

## **5 Rule D: Stormwater Management Rule**

### **5.1 POLICY**

It is the District's policy to

- A. manage new development, redevelopment, and drainage alternations by requiring each development or land-disturbing activity to manage its stormwater effectively, either on- or off-site;
- B. promote and encourage a reduction in runoff rates to encourage infiltration and to promote groundwater recharge;
- C. encourage infiltration and stormwater storage in the District's upland areas;
- D. maximize groundwater recharge as a means of maintaining drinking water supplies, preserving base flows in streams and water levels in fens, and limiting discharges of stormwater to downstream receiving waters;
- E. protect and maintain existing groundwater flow, promote groundwater recharge, and improve groundwater quality and aquifer protection;
- F. require that property owners control the rate and volume of stormwater runoff originating from their property so that surface water and groundwater quantity and quality is protected or improved, soil erosion is minimized, and flooding potential is reduced; and
- G. protect and improve natural resources within the watershed to prevent further degradation.

### **5.2 REGULATION**

A Municipal Permit that incorporates an approved stormwater management plan or an Individual Project Permit is required under this rule prior to the commencement of any activities to which this rule applies. The District may review a stormwater management plan at any point in the development of a regulated project and encourages project proposers to seek the District's early review of plans.

The requirements of this rule apply to any land-disturbing activity that will involve the following:

- A. General: Development, redevelopment, reconstruction, and drainage alterations creating new impervious areas greater than one (1) acre
- B. HVRA: Development, redevelopment, reconstruction, and drainage alternations creating new impervious areas greater than 10,000 square feet in an HVRA Overlay District, as shown on the Lower Minnesota River Watershed District—High Value Resources Area Overlay District Map (Figure 1)

### **5.3 EXCEPTIONS**

A stormwater management permit is not required for the following activities:

- A. Construction or remodeling on a single-family homesite consistent with a subdivision, development, or redevelopment plan implemented in accordance with a District permit issued after May 1, 2020, and an approved erosion control prevention and sediment control plan

- B. Rehabilitation of paved surfaces, such as impervious surface mill, reclamation, overlay, or paving of an existing rural section gravel road, where the underlying structural aggregate base is not removed.
- C. Maintenance activities or in-kind replacements, such as catch basin repair and replacement, utility repair and replacement, pipe repair and replacement, lighting, and pedestrian ramp improvements.
- D. Trails, sidewalks, and retaining walls that do not exceed 10 feet in width and are bordered down gradient by a pervious area extending at least half the trail width
- E. Land-disturbing activities that do not involve creation of new impervious surface, reconstruction of existing impervious surface, or grading that materially alter stormwater flow at a site boundary

#### 5.4 CRITERIA

Permit approval for activities that meet the regulation thresholds must demonstrate that the implementation of their stormwater management plan will meet the following criteria:

##### 5.4.1 Rate Control

Stormwater runoff rate from development, redevelopment, and drainage alterations shall not exceed the existing runoff rates for the 1 or 2-year, 10-year, and 100-year 24-hour events using NOAA Atlas 14 values, as amended, and using a nested rainfall distribution (e.g. MSE 3).

##### 5.4.2 Volume Reduction

To the maximum extent practicable, volume control shall be fully met on-site. Site conditions may make infiltration undesirable or impossible. Determining the feasibility of infiltration on the site shall be in accordance with this Rule and the “Minnesota Stormwater Manual”, as updated or amended. The owner must make soil corrections and/or investigate other locations on the site for feasible infiltration locations. Infiltration of stormwater must avoid areas of contaminated soil.

If the permittee claims that infiltration is not feasible or allowed on-site, sufficient supporting documentation must be provided with the permit application. Filtration technologies are an acceptable alternative for types C and D soils and other sites where infiltration is infeasible given the criteria in section 5.4.2.C below.

- A. General: For projects that create one (1) acre or more of new impervious surface on sites without restrictions (such as factors that prevent attainment of the performance goal, like shallow depth to bedrock, presence of contaminated soils, and lack of access because utilities are present [*Minnesota Stormwater Manual*, 2019]), the post-construction stormwater runoff volume retained on-site shall be equivalent to one (1) inch of runoff from the new and/or reconstructed impervious surfaces or the MPCA’s Construction General Permit volume reduction requirements (as amended), whichever is greater.
- B. HVRA: Projects that create new impervious areas greater than 10,000 square feet in an HVRA Overlay District have the following volume requirements:

- i. New development: For new, nonlinear developments that create 10,000 square feet or more of new impervious surface on sites without restrictions, the post-construction stormwater runoff volume retained on-site shall be equivalent to 1.0 inch of runoff from new and/or reconstructed impervious surfaces.
- ii. Redevelopment: Nonlinear redevelopment projects on sites without restrictions that create 10,000 square feet or more of new and/or fully reconstructed impervious surfaces shall capture and retain on-site 1.1 inches of runoff from the new and/or fully reconstructed impervious surfaces.
- iii. Linear projects: Linear projects on sites without restrictions that create 10,000 square feet or greater of new and/or fully reconstructed impervious surfaces shall capture and retain the larger of the following:
  - a. 0.55 inch of runoff from the new and fully reconstructed impervious surfaces
  - b. 1.1 inches of runoff from the net increase in impervious area

C. Infiltration practices are not allowed in the following areas:

- i. Areas that receive discharges from vehicle fueling and maintenance facilities
- ii. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock
- iii. Areas that receive discharges from industrial facilities that are not authorized to infiltrate industrial stormwater under an NPDES/SDS Industrial Stormwater Permit issued by the MPCA
- iv. Areas where infiltrating stormwater will mobilize high levels of contaminants in soil or groundwater
- v. Areas of predominately Hydrologic Soil Group D (clay) soils, unless allowed by an LGU with a current NPDES/SDS Municipal Separate Storm Sewer Systems (MS4) permit
- vi. Areas within 1,000 feet up gradient or 100 feet down gradient of active karst features, unless allowed by an LGU with a current MS4 permit
- vii. Areas within a Drinking Water Supply Management Area (DWSMA), as defined in Minnesota Administrative Rules 4720.5100, subpart 13., unless allowed by an LGU with a current MS4 permit
- viii. Areas where soil infiltration rates are more than 8.3 inches per hour, unless soils are amended to slow the infiltration rate below 8.3 inches per hour or as allowed by an LGU with a current MS4 permit
- ix. Areas within the District Steep Slopes Overlay District (See Rule F)

#### 5.4.3 Water Quality

- A. General: Projects that create one (1) acre or more of new impervious surface shall have no net increase from existing conditions in total phosphorus (TP) and total suspended solids (TSS) to receiving waterbodies.

- B. HVRA: Projects that create new impervious areas greater than 10,000 square feet in an HVRA Overlay District have the following water quality requirements:
- i. Total phosphorus and total suspended solids: All projects shall have a net decrease TP and TSS to receiving waterbodies from existing conditions. For new development projects, the decrease in TP and TSS shall be 60 percent and 80 percent, respectively, from existing conditions.
  - ii. Buffer zone: An undisturbed buffer zone of 100 linear feet from trout waters shall be maintained at all times, both during construction and as a permanent feature after construction, except where a water crossing, or other encroachment is necessary to complete the project.
    - a. Exceptions: The replacement of existing impervious surfaces within the buffer zone is allowed provided that the use of additional or redundant BMPs minimizes all potential water quality, scenic, and other environmental impacts of the activity. Buffer encroachments (circumstance and reason) and minimization activities must be documented.
  - iii. Temperature controls: Permanent stormwater management facilities shall be designed to minimize any increase in the temperature of trout waters receiving waters resulting from the 1 and 2-year 24-hour precipitation events. This includes all tributaries of designated trout streams within the Public Land Survey System (PLSS) section where a trout water is located. Projects that discharge to trout waters must minimize the impact using one or more of the following measures, in order of preference:
    - b. Minimize new impervious surfaces
    - c. Minimize the discharge from connected impervious surfaces by discharging to vegetated areas or grass swales and using other nonstructural controls
    - d. Use infiltration or other volume reduction practices to reduce stormwater runoff in excess of pre-project conditions (up to the 2-year, 24-hour precipitation event)
    - e. Design an appropriate combination of measures, such as shading, filtered bottom withdrawal, vegetated swale discharges, or constructed wetland treatment cells, that will limit temperature increases when incorporating ponding. Also, design the pond to be drawn down in 24 hours or less.
    - f. Use other methods that will minimize any increase in trout water temperature
  - iv. Diffusion of runoff: stormwater discharge points in the HVRA shall incorporate BMPs to diffuse stormwater entering the HVRA and avoid concentrated discharges.

#### 5.4.4 Maintenance and Easement

The permittee is responsible for developing and adhering to a maintenance plan for the permitted project, including the acquisition of all necessary easements.

- A. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity so that they continue to function as designed.

- B. A maintenance plan shall identify and protect the design, capacity, and functionality of on-site and off-site stormwater management facilities; specify the methods; and schedule responsible parties for maintenance for every stormwater management facility.
- C. The maintenance agreement shall be recorded with the applicable county (Carver, Dakota, Hennepin, Scott, or Ramsey) as part of the LGU or other development approval process. The District may require that stormwater management structures and facilities be publicly dedicated or placed in a conservation easement, giving rights of enforcement to an LGU, the District, or other appropriate public authority.
- D. A public entity assuming a maintenance obligation may submit a written executed agreement in lieu of the recorded maintenance agreement.

#### 5.4.5 Alternative Measures

At sites where infiltration is infeasible, an applicant must comply with the NPDES General Construction Permit, issued by the MPCA, August 1, 2018, as amended.

### 5.5 REQUIRED INFORMATION AND EXHIBITS

The following exhibits must accompany the permit application (one hardcopy set of plans [11 inches by 17 inches] and one set as electronic files in a format acceptable to the District):

#### 5.5.1 Narrative

A cover letter and narrative that includes the following:

- A. An explanation of existing and proposed conditions including:
  - i. Total amount of disturbance proposed by project, both in terms of surface area (square feet) and volume (cubic feet)
  - ii. Total amount of existing impervious surfaces, proposed new impervious surfaces, and fully-reconstructed impervious surfaces proposed by the project.
- B. The name, address, and telephone number(s) of all property owners
- C. The name, address, and telephone number(s) for all contractors undertaking land-disturbing activities as part of the proposed project
- D. The signature of the property owner
- E. A statement granting the District and its authorized representative's access to the site for inspection purposes
- F. Designation of an individual who will remain liable to the District for performance under this rule from the time the permitted activities commence until vegetative cover is established and the District has certified its satisfaction with erosion and sediment control requirements.

#### 5.5.2 Stormwater Modeling

Stormwater management system modeling in a form acceptable to the District that utilizes the most recent applicable precipitation reference data (e.g., Atlas 14), for example, HydroCAD, SWMM, MIDS calculator, or P8.

### 5.5.3 Site Plan

A site plan showing the following:

- A. Property lines and delineation of lands under ownership of the applicant
- B. Existing and proposed elevation contours
- C. Identification of existing and proposed normal and ordinary high- and 100-year water elevations on-site.

### 5.5.4 Stormwater Management Plan

A stormwater management plan that includes, at a minimum, the following:

- A. Proposed and existing stormwater facility locations, alignment, and elevation
- B. Delineation of existing wetlands, marshes, shoreland, and/or floodplain areas on-site or to which any portion of the project parcel drains; except where a project will not alter or change the hydrology of a wetland, the plan need only identify the wetland.
- C. Geotechnical analysis, including soil borings, at all proposed stormwater management facility locations
- D. If infiltration of runoff is proposed, data must be submitted showing the following:
  - i. No evidence of groundwater or redoximorphic soil conditions within three (3) feet of the bottom of the facility, practice, or system
  - ii. Soil conditions within five (5) feet of the bottom of any stormwater treatment facility, practice, or system
  - iii. If requested by the engineer, site-specific infiltration capacity of soils at the bottom of the facility, practice, or system. In addition, the District engineer may require submission of a phase I environmental site assessment and/or other documentation to facilitate analysis by the District of the suitability of the site for infiltration.
- E. If filtration of runoff is proposed due to site constraints listed in Section 5.4.2.C, the application must include a discussion why filtration was selected and provide an exhibit documenting all active karst features, DWSMA, contamination, soils, and any other infiltration-limiting features.
- F. Construction plans and specifications for all proposed stormwater management facilities, including design details for outlet control structures
- G. Stormwater runoff volume and rate analyses for the 2-, 10-, and 100-year 24-hour critical events, existing and proposed conditions, using Atlas 14 nested distribution
- H. All hydrologic, water quality, and hydraulic computations completed to design the proposed stormwater management facilities
- I. Narrative addressing incorporation of retention BMPs

- J. Platting or easement documents showing sufficient drainage and ponding/flowage easements over hydrologic features, such as floodplains, storm sewers, ponds, ditches, swales, wetlands, and waterways, if required by the municipality with jurisdiction
- K. Documentation of the project's NPDES Construction Stormwater Permit status, if applicable
- L. If a stormwater harvest and reuse practice is proposed to meet applicable requirements, the following materials must be submitted:
  - i. An analysis using a stormwater reuse calculator or equivalent methodology approved by the District engineer
  - ii. Documentation of the adequacy of soils, storage capacity, and delivery systems
  - iii. Delineation of green space area to be irrigated, if applicable
  - iv. A detailed irrigation or usage plan showing compliance with the District's volume-retention requirements.

#### 5.5.5 Off-Site Stormwater Facilities

If off-site stormwater or regional conveyance systems are proposed, the applicant must provide documentation demonstrating that the applicant holds the legal rights necessary to discharge to any off-site stormwater facility/facilities used for compliance, that the proposed design is in compliance with the original off-site stormwater facility design assumptions and capacity, and that the facility/facilities are subject to a maintenance document satisfying the requirements of this Rule

#### 5.5.6 Erosion and Sediment Control Plan

An erosion and sediment control plan complying with the District's Erosion and Sediment Control Rule, including the following:

- A. Topographic maps of existing and proposed conditions that clearly indicate all hydrologic features and areas where grading will expose soils to erosive conditions as well as the flow direction of all runoff (single-family home construction or reconstruction projects may comply with this provision by providing satellite imagery or an oblique map acceptable to the District)
- B. Tabulation of the construction implementation schedule for all projects, except construction or reconstruction of a single-family home
- C. Name, address, and phone number of the individual responsible for inspection and maintenance of all erosion and sediment control measures
- D. Temporary erosion and sediment control measures that will remain in place until vegetation is established
- E. All final erosion control measures and their locations
- F. Staging areas, as applicable
- G. Delineation of any floodplain and/or wetland area changes

#### 5.5.7 Maintenance

Adopted October 19, 2022

A maintenance plan and applicable maintenance agreements (note that in many cases a municipal stormwater agreement may be acceptable in lieu of a separate agreement with the District).