban pollutants, and the range of soil moisture conditions anticipated.
C. Ponds with permanent wet pools are allowed in areas tributary to the trout stream portions of the Vermillion River and its tributaries where such areas do not first drain to a waterbody with 10 or more acres of open water provided no net increase in the temperature of the discharge for the 2-year 24-hour precipitation event.
D. Plans and reports must include a narrative description of the temperature-sensitive practices incorporated.

8.4 Maintenance

All stormwater management infrastructure shall be maintained in perpetuity to assure function as originally designed. The responsibility for maintenance shall be assumed either by the city, township, or county with jurisdiction over the infrastructure; or by the applicant, their successors, or assigns entering into a maintenance agreement with the LGU.

8.5 Easements

The applicant may be required to establish, in a form acceptable to the LGU, temporary and perpetual easements, or dedicated outlots, for ponding, flowage, and drainage purposes over hydrologic features such as waterbodies and stormwater basins. The easements, or outlots, shall include the right of reasonable access for inspection, monitoring, maintenance, and enforcement purposes.

8.6 Covenants

The LGU may require that the land be subjected to restrictive covenants, a conservation easement, or easement in form acceptable to the LGU, to prevent the future expansion of impervious surfaces and the loss of infiltration capacity.

Section 9: Drainage Alteration Standards

Summary of Purpose and Jurisdiction Guidance

The intent of these drainage alteration standards is to provide a means for permitting significant drainage changes within the watershed that may have negative impacts for water resources.

There is no specific LGU that oversees drainage alteration permits, but LGUs should review proposed drainage alterations as part of subdivision reviews, building permits, grading permits, or other local controls. LGUs should provide land alteration plans to the VRWJPO for projects with proposed drainage alterations and are encouraged to contact the VRWJPO staff for assistance with drainage alteration concerns.

9.1 Policy

It is the policy of the VRWJPO to:

- Use existing natural retention and detention areas for stormwater management to maintain or improve existing water quality.
- Manage stormwater to minimize erosion.
- Allow outlets from landlocked basins, provided such outlets are consistent with State and Federal regulations, and the downstream impacts, floodway elevation impacts, riparian impacts, and habitat impacts of such outlets have been analyzed and no detrimental impacts result.
- Mitigate and reduce the impact of past increase in stormwater discharge on downstream conveyance systems.
- Address known flooding/erosion problems that cross jurisdictional boundaries and address other boundary issues and the diversion/alteration of watershed flows in local water plans.
- Address gully erosion problems in the watershed.
- Maximize upstream floodwater storage.

9.2 Regulation

No person or political subdivision shall artificially drain surface water or obstruct or divert the natural flow of runoff so as to affect a drainage system, or harm the public health, safety, or general welfare of the VRWJPO, without first obtaining authorization from the LGU or the VRWJPO.

9.3 Criteria

A. Outlets from landlocked basins with a tributary drainage area of 100 acres or more will be allowed, provided such outlets are consistent with other portions of these Standards, State and Federal regulations, and the downstream impacts, floodplain elevation impacts, riparian impacts, and habitat impacts of such outlets have been analyzed and no detrimental impacts result. The analysis and determination shall:

   1. Use a hydrograph method based on the most recent precipitation frequency estimates based on scientifically accepted methods and/or applicable federal or state guidance and deemed appropriate by the VRWJPO to analyze runoff for the design or analysis of flows and water levels.
   2. Ensure a hydrologic regime consistent with the Peak Runoff Rate Control Criteria and the Runoff Volume Control Criteria of these Standards.
   3. Ensure the outlet does not create adverse downstream flooding or water quality conditions, or materially affect the stability of downstream watercourses.
   4. Maintain dead storage within the basin to the maximum extent practicable.

5. Ensure that proposed development tributary to the land-locked basin has incorporated runoff volume control practices to the maximum extent practicable.

B. Artificial drainage, flow obstruction, and diversions involving watercourses, public waters, public waters wetlands, and wetlands with drainage areas of 640 acres or more, will be allowed provided such alterations or diversions are consistent with other portions of these Standards, state and federal regulations, and the downstream impacts, riparian impacts, floodplain elevation impacts, and habitat impacts of such alterations or diversions have been analyzed and no detrimental impacts result. Proposals for drainage alterations and diversions shall demonstrate that:

   1. There is a reasonable necessity for such drainage alteration or diversion to improve or protect human health and safety, or to improve or protect aquatic resources.
   2. Reasonable considerations have been made and actions taken to avoid unnecessary injury to upstream and downstream land and water resources.
   3. The drainage alteration or diversion is being accomplished by improving and aiding the normal and natural system of drainage according to its natural carrying capacity, or, in the absence of a practicable natural drain, a reasonable and feasible artificial drainage system that does not create adverse impacts is being implemented.

C. Drainage alterations, diversions, and landlocked basin outlets shall be provided with stable outfalls and channels designed to withstand erosion during the 10-year, 24-hour precipitation event.

9.4 Exceptions

A. No authorization shall be required where it is demonstrated that the proposed drainage alteration or diversion does not cause off-site erosion, sedimentation, flooding, or other damage.
B. The LGU may waive the requirements regarding upstream and downstream flooding impacts if the applicant submits easements or other documentation in form acceptable to the LGU demonstrating and recording the consent of the owner of any land burdened by the proposed alteration.